Discussion Paper 2022/02

# New Zealand King Salmon Case Study: A financial reporting perspective

MCGUINNESS INSTITUTE
TE HONONGA WAKA

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The discussion paper was originally published in draft on 25 May 2022. The public were invited to comment and provide feedback by Thursday 1 September 2022. Please note this discussion paper has been revisited and is now final as at 3 March 2023.

Please note the information contained in this discussion paper reflects what was available in the public arena as at 25 May 2022. The exception is the quantity of salmon dumped in the Blenheim landfill (this information formed part of a request from an NGO to MDC, which was later provided to the Institute (see Figures 46 and 47 in Appendix 6).

Note: Other persons or organisations, such as the Minister of Oceans and Fisheries, Marlborough District Council (MDC), Ministry for Primary Industries (MPI) and Aquaculture New Zealand may have additional information not in the public arena, hence this analysis is limited to publicly available information. Please do not make investment decisions based on this discussion paper. The goal is to explore the future of reporting, in particular climate change reporting. See also disclaimer overleaf.

This discussion paper is supported by *Working Paper 2022/10 – New Zealand King Salmon key documents 2012–2022.*

**Title**

*Discussion Paper 2022/02 – New Zealand King Salmon Case Study: A financial reporting perspective*

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**Author**

McGuinness Institute

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**Editor**

Caren Wilton

**For further information**

McGuinness Institute
Phone (04) 499 8888
Level 1A, 15 Allen Street
PO Box 24222
Wellington 6142
New Zealand
www.mcguinnessinstitute.org

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**Publishing**

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# 1.0 Introduction

In 2011 Parliament passed a range of aquaculture legislative reforms. That same year, New Zealand King Salmon made the first agricultural application of national significance to the newly established Environmental Protection Agency (EPA). The EPA received 1294 submissions. As it was a coastal proposal, not a land-based proposal, it was up to the Minister of Conservation to decide whether the application submitted for resource consent was nationally significant – the Minister decided it was. The Board of Inquiry decision was published in 2013. The resulting 2014 Supreme Court decision continues to shape the future direction of Aotearoa New Zealand's environmental law and policy. It seems timely to revisit the NZKS case ten years later, given that the country is now facing a number of crises, including a climate crisis and a biodiversity crisis.

The Institute has a number of projects that relate to the operations of New Zealand King Salmon (NZKS): in particular Project *ClimateChangeNZ*, Project *OneOceanNZ* and Project *ReportingNZ*. At its core, the Institute is driven by a belief in the importance of curiosity, foresight, risk management, strategy development and quality and timely information.

This discussion paper follows on from *Working Paper 2016/02 – New Zealand King Salmon: A financial perspective*. It takes a closer look at NZKS's financial position six years later, with the aim of stress testing NZKS's reporting against the existing and emerging reporting framework (such as climate-related disclosures).

The 2016 working paper was a case study exploring the financial information of NZKS as a for-profit, 50% foreign-owned company that uses publicly owned resources (at no cost). In 2022, our focus is on how the wider reporting ecosystem could be improved for business shocks such as climate change, the financial crisis and the COVID-19 pandemic. The company has recently announced a loss of $73.2m and a rights offer at $0.15 per new share for $60.0m.

As general background, NZKS was first listed on the NZX and the ASX on 19 October 2016. It is owned 50% by private companies, 5% by individual insiders, 42% by the public, and 3% by institutions. See Appendix 1, *Working Paper 2022/10 – New Zealand King Salmon key documents 2012–2022.* Brian Gaynor, in his article *NZ King Salmon - swimming against the tide,* writes an excellent article on the history of the company from 1983 onwards.[1] The overarching aim of this discussion paper is to understand whether the existing regulatory process is ready to manage the challenges of climate change, and more specially climate-related financial disclosures.

