

Marlborough Environment Centre – Evidence NZKS Cape Lambert Application U190438

1. The Marlborough Environment Centre (MEC) is an incorporated society, established in 1989 to promote awareness and protect the environment through education and engagement with resource management decision-making.
2. MEC took part in developing the Marlborough Sounds Resource Management Plan that was notified in 1995, the Marlborough Environment Plan (MEP) that was notified in 2016, and the MEP aquaculture variations to be heard next month. MEC submits on marine farming resource consent applications and strives to protect the ecology, recreational enjoyment, and landscape values of the Marlborough Sounds.
3. My name is Bev Doole. I grew up in Marlborough and was a journalist on the Financial Times in London before returning home in 2008. I work in communications and project management, specialising in the environmental sector. I observed the 2013 NZ King Salmon Board of Inquiry process and subsequent Supreme Court hearing. I presented the MEC submission to the Salmon Farm Relocation process in 2017 and participated in recent resource consent hearings regarding NZ King Salmon's farms.
4. The MEC submission on the Cape Lambert application in December 2019 covered a number of issues, including:
 - Support for open ocean salmon farming in an appropriate site as an alternative to current farms (not additional to)
 - Cape Lambert site is not "open ocean"
 - Lack of Engineering and anchoring information
 - The importance of taking a precautionary approach
 - The lack of consideration of alternative sites and farming methods
 - Free use of public water space by NZKS for private benefit
 - Untouched seascape and effect on natural character
 - Application made at a time of significant planning and policy uncertainty
5. Today we will focus on five of those:
 1. Failure to consider alternatives in the Assessment of Environmental Effects
 2. Lack of Information to make a decision
 3. Lack of consideration of the effects of climate change
 4. The need for a Precautionary Approach
 5. Failure of Fair Process

Introduction

6. It's good to hear that the Panel has visited the proposed Cape Lambert site, and we hope this has given you an understanding of the special geography and beauty of the Marlborough Sounds.

7. You would have seen the contrast between the industrialised Pelorus Sound and the stark, untouched beauty of the Outer Sounds Cape Lambert area.
8. The impact of salmon and mussel farming on Pelorus Sound makes Cape Lambert even more special and worthy of protection. This untouched area is not appropriate for the industrial development of New Zealand's biggest salmon farm.
9. The proposed site is surrounded by eight ecologically significant marine sites. The closest is McManaway Rock, home to a colourful gallery of seaweeds, corals, sponges, and anemones.
10. There are many others who use this area and would be disrupted by the proposed development. These include dolphins, seabirds, migrating whales, and other underwater sea life and benthic ecosystems.
11. It's also a special place for boaties to enjoy as they cruise from Queen Charlotte Sound to Pelorus Sound or D'Urville Island. Boaties travelling from Cape Jackson to D'Urville Island would have to make a sharp detour to avoid the farm, which is also close to favoured recreational fishing spots at McManaway Rocks and Witt Rocks.
12. We agree with evidence presented by other submitters that the proposed site is NOT an appropriate place for aquaculture activities, as required by Policies 6 and 8 of the NZ Coastal Policy Statement 2010.
13. Looking at the broader picture, human activity has already impacted much of the Marlborough Sounds and created a story of loss – whales, blue cod, scallops, wild mussel beds, kelp forests. These losses will continue with increasing sedimentation, intensive aquaculture, and rising sea temperatures. For these reasons it is crucial that resource management decisions pay heed to protecting what we have left. The Cape Lambert area is one of the few remaining untouched parts of the Sounds.
14. The loss and degradation of the marine environment is happening all around the world, but other countries are doing more. Sea pen salmon farming has been banned in Argentina and is being removed from British Columbia. Our neighbours in Tasmania brought in a 12-month moratorium on open ocean salmon farm expansion in September 2021 as they investigate land-based alternatives.¹
15. New Zealand needs to follow this lead.

Issue 1. No consideration of alternatives in the Assessment of Environmental Effects

16. **RMA Schedule 4 clause 6(1)** If any significant adverse effects on the environment, the Assessment of Environmental Effects must include a description of alternative locations or methods for undertaking the activity.

¹ <https://salmonbusiness.com/tasmania-slaps-12-month-ban-on-offshore-expansion/>

17. There was no information on alternative offshore sites, closed-containment farms at sea or land-based farms in the AEE in the original application in 2019, and the AEE has not been revised since.
18. In response to the MEC submission, a brief overview of alternative sites was included in the evidence of M Preece on NZKS Operational Matters, lodged on October 1, 2021 [Par 46]. This dismisses any other potential sites in New Zealand and paints a different picture to a map originally supplied by NZKS, which ambitiously showed 13 sites along the east coast and Stewart Island.
19. The Operational Evidence also fails to consider the potential of Foveaux Strait, where Ngai Tahu has recently been granted 16 hectares off the northern coast of Stewart Island to apply for open ocean salmon farming.
20. The NZKS list of requirements for salmon farming in the sea [par 44-45], coupled with the rejection of any other sites in New Zealand [par 46] raises the issue of land-based salmon farming as an alternative, more forward-looking option.