# 2.0 Purpose

This paper raises and then attempts to answer a number of questions, both in terms of what we found and what we think. There are seven general reasons why NZKS is of interest to the Institute:[2]

1. The Institute, as part of Project *OneOceanNZ* and its analysis of the Resource Management Act, reviewed NZKS. See, for example, a series of work undertaken as part of Project *OneOceanNZ* in Appendix 1. This means the Institute has a general understanding of the company's history and its current business model. Appendix 2 contains a timeline of key events relevant to NZKS's applications for more water space and Appendix 3 provides a map and table of existing farm sites in the Marlborough Sounds.

2. The Institute, as part of Project *ReportingNZ* and Project *ClimateChangeNZ*, used NZKS as a case study to understand the implications of climate change on companies, specifically in terms of being a victim (due to warming water) and a villain (due to its carbon footprint, as an importer of feed and an exporter of product, See Appendix 4, Figure 28). It also illustrated the risks of owning stranded assets, diminishing social licence to operate and decreasing profitability. In its 2020 annual report, NZKS has indicated its intention to disclose climate risks in line with the TCFD reporting requirements.[3] Appendix 4 contains analysis of MDC coastal permits and NZKS's annual reports.

3. Climate change has increasingly been mentioned as a reason for a loss of profit for NZKS both now and in the future. It has also been given as a reason for its latest application to farm in Raukawa Moana Cook Strait (in so-called cooler water; this point is discussed later). See an explanation on marine heatwaves in Question 10 and Appendix 5.

4. NZKS's record of environmental care is a concern given the level of pollution that is generated from feed and faeces (see Appendix 8). Further, given the high level of salmon mortality post 31 January

2022, a significant animal welfare issue exists (see Appendix 6). Aotearoa New Zealand has in place an animal welfare strategy,[4] which covers fish. More research into salmon welfare is required, particularly regarding ways to reduce suffering, including euthanasia. Of particular concern is the acknowledgment by MPI and NZKS that high levels of mortalities are a normal consequence of the NZKS business model, with MPI generally expecting a mortality rate of 25%. See discussion in Questions 2 and 10.

5. In Aotearoa New Zealand, the company is not charged a fee for the use of public resources, in this case water space in the Marlborough Sounds. Internationally, it is standard practice for those undertaking salmon farming to pay a significant fee for the use of water space. NZKS has regularly applied to extend the area where it farms salmon since its first major application in 2011, *Sustainably Growing King Salmon – A Proposal of National Significance* (discussed earlier). At the time, the 2011 Board of Inquiry was positioned to be a full and final proposal that would deliver durable policy over the long term, but instead it was just the beginning. A list of recent applications can be found on the Institute's website.[5] The Board of Inquiry decision approved four of the nine farms, which was later reduced to three after an appeal. The latest proposal, *Blue Endeavour* (a proposal to farm just outside the entry to Pelorus Sound in the Raukawa Moana Cook Strait), is part of an ongoing series of proposals and submissions to expand NZKS's use of water space. See for example, the previous relocation application in Appendix 7.

6. NZKS's compliance record is a concern (see Appendix 8). NZKS undertakes salmon farming in an inshore water area, meaning a significant amount of pollution will stay inshore. Inshore areas are where many small species live and grow; they are often unique ecosystems that can be easily disrupted without a high level of stewardship. Of particular concern is the Hector's dolphin, which uses Queen Charlotte Sound and Tory Channel as breeding grounds. NZKS and other organisations that use public assets should work hard to maintain a high compliance regime in order to retain their social licence. Although we understand the proposed reform of the RMA may bring in an environmental limits-based system for industries such as aquaculture, it remains unclear who will determine these limits, what they might look like, and whether the limits will apply to existing permitted activities. The latter is particularly relevant given that five of NZKS's existing farms are permitted to discharge feed until 2049 (see Appendix 4, Figure 29), and if approved, the *Blue Endeavour* may become a permitted activity to 2058, given the proposal is for a 35-year resource consent. It therefore seems timely to consider the legislative implications of retrospectively putting in place environmental limits on existing and future consents.