1.1 Land-based salmon farming

21. The global growth in land-based Recirculating Aquaculture Systems (RAS) for salmon production is being driven by the steady rise in ocean-based farming costs, cumulative environmental and climatic impacts on the ocean, and difficulty in finding new sea farm sites.
22. A Recirculating Aquaculture Systems (RAS) pumps fast-flowing, temperature-controlled water through fish tanks. Between 90-97% of the water is filtered, oxygenated, and reused (recirculated) and all waste from the salmon is captured.
23. A UN Food and Agriculture Organisation report² explains the environmental benefits of RAS:

“Seen from an environmental point of view, the limited amount of water used in recirculation is of course beneficial as water has become a limited resource in many regions. Also, the limited use of water makes it much easier and cheaper to remove the nutrients excreted from the fish as the volume of discharged water is much lower than that discharged from a traditional fish farm. Recirculation aquaculture can therefore be considered a most environmentally friendly way of producing fish at a commercially viable level. The nutrients from the farmed fish can be used as fertilizer on agricultural farming land or for biogas production.”
24. A 2019 Rabobank International report³ expands on growth and potential to disrupt markets, while acknowledging most RAS projects are still in the development stage.

² <https://www.fao.org/3/i4626e/i4626e.pdf>

³ <https://research.rabobank.com/far/en/sectors/animal-protein/Aquaculture-2point0-RAS.html>

25. In his evidence, M Preece quotes from a 2016 report provided by SINTEF, an aquaculture institute in Norway, that compares a Norwegian net pen salmon farm with a land-based closed containment Recirculating Aquaculture System (RAS):

“Although the RAS concept is still under development and the future holds uncertainties, in our view the future of RAS operations is positive. If the risks within RAS operations are managed effectively, RAS will disrupt aquaculture trade flows, supply chains, and the marketing of salmon within the next decade.

For those in the salmon industry and other aquaculture value-chain operations, now is the time to decide if they should invest in RAS or invest to ensure they stay ahead of RAS, as this technology matures, grows, and disrupts the market.”

26. MEC is concerned about the selective use of information, and offers balancing material from the same report:

“Recently, with technology improvements, freshwater aquaculture of Atlantic salmon from eggs to harvestable size of 4–5 kg in land-based closed containment water recirculating aquaculture systems (RAS) has been demonstrated as a viable production technology.

Land-based, closed containment water recirculating aquaculture systems technology offers the ability to fully control the rearing environment and provides flexibility in locating a production facility close to the market and on sites where cost of land and power are competitive. This flexibility offers distinct advantages over Atlantic salmon produced in open net pen systems, which is dependent on access to suitable coastal waters and a relatively long transport distance to supply the US market.”

27. And the SINTEF report concludes:

“Production cost for land-based closed containment water recirculating salmon farming systems is approximately the same as production cost for traditional open net pen salmon farming systems at this scale [3300 tonnes], when excluding interest and depreciation.”

28. NZKS appears to be firmly focused on the financial benefits of sticking with open sea pens - they use the water space for free, they don't pay rates and they don't have to deal with the pollution created by their operation. As a business-as-usual decision that is understandable but, as well as failing the environment, it fails to look to the future.

29. Marine ecosystems are changing and coming under more pressure from increasing sea temperatures. The same issue is limiting where open ocean salmon farms may be able to be installed around the New Zealand coast. And consumers are asking more questions about the pollution footprint of salmon farming – the waste must go somewhere, and the ocean is not an infinite repository for industrial waste.

30. In the five years since the SINTEF report there has been an exponential increase in the investment and development of land-based salmon farming in at least 15 countries around the world, including Norway.⁴
31. These early adopters may be pointing to the future for fish farming, where the risks on land are not as high as the risks at sea.
32. Benefits of RAS for NZKS:
 - Control over water temperature and quality
 - No salmon mortalities caused by warming sea temperatures or harmful algal blooms
 - Greater certainty of production and ability to supply their markets
 - Already have RAS expertise with Cawthron's seven-year feed trial, which is growing king salmon to full size on land at the Finfish Research Centre in Nelson.⁵
 - Already have expertise with raising smolt on land
 - Waste is captured and turned into other income streams including fertilizer and biogas
 - Carbon emissions are reduced through using hydro, solar or wind power to run the plant. (Sea farms rely on diesel fossil fuel to run generators, lights, feeding equipment, vessels, and trucks to take dead fish to landfill)
 - Carbon emissions from air freight could be eliminated if built close to market
 - Reassurance for consumers that the marine environment is not being polluted to produce the salmon
33. Risks of RAS for NZKS:
 - Increased costs. Rather than occupying the ocean space for free, NZKS would have to buy or lease land and pay rates.
 - Initial set up cost of RAS plant may be more than Cape Lambert farm
 - Technology is still being developed but early adopters are working through the issues
34. Other Benefits of RAS:
 - Restoration of marine ecosystems and water quality
 - Removes risk to marine mammals and seabirds
 - Restoration of coastal landscape and natural character values
 - Removes impact on recreational users of the Sounds
 - Easier for Council to monitor and enforce compliance with consent conditions
 - Able to be sited in economically depressed areas such as the West Coast and Bluff, attracting regional development funding
 - Creates new jobs in constructing and operating the RAS facilities
35. NZKS appears to be reluctant to investigate RAS because at this stage it's easier and cheaper to farm at sea. They cite some early failures of mega projects such as Atlantic

⁴ Industry Report by iLaks and salmonbusiness.com *Is the future on dry land? The development of a new massive land-based salmon farming industry*, March 2021. <https://www.lokalkampanjer.no/ilaks-is-the-future-on-dry-land/>

⁵ <https://www.cawthron.org.nz/our-research/our-resources/>

Sapphire in Florida, which aimed to produce 222,400 tonnes of salmon a year. However, there are many more companies planning for production levels more in line with NZKS's tonnage.

36. 8F Asset Management (Pure Salmon) has selected AquaMaof's integrated RAS-based technology for its new project, which aims to capitalise on Japan's growing appetite for salmon in sushi and sashimi. This fully integrated indoor salmon farm in Tsu City, Japan will incorporate a hatchery, grow-out and processing facilities. Construction is under way and operations at the RAS facility are due to begin in 2022, with projected production of about 10,000 tons per year. The first batch of Atlantic salmon products will be available from 2024.
37. And it's not just Atlantic salmon that is being farmed on land. Patagonia King Salmon in Chile harvested its first batch of RAS-grown Chinook salmon (the same species as NZ King Salmon) in September 2021 for export to the US, Japan, and Europe.⁶
38. The iLaks industry report, *Is the Future on Dry Land?* released in March 2021⁷ identified 88 different companies in 15 countries raising finance and starting to construct land-based fish farms. Their targeted annual production ranges from a few hundred tonnes to 200,000 tonnes. About a third of this salmon volume, if realized, will be produced in Norway but other countries are investing too including Denmark, Switzerland, USA, United Arab Emirates, Poland, China, Spain, and Canada.

"With new technology in water recirculation and purification, as well as the prospect of significantly higher salmon prices as a buffer against downturns, one can be closer to success. This is exactly what many are willing to invest big money in," the iLaks report says.

39. There has been rapid and enthusiastic investment in RAS by investors around the world, and the technology, equipment and expertise are developing quickly. NZKS and our marine environment would be able to benefit from their experience.

1.2 Closed-containment sea farms

40. There is another alternative production method that sits between open ocean pens and RAS.
41. Norwegian company AkvaFuture⁸ is operating three closed-containment sea farms where salmon are grown in Akvapods - a large flexible "bag" filled with cooler seawater pumped from 25m below the farm. The water inlets give control of the water flow, velocity and current, while staff continuously monitor and adjust the oxygen level for optimal welfare and growth conditions for the salmon. All waste is captured and pumped back to land to produce fertilizer and biogas used to run the Trondheim bus fleet.

⁶ <https://www.fishfarmingexpert.com/article/chilean-ras-farmer-making-first-king-salmon-harvest/>

⁷ Industry Report by iLaks and salmonbusiness.com *Is the future on dry land? The development of a new massive land-based salmon farming industry*, March 2021. <https://www.lokalkampanjer.no/ilaks-is-the-future-on-dry-land/>

⁸ <https://www.akvafuture.com>

42. The Akvapods were designed to deal with sea lice but have the added benefit of keeping all salmon waste out of marine environment. AkvaFuture is producing 5000T of salmon a year and is expanding.
43. The NZKS Supreme Court decision in 2014 ruled there is an obligation to consider alternatives under the NZ Coastal Policy Statement and Section 32 of the RMA:

[173] The need for consideration of alternatives will arise from the nature and circumstances of the application and the reasons advanced in support of it. Particularly where the applicant for the plan change is seeking exclusive use of a public resource for private gain and the proposed use will have significant adverse effects on the natural attributes of the relevant coastal area, this does not seem an unfairly onerous requirement.