7. NZKS has an obligation to deliver good outcomes for the public. It is listed on the NZX and ASX, and is therefore required to produce Tier 1 financial reports. This means that its reports are required to be of the highest standard and to be trustworthy (i.e. audited).[6,7] In addition, the government has provided NZKS with $3.771m in COVID-19 wage subsidies[8] and $0.83m in government grants (over the last two years). Quality and timely information impacts the share price, hence Appendix 9 provides a history of NZKS's share price.

The Institute is aware of a number of independent organisations reviewing the current reporting system and making decisions relevant to changes in the climate. These entities include:

1. The XRB, who has requested input into standards for climate reporting.[9]
2. The NZX, who has begun a consultation on its *Corporate Governance Code*, which includes a discussion of whether climate change disclosures should form part of the Code.[10]
3. The Commissioners, who are considering the 2020 *Blue Endeavor* application, where waters are already warming (see Appendix 8).[11]
4. Government departments, who are researching ways to reduce emissions and adapt to climate change.[12]

It is therefore timely to review the wider reporting and regulatory regime through the lens of a practical case study.

Although we are living in uncertain times, there is one ultimate certainty: that climate change will impact us all over the next 20 years. Quality information is one of the few mechanisms that might help us pivot our economy and invest in the appropriate infrastructure to withstand some of the more extreme impacts. It is with this in mind that we explore the quality of financial reporting. The Institute is drawing on the case of NZKS to stress test Aotearoa New Zealand's existing systems and thinking. In doing so, the Institute makes a number of suggestions in Section 5 for others to consider and reflect upon.

# 3.0 Analysis of existing reporting requirements

**Background**

Please note that (i) the 2021 financial year was seven months and is often removed from our analysis as it is not comparable; and (ii) the change in balance date from 30 June to 31 January may impact the ability to compare the balance data due to seasonal impacts (e.g. comparing summer stock with winter stock). What follows is nine questions for discussion.

## Question 1: How did the company explain the $73.2m loss in FY2022?

### What we found

The board and the management, in both the FY2022 financial statements and 2022 Offer Document, make it clear that the reason for the liquidity issues and the loss was unforeseen mortality. See Figures 1-6. These figures illustrate the domino effect that begins with mortalities, and ends with impairment of goodwill. Tables 1 and 2 contain key information and excerpts that will be discussed later in this paper.

Figure 1: 2022 financial statements, Note 2(c): Basis of preparation (going concern)[13]

***Going concern***

The Group has reviewed the impact on the business from the evolving mortality event occurring at our sea farms. The Directors are of the view that there will be a material adverse impact to financial results, in comparison to previous expectations, in the 12 months from approving the financial statements. The impacts of fish mortality will result in an increase in mortality expenses for the year ended 31 January 2023 and a reduction in the forecast harvest volume. The Group is in breach of its banking related covenants at 31 January 2022 and without taking action the Group forecasts that breaches of a number of its banking related covenants over the next 12 months will continue. As a result, there are material uncertainties related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. In response to this the Group is taking the following actions.

In February 2022 the Group commenced discussions with the Group's bank (Bank of New Zealand) while a review of the financial structure of the business was undertaken. The Directors approved a rights issue, which will commence post the approval of the financial statements of $60.1m to fully repay (or cash cover) all bank debt of the Group and provide sufficient funds to support operations for the 12 months from the date of approving these financial statements. On the basis the Group completes the equity raise of a minimum $50m (net of transaction costs), the Bank of New Zealand has agreed in principle a combination of temporary covenant waivers, renegotiation of facilities and adjustments to covenant definitions. On the assumption the full equity raise is completed, and financial forecasts are met, the Group does not forecast a default event in respect of its financial covenants for 12 months from the date of approving these financial statements.

Figure 2: 2022 financial statements, Note 20: Interest bearing loans and borrowings[14]

**20. INTEREST BEARING LOANS AND BORROWINGS**

| Current interest bearing loans and borrowings | 2022 $000 | 2021 $000 |
|---|---|---|
| Secured bank loans | 47,000 | 750 |
| Other borrowings | 2,659 | 2,274 |
| **Total current interest bearing loans and borrowings** | **49,659** | **3,024** |
| **Non-current interest bearing loans and borrowings** | | |
| Secured bank loans | - | 39,250 |
| **Total non-current interest bearing loans and borrowings** | **-** | **39,250** |

The Company has facilities with BNZ for $60m. Land and buildings, plant and equipment, motor vehicles and vessels with a total carrying value of $38.196m are subject to a first charge under a General Security Deed granted to BNZ. The expiry date of facility A of $20m is 18 October 2022, facility B of $20m expires on 18 October 2023, and facility C of $20m expires on 18 October 2024. At balance date $20m of facility A was drawn, $20m of facility B was drawn and $2.75m facility C was drawn (as at 31 January 2021 total: $40m). During the period, the financial covenants relating to interest coverage and leverage ratios have been amended. In prior year,the Group also secured a Business Finance Scheme Loan via BNZ for $5m (expiry October 2025) that arose from the Government providing financial assistance following the pandemic virus Covid-19. At balance date the Business Finance Scheme loan was fully drawn at $4.25m (as at 31 January 2021: $5m).

The impacts of the unforeseen mortalities resulted in the Group breaching a number of its bank related covenants as at 31 January 2022 and forecasting to be in breach of the following covenants in the next 12 months being:

- Interest Cover Ratio (EBIT/Interest expense)
- Leverage Ratio (Gross debt/EBITDA)
- Guarantee Group cover ratio – EBITDA of the Guaranteeing Group (A)

As a result of breach of covenants default interest has been charged on the borrowings since the events of default. The Bank of New Zealand has agreed in principle to a combination of temporary covenant waivers, renegotiation of facilities and adjustments to covenant definitions on the basis the Group completes the equity raise of a minimum $50m (net of transaction costs). See also Note 2 Significant accounting judgements, estimates and assumptions, Going Concern.

## Figure 3: 2022 financial statements, Note 28: Events after balance date[15]

### 28. EVENTS AFTER BALANCE DATE

On 1 February 2022 the Group disclosed a mortality event was occurring at its sea farms. This event has continued into February, March and April of FY23, which will impact the FY23 harvest and financial results. As a result of this mortality event the Group is:

- Undertaking a change to its farming strategy to reduce the mortality risk by not farming the warmer farms during the summer months.
- The Group will look to offset the loss in harvest with market and product optimisation in addition to traditional tools

In addition to the mortality event which has occurred at our warmer sea farms over summer, the Group has also seen elevated mortality at one of its other sites, Te Pangu, which has been linked to a feed related issue. This issue will also result in a lower FY23 harvest and the expected financial impact of this post year end mortality event is an EBITDA loss of $3.8m

In February 2022 the Group also commenced discussions with the BNZ resulting in an extension to the delivery date for the 31 January 2022 covenants to 13 April 2022 and in any event on or before 30 April 2022 on the understanding that an equity raise will be launched on or about that date. The Group has modelled that breaches will occur without corrective action being undertaken. On 12 April 2022, the Group's Board approved to proceed with a fully underwritten or pre-committed equity raise of $60.1m. In addition, the Group has agreed a combination of temporary covenant waivers and temporary adjustments to covenant definitions with its debt providers. As a result of these corrective actions the Group has greater confidence that there will be no default event in respect of its financial covenants for 12 months from the date of approving these financial statements.

No final dividend was declared in respect of the year ended 31 January 2022 (7 months to 31 January 2021: Nil).