44. MEC submits that a meaningful consideration of alternatives has not been provided in the Cape Lambert application.

Issue 2: Lack of information

45. **RMA Section 104 (6)** The consent authority may decline an application on the grounds that it has inadequate information to determine the application.
46. NZKS has generated a huge number of reports and evidence for this application. A cynic might say this was calculated to drown the opposition. The problem is that despite the volume of material, there are still serious gaps. MEC offers these examples:

2.1 Engineering information

47. This application is for the biggest salmon farm in New Zealand and the first in “open ocean” conditions and a high energy marine area. We need to be assured that it will stay in place. Rigorous and independent engineering information is required to determine the application.
48. No Engineering or Structural reports were provided with the revised application on August 10. The applicant’s Structural and Engineering evidence finally arrived on October 4, 2021, with submitters and Council staff given five working days to respond.
49. This was not enough time to interrogate the evidence and provide rigorous independent expert evidence for the panel to consider. Council staff advise there will be no Section 42A report, and no Council expert witness appearing at the hearing on Engineering and Structural matters.⁹

⁹ Peter Johnson, MDC Senior Environmental Planner, email to MEC October 6

2.2 Effect of anchor installation and chain sweep on the seabed

50. No visuals have been provided in the application that show the effects of benthic damage caused by dragging the site anchors until they take hold during installation and ongoing chain sweep.

51. The revised Assessment of Seabed Effects, Cawthron Report 3489, Executive summary, states:

Anchor drag, which includes initial setting and movement at installation, is likely to result in the disturbance of epifaunal and infaunal organisms in areas immediate to anchor sites (conservatively estimated at 4.2 ha across both blocks). Disturbance from associated chain sweep (estimated at 10.6 ha across both blocks) will be ongoing for as long as the anchors are in place.

52. And there is more detail on the adverse effects on Page 56 of the report:

The continued presence of anchors can impact the seabed beyond the installation period through sweeping of the seabed by the chains attaching the block of pens to the anchors. Chain sweep is usually a continuous effect as the chains slacken and tighten with the action of winds, waves, and currents on the pens. As the pens are moved around, slack chain will sweep over the seabed crushing emergent organisms and other objects and excavating the surface sediment. The continuous nature of this disturbance is likely to prevent effective recolonisation of the affected areas.

53. The area affected under the Cape Lambert site has been estimated at 14.8ha, but where is the information that shows what that impact would look like? These will be massive chains – far heavier and more destructive than systems used to moor boats in the Sounds. Yet benthic damage caused by these boat moorings is under scrutiny.

54. Cawthron report 3098, *Effects of Moorings on Different Types of Marine Habitat*¹⁰, was commissioned by the Marlborough District Council in 2018. It describes the damage caused by block and chain moorings (a miniature version of the technology being suggested for the Cape Lambert farm):

Any type of habitat or organism that projects above the surrounding seabed is vulnerable to damage by the movement of mooring chains across the bed.... This disturbance is likely to kill organisms living near the sediment surface and prevent their recolonisation. It may also affect deeper-burrowing species by disrupting their contact with the surface for respiration and feeding. Consequently, block-and-chain moorings are likely to have an adverse effect on all habitats in which they are located.

Habitats and species considered to be of particular ecological, cultural or conservation significance and that are likely to be particularly sensitive to the effects

¹⁰ Cawthron report 3098 <https://envirolink.govt.nz/assets/Envirolink/Reports/1815-MLDC137-Effects-of-moorings-on-different-types-of-marine-habitats.pdf>

of block-and-chain moorings [include]...areas of shell hash (shell hash can provide important habitat diversity in soft sediments and chain sweep will enhance rates of breakdown of the hash).

55. The Cawthron report made the following recommendations to Marlborough District Council for anchor block and chain recreational moorings in the Marlborough Sounds, to avoid benthic damage:

1. No consents for new moorings in ecologically significant marine sites (ESMS) where the mooring will adversely affect the values on which the significance of the site is based (Davidson et al. 2011).
2. Existing moorings in ESMS to be removed or to be converted to environmentally friendly moorings where the mooring is adversely affecting the values on which the significance of the site is based.
3. Applications for all new consents or renewal of existing consents shall include a description of habitats in the vicinity of the mooring and identification of significant habitats or species present (see list in Section 6.1.1, to be documented as, for example, video or drop camera images).
4. New consents in locations outside ESMS but where significant habitats or species are present shall require environmentally friendly moorings.
5. Existing consents in locations with significant habitats or species shall be converted to environmentally friendly moorings or removed if damage has occurred. This includes cases where a significant species or habitat, such as sea grass or horse mussels, is present within the mooring field but outside of the areas of chain sweep, or in areas around the mooring field, when such species or habitats may be expected to recolonise the impacted areas if ground chains are removed.
6. Moorings to be consented preferentially in areas of mud or sand seabed with no specific ecological, conservation or traditional value.

56. This is reflected in the policy direction in the proposed Marlborough Environment Plan (PMEP) to consider ecological effects from moorings:

Policy 13.9.9 – In determining an application for a new mooring, (other than applications for re-consenting of existing moorings), consideration should be given to the appropriateness of the mooring type and design proposed in order to;

- (a) reduce the ecological effects of seabed disturbance caused by the mooring in terms of Policy 8.3.1; while
- (b) ensuring that the mooring type and design protects the health and safety of people and vessels.