## Figure 4: 2022 financial statements, Note 5: Impairment[16]

### 5. IMPAIRMENT

| | 2022 12 Months $000 | 2021 7 Months $000 |
|---|---|---|
| Plant, equipment and fittings | 12,116 | - |
| Vehicles and sea vessels | 511 | - |
| Development in progress | 5,587 | - |
| Trademarks | 13 | - |
| Farm and hatchery licenses | 1,009 | - |
| Software | 763 | - |
| Goodwill | 39,255 | - |
| **Total impairment** | **59,255** | **-** |

As noted in Note 17 Intangible assets. Following on from an unexpected increase in sea farm mortality predominantly seen at our warmer sites towards the end of FY22, the Group has approved a strategy change to reduce farming at our warmer sites over summer. This strategy has a significant impact on future harvest volumes and therefore a reduction in future cash flows. A value in use calculation using a discounted cash flow approach (DCF) was prepared to estimate the recoverable amount of the CGU, with a resulting valuation single point of $183m. The DCF resulted in $39.255m impairment to goodwill and additional impairment of $14.4m which has been allocated on a pro rata basis to intangible assets and plant and equipment. Consideration has been given as to the status of development projects in light of the current financial environment and the impact this has on the capacity to complete significant capital projects. As a result, the capitalised development costs have been impaired at balance date.

### IMPAIRMENT SENSITIVITY

| | | 2022 $000 | 2021 $000 |
|---|---|---|---|
| Mortality | + 500 tonnes | (11,000) | - |
| | - 500 tonnes | 11,000 | - |
| Price increases | +1% | 21,000 | - |
| | -1% | (22,000) | - |
| Cost increases | +1% | **(20,000)** | **-** |
| | -1% | **20,000** | **-** |
| Discount rate WACC | +1% | **(19,000)** | **-** |
| | -1% | **24,000** | **-** |
| Growth rate | +1% | **19,000** | **-** |
| | -1% | **(15,000)** | **-** |

Figure 5: 2022 Offer Document, mentions of 'mortality'[17]

## PART 1: LETTER FROM THE CHAIR

13 April 2022

Dear Shareholder,

On behalf of the directors of New Zealand King Salmon Investments Limited (*NZKS*), I am pleased to present you with the opportunity to participate in this Offer of New Shares to repay all outstanding debt and strengthen NZKS' balance sheet, providing the business with significant liquidity as it resets its farming model whilst navigating heightened mortality and the ongoing impacts of the Covid-19 pandemic.

**Update on FY22 summer mortality and aquaculture farming model**

Fish performance continues to be a key focus for the business and the mortality events during FY22 dictate major change is required to ensure our farming strategy is more sustainable over the long term. Warm summer temperatures have been the main factor of multifactorial mortality events with approximately 2/3 of mortality biomass from warmer sites occurring between January and April when the fish are generally smaller. In light of FY22 mortality, NZKS has reviewed the underlying risk factors and has revised our farming strategy. We will avoid the higher water temperatures associated with the Pelorus and Queen Charlotte Sounds over the summer months. The company will focus on the cooler Tory Channel farms and utilise the nearby Queen Charlotte farms to tow stock to, after summer, for harvest before the following summer.

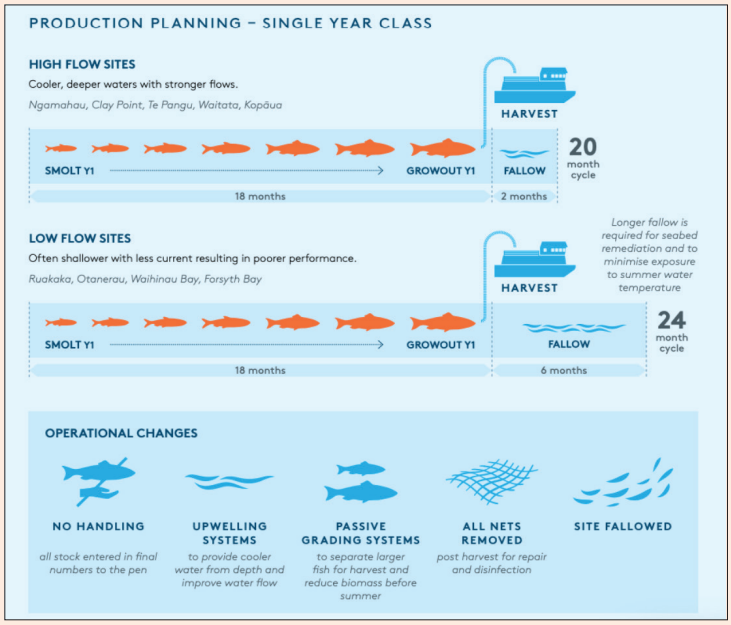
Figure 6: 2022 Offer Document, Purpose of Offer[18]