57. And to avoid adverse effects from use or development:

Policy 8.3.1 – Manage the effects of subdivision, use or development in the coastal environment by:

- (a) avoiding adverse effects where the areas, habitats or ecosystems are those set out in Policy 11(a) of the New Zealand Coastal Policy Statement 2010;

- (b) avoiding adverse effects where the areas, habitats or ecosystems are mapped as significant wetlands or ecologically significant marine sites in the Marlborough Environment Plan; or
- (c) avoiding significant adverse effects and avoiding, remedying, or mitigating other adverse effects where the areas, habitats or ecosystems are those set out in Policy 11(b) of the New Zealand Coastal Policy Statement 2010 or are not identified as significant in terms of Policy 8.1.1 of the Marlborough Environment Plan.

58. MEC asks the hearing panel to bear this in mind when considering the proposed anchoring system for the Cape Lambert farm and the extent of the benthic effects around that. And in terms of providing adequate information, the panel may have more luck in asking the applicant for visual evidence of chain sweep from a comparable marine farm overseas.

2.3 Case studies of salmon farming in similar exposed sites

59. The Cape Lambert proposal is a new form and scale of salmon farming for New Zealand. Yet there is no information on how comparable farms overseas perform and what happens when they fail. The information provided is based on modelling and simulations only, referred to by M Soreide, Engineering Evidence:

[33] The ScaleAQ design of pens is based on decades of experience in engineering for the most exposed locations. The conditions of Cook Strait are comparable to other locations we have designed structures for in the past. Detailed analyses models are established, as well as utilizing results from extensive model testing at Marintek in Trondheim.

[43] To avoid a breakaway situation, ScaleAQ has included simulations on various accidental limit designs. That includes simulations where multiple mooring lines fail simultaneously. The results can be seen in the Mooring Analyses Report.

[57] ... They are more than prototypes – they have been installed and operated in open ocean environments around the world.

60. If they are more than prototypes, MEC is puzzled by the reluctance to provide real-life case studies and show photos/video of how they operate in rough conditions. Have there been any failures?

61. In the absence of this information from the applicant, MEC offers the following examples.

North Carradale farm, Scotland.

62. Mowi, a Norwegian company and one of the most experienced salmon farmers in the world, owns the North Carradale farm in west Scotland. This farm consists of 10 circular net pens in the Kilbrannan Sound, between the Mull of Kintyre and Isle of Arran.

63. Like Cape Lambert, this site experiences strong currents but North Carradale is near land and well sheltered from big waves. However high winds and strong tides during Storm Ellen in August 2020 detached the farm from its seabed anchors. The whole farm moved 800m, several of the pens were deformed and 48,800 salmon escaped.¹¹
64. Following an inspection by dive teams, the cause of the incident appears to be breakage of mooring ropes that attach to the main system seabed anchors.
65. Mowi's Chief operating officer Ben Hadfield said: "The equipment we had was fit for purpose, new and tested, but the reality is it failed when it shouldn't have failed."¹²
66. This failure was not a one-off. Similar incidents occurred the same year at Mowi's high-energy sites at Colonsay and Hellisay in the Hebrides, with wild weather blamed for a structural net failure and damage to cages.¹³
67. Once again, the company said the equipment on site was new, robust, and exceeded the Scottish Technical Standards, but suffered due to the high wave heights experienced in the storm events.

"We are very disappointed that our infrastructure was unable to withstand these severe weather challenges... Our priority is to keep our employees safe during these extreme events, but admittedly we need to do a better job at keeping our fish contained, especially at our high-energy sites."¹⁴

68. Mowi, the Norwegian company previously known as Marine Harvest, is the largest and most experienced producer of farmed salmon in the world. They have operations in 25 countries. If they can't get the engineering right and keep these structures in place, how much faith can we have in a small company such as NZ King Salmon with its patchy track record of compliance?
69. These photos show the reality of high-energy sites, rather than the line drawings, modelling and simulations provided by the applicant in the engineering evidence that arrived too late for Council or other experts to assess.
70. MEC submits that the panel does not have adequate information to determine the application.
71. MEC also has a high level of concern around the desire of NZKS to increase the pen size from 168m to 240m circumference. We have seen in Scotland the risks with these pens in high energy environments, even when cages were "fit for purpose, new and tested".

¹¹ <https://mowi.com/uk/blog/2020/08/25/storm-ellen-damage-at-carradale-north-farm/>

¹² <https://www.pressreader.com/uk/campbeltown-courier/20200911/281715502026990>

¹³ <https://www.communitiesforseas.scot/mass-escape-from-colonsay-fish-farm-after-storm-brendan/>

¹⁴ <https://www.fishfarmingexpert.com/article/24500-fish-escape-from-marine-harvest-farm-after-storm-damage/>

72. Addressing any future request to increase the pen size, the proposed consent conditions 18 and 19 are not adequate. As well as extra engineering/anchoring involved, other issues including the increased impact on benthos, natural character and marine mammals would need to be considered.
73. MEC submits that if this application is approved, any increase in pen size must wait until the initial pens and anchoring systems have proven their suitability over a number of years. A future increase in pen size must be subject to a new resource consent application that also assesses other impacts.

Issue 3: Lack of consideration of effects of climate change

74. **RMA Part 2 Section 7, Other Matters:** Council must have particular regard to effects of climate change.
75. **NZ Coastal Policy Statement, Policy 3:** Adopt a precautionary approach to use and management of coastal resources potentially vulnerable to effects from climate change
76. **Proposed Marlborough Environment Plan, Volume 1, Chapter 19, Climate Change:** Section 7 of the Resource Management Act 1991 (RMA) requires the Council to have regard to the effects of these predicted climatic changes in exercising its functions under the RMA.
77. As the effects of climate change are felt around the world, sea temperatures in the Outer Marlborough Sounds are already rising above the ideal conditions for growing salmon. Mass mortalities in Pelorus Sound over recent years have been blamed on higher water temperatures¹⁵ and forced the company to look for cooler waters.
78. The NZKS Operation evidence states:

42 The key factors required for optimum growth of King salmon are good water flows, water depth of around 100m and water temperature which ranges from 12-16°C. Ideal growth occurs within this temperature range; on either side of this range a deterioration in performance is observed.

79. Yet as shown in the evidence of Kenepuru and Central Sounds Residents Association, MDC monitoring data records water temperatures for the Cape Lambert area above 16C from March-June in 2015, and the same in 2016. That's eight out of 24 months. Sea temperatures are still going up and this trend will continue over the 35-year consent term.
80. In March 2021, NIWA produced a report, *Climate Change Projections and Impact for Marlborough*, that concluded:

¹⁵ <https://www.stuff.co.nz/marlborough-express/news/67314620/millions-lost-after-warm-seas-kill-salmon>

Warming oceans will induce pressures on the distribution and abundance of marine species. In aquaculture, heatwaves can lead to reduced growth and yields, increased mortality, and an associated loss in revenue.¹⁶

81. While this is bad news for salmon farmers, it's even worse for the wider marine ecosystems. The marine environment is already suffering from sea temperature rise and would also have to absorb the extra nutrient load from the Cape Lambert salmon farm.
82. The Moana Project, funded by MBIE's ocean research initiative, has developed a marine heatwave forecast tool that shows waters around Cook Strait, including the Cape Lambert area, were 1C-1.5C warmer over the winter of 2021 than normal. The effects of this are clearly stated:

We can expect serious economic impacts from such warming. Recent events in western Canada highlight the devastating impact summer marine heatwaves can have on coastal marine ecosystems and aquaculture.¹⁷

83. The second effect of climate change that does not appear to have been factored in by the applicant is the increase in severity and frequency of severe weather events. More storms, bigger waves, higher winds will add to the difficulties in operating a farm at the more exposed Cape Lambert site, with issues including:
 - Keeping the farm secure in storm conditions
 - Ensuring fish stay safe and in good health
 - Uncomfortable/unsafe working conditions for staff until they get taken off the barge
 - Retrieving structures and nets damaged in storm conditions
84. For an industry so exposed to the effects of climate change, we would expect a stronger operational analysis in this application, beyond the statement in the Planner Evidence [4.72] that "The proposal enables NZ King Salmon to adapt to the effects of climate change."
85. MEC submits that land-based RAS would provide better long-term environmental and business outcomes than establishing a large farm in an exposed part of the outer Sounds, where water temperatures are rising, and storm conditions are growing in severity.

¹⁶https://www.marlborough.govt.nz/repository/libraries/id:1w1mps0ir17q9sgxanf9/hierarchy/Documents/Your%20Council/Meetings/2021/Environment%202021%20list/Item_6-22042021-Marlborough_Climate_change_report_2021.pdf

¹⁷ <https://www.stuff.co.nz/environment/climate-news/300420580/marine-heatwaves-during-winter-could-have-dire-impacts-on-new-zealand-fisheries-and-herald-more-summer-storms?cid=app-iPad>

Issue 4. Need for a precautionary approach

86. NZ Coastal Policy Statement, Policy 3: Adopt a precautionary approach towards proposed activities whose effects on the coastal environment are uncertain, unknown, or little understood, but potentially significantly adverse.
87. The proposal has been described by NZKS as a template for future development and we submit that Policy 3 of the New Zealand Coastal Policy Statement – requiring a precautionary approach - must apply to an application of this pioneering nature.
88. NZKS is no stranger to the precautionary approach. Extensive consent conditions, monitoring and management plans were part of the Board of Inquiry (BOI) and Supreme Court decisions in managing the uncertainty of the company's expansion in the Marlborough Sounds.

BOI decision 179: ["The precautionary approach] provides for ongoing monitoring of the effects of an activity, in order to promote careful and informed environmental decision-making, on the best information available."

89. Seven years on we have clear examples of monitoring not managing the effects of salmon farm operations, broken consent conditions, and lack-lustre attempts to enforce compliance.
90. One of the new farms, Kopaua/Richmond, has suffered high sea temperatures, seabed enrichment and high fish mortalities. It is now being proposed for use only part of the year, as a nursery and harvesting site for Cape Lambert.
91. The Waitata farm, also approved by the Supreme Court, came under scrutiny in 2019 when the company applied to double its net space following significant mortalities. The application U190357 was declined by Commissioner Mills, who noted in his decision¹⁸:

"I conclude that the applicant has failed to show that this proposal meets the purpose of the RMA: in particular, the failure to address the existing depositional footprint already covering 14 hectares beyond consented maximum and the applicant's failure to profile the expected footprint from the increase in pen area.

Further, the applicant has failed to satisfy me that the existing farm is safe in navigational terms, or that the increase in pen size will result in a farm which is safe in terms of navigation.

In his initial report [Harbourmaster] Captain Grogan outlined his concerns in relation to the potential for cage structures and associated farm equipment to break free and

¹⁸ <https://www.marlborough.govt.nz/services/property-files-online?searchType=Resource+Consent+Number&address=&propertyNumber=&buildingConsentNumber=&resourceConsentNumber=U190357&focus=&viewing=U190357>

become a navigational hazard. He stated that the cage structures experienced significant structural failure in April 2016. Following this incident, the cage manufacturer suggested a revised mooring arrangement. To date, this revised mooring arrangement has not been fully implemented. Only one of the recommended two buoys per anchor warp has been installed. Captain Grogan is unsure if the cage manufacturer supports this reduction, or whether a chartered professional engineer has signed off on the mooring arrangement.

Captain Grogan has been seeking assurances from NZKS since 2017 as to the security of the moorings at the Waitata farm. Such assurance relates to two main requirements, specifically:

- that the farm structures are moored as per a mooring plan approved by a suitably qualified engineer;*
- that the farm moorings are maintained as per the Mooring Monitoring and Maintenance Policy and the Navigational Risk Reduction and Management Plan.*

It is clear from Captain Grogan's report that neither of these requirements have been complied with."

92. This raises the question that if NZKS failed to maintain a safe mooring and anchoring system in the relatively sheltered site in Waitata Reach, how can they be trusted to adhere to the consent conditions at the far more challenging Cape Lambert site?
93. The company's difficulty in keeping to its benthic footprint was raised again this year when NZKS requested a change to consent conditions to allow pollution to spread further at farms in the Waitata Reach and Tory Channel.
94. The applications U140294 and U140296 were declined by Commissioner McGarry in September, who noted in her decision:¹⁹

"There is clear evidence of non-compliance with the conditions that should not be addressed by changing the conditions. The deposition footprint significantly exceeds the consented deposition footprint... and is resulting in measurable changes in the benthic environment.

I agree with submitters that adaptive management is about changing the scale of the activity to meet the limits and standards of the consent, not changing the conditions of consent to meet the desired scale of activity."

95. NZKS is promoting the Outer Sounds Cape Lambert site as a panacea to the issues they have with their inshore farms. But the company's track record of non-compliance is

¹⁹ <https://www.marlborough.govt.nz/services/property-files-online?searchType=Resource+Consent+Number&address=&propertyNumber=&buildingConsentNumber=&resourceConsentNumber=U140296&focus=&viewing=U140296&viewing=U140296H>

a warning for the future. MEC questions whether the level of uncertainty and lack of information about the Cape Lambert farm can be managed by a precautionary approach and an ever-increasing list of consent conditions.

96. NZKS is failing to manage and monitor their current farms to comply with the consent conditions. With the addition of another 99 consent conditions at Cape Lambert and the complexities of running this much larger farm in more challenging sea conditions, how confident can the hearing panel be in NZKS's ability to meet the standards required in all their consent conditions and management plans?
97. And does the Council have the staff and expertise to rigorously monitor and enforce compliance of this new, more remote NZKS operation along with the other farms?
98. MEC submits that the precautionary approach has not worked with NZKS in the past. There comes a point when the regulator needs to say this proposal cannot be managed by a plethora of consent conditions and management plans.
99. The failures at the current NZKS farms are examples of how we can't keep relying on extensive consent conditions to protect the Sounds environment. At some point, the regulator needs to say enough is enough.

Issue 5. Failure of Fair Process

100. **RMA Part 4, Section 39** The authority... shall establish a procedure that is appropriate and fair in the circumstances.
101. The NZKS timeframes for this hearing, agreed to by Marlborough District Council (MDC), did not allow fair process. NZKS had 19 months to prepare their revised proposal. Community groups had less than 2 months to respond. We wrote the following letter to MDC in July, seeking more time:

*Guardians of the Sounds Inc.
Friends of Nelson Haven and Tasman Bay
Kenepuru Central Sounds Resident's Association
Marlborough Environment Centre Inc*

Wednesday, 21 July 2021

*Marlborough District Council
E-mail: sue.bulfield-johnston@marlborough.govt.nz
Attention: Sue Bulfield-Johnston, RMA Hearings Facilitator*

*cc. Mark Wheeler, MDC chief executive
cc. Barbara Mead, MDC Senior RMA legal and hearings officer*

New Zealand King Salmon Cape Lambert application U190438 - Request for later hearing

1. On the 19th July the above named community organisations were copied a letter from NZKS regarding the timing of the hearing for U190438 Cape Lambert farm application.

The letter stated that “On 10 August 2021 we propose to provide to the Marlborough District Council and submitters an updated proposal, an updated draft set of conditions and a set of supporting documents, including additional material prepared by NZ King Salmon’s experts since the application was lodged.”

The letter went on to seek a hearing date for this matter on 19 to 21 October 2021.

2. The community organisations were all submitters on the original consent application and consider the proposed timetable to be unreasonable under section 37 on timeframes under the RMA 1991.

[Resource Management Act 1991 No 69 \(as at 13 April 2021\), Public Act 37A Requirements for waivers and extensions – New Zealand Legislation](#)

3. The revised NZKS proposal of August 10 includes additional expert material that submitters will have to digest and have assessed by their own experts. NZKS have had 19 months (since submissions were made in December 2019) to prepare. Volunteer community organisations need more than the proposed two months to be able to fairly and knowledgeably engage in this process.
4. Since application U190438 was lodged in July 2019 the process has stopped and started with various dates proposed for the release of further information for submitters. Commissioners have been engaged for hearing dates that have been cancelled, and numerous time extensions have been granted for NZKS.
5. For clarity, here is the timeline:

- July 2019 – NZKS lodges consent application U190438
- October 2019 - Notification package released
- December 2019 – Public submissions closed
- Hearing date set for 23-26 June 2020
- 28 May 2020 - NZKS notified Council that they were unable to commit to the June 2020 hearing and they were preparing a Submitter Engagement Pack
- October 2020 - NZKS advised that a Submitter Engagement Pack would be available in January/February 2021. (See attached October 2020 letter from NZKS to submitters which outlines extensive revisions to their original application).
- March 2021 - NZKS advised that the Submitter Engagement Pack would be available in late April 2021.
- 16 July 2021 – still no sign of the Submitter Engagement Pack. NZKS notifies Council that on August 10 it will provide its updated proposal, including

additional expert material. NZKS requests a hearing date of October 18, 2021.

- 6. Based on the NZKS letter to submitters in October 2020, our organisations are expecting the updated proposal to be extensive. Submitters will have to digest the information and have it assessed by their own experts.*
- 7. NZKS's paid team of lawyers, scientific, engineering, planning and landscape experts have taken 19 months to come up with the revised proposal. It is unreasonable to expect unpaid volunteer groups to assess the information, engage expert witnesses and lawyers and prepare for a hearing in just two months. The on-again off-again attitude of NZKS is disrespectful to the community and Council staff who have worked hard to accommodate NZKS.*
- 8. The proposed hearing date also coincides with our organisations preparing for the hearing of the Marlborough Environment Plan's Aquaculture variations - believed to be due to be held in November 2021. There are resourcing issues for both Council and submitters to try to deal with these complex consents and planning processes at the same time.*
- 9. We submit that February 2022 would be a more reasonable timeframe for the Cape Lambert U190438 hearing. It also reflects the amount of time given for the original consenting process.*
- 10. Please let me know your response to this request.*

Clare Pinder

On behalf of: Guardians of the Sounds Inc, Friends of Nelson Haven and Tasman Bay, Kenepuru Central Sounds Resident's Association, Marlborough Environment Centre Inc

102. This request for a delayed hearing was refused by NZKS, which raises the question – just who is running this process?
103. NZKS offered submitters a series of pre-hearing meetings in September instead, but the company's evidence was still incomplete. After meeting with MEC on September 28, 2021, NZKS failed to furnish requested information including case studies of overseas farms; a break-down of ingredients that go into the fish feed; and the finalised Engineering and Structures reports.
104. The tight timeline for this hearing has put undue pressure on submitters and Council staff who are also preparing evidence for the Aquaculture Variations to the PMEP due on October 28 as well as an Environment Court declaration by NZ King Salmon to ease their consent conditions.

In Conclusion

105. NZKS is applying for the free use of 1000ha of public water space. This brings with it a responsibility to engage with the public in a fair and appropriate manner. MEC submits that this application has been a failure of fair process, there is inadequate information to make a decision, alternative methods and effects of climate change have not been adequately considered, and the company has a poor track record of taking a precautionary approach to look after the environment, as required by consent conditions.
106. Marlborough Environment Centre requests that this application is declined.

October 14, 2021