**Purpose of the Offer**
NZKS intends that the proceeds raised from the Offer will be applied to repay debt, strengthen NZKS' balance sheet and reposition the company for its refreshed aquaculture strategy.

Table 1: Mentions of mortality, freight, FX (close-outs) and land-based aquaculture in key documents

| Mentions | Mortality/ies | Freight | FX (close-outs) | Land-based aquaculture |
|---|---|---|---|---|
| 2022 annual report: Management commentary | 15 | 8 | 3 | 0 |
| 2022 annual report: Financial statements only | 24 | 2 | 0 | 0 |
| 2022 annual report: audit report only | 2 | 0 | 0 | 0 |
| 2022 annual report: Governance (statement) | 1 | 2 | 0 | 0 |
| 2022 annual report: Glossary | 4 | 1 | 0 | 0 |
| Total in 2022 annual report[19] | 46 | 13 | 3 | 0 |
| 2022 Offer Document | 6 | 0 | 0 | 0 |
| Total in 2022 Offer Document[20] | 6 | 0 | 0 | 0 |
| 2021 Environmental Product Declaration | 3 | 1 | 0 | 0 |
| Total in 2021 Environmental Product Declaration[21] | 3 | 1 | 0 | 0 |

Table 2: Different aquaculture models previously used by NZKS

| Year Announced | Aquaculture model |
|---|---|
| Pre 2019 | **A: Integrated production model**<br><br>A description could not be found, but we have assumed that the salmon were moved regularly between farms. |
| 2019 | **B: Single year class production model**<br><br>We are responding decisively to elevated mortality with three strategies; firstly, we are introducing a new single year class production model during the next two years to improve resilience during the summer period, as well as introducing better biosecurity management. (2019 annual report, p. 8)[22]<br><br>High water temperatures led us to implement a new production model based on single year class for the FY20 year. Single year class will mean farm managers and team members can focus on improving biosecurity, feeding and fish health. It also allows the establishment of fallow periods on all farms, which is better for the environment. The new production model also includes the following to be implemented:<br>• Reduced handling of stock – all stock entered in their eventual harvest pen.<br>• Upwelling systems to be installed on all farms, providing cooler water from depth and improving waterflow.<br>• Passive grading systems to reduce biomass before summer periods.<br>• All nets removed post harvest (predator and grower), returned to land, cleaned of all biofouling, disinfected and repaired before being reinstalled prior to smolt entry. (2019 annual report, p. 13)[23]<br><br>A CHANGE OF MODEL<br>Single year class in seawater is the best practice model in international aquaculture production planning, with the intention of improving fish health, improving survival rates and delivering the best possible biosecurity. A year class denotes one production group of salmon as they move through the fresh water and sea water grow out cycles. Avoiding overlapping year classes at sea farms and implementing fallowing periods after harvest are the two most important elements of this model. This avoids the transfer of disease between year classes – better for biosecurity and fish health – and a better environmental outcome as a result of fallowing. Commencing the conversion to the single year class model **is the largest change we have made to production plans in many years.** Reducing stress on the salmon during the summer and ending the need to tow pens is also addressed within the new seawater operational plan, leaving the team with more time to focus on clean farms, fish health and feeding. With the implementation of this best practice model, initially our volumes of salmon harvested will remain static, however we are confident that this responsible, long-term approach will deliver sustainable growth for the long term. [bold added] (2019 annual report, p. 37)[24]<br><br>  <br> |

2019 (cont.)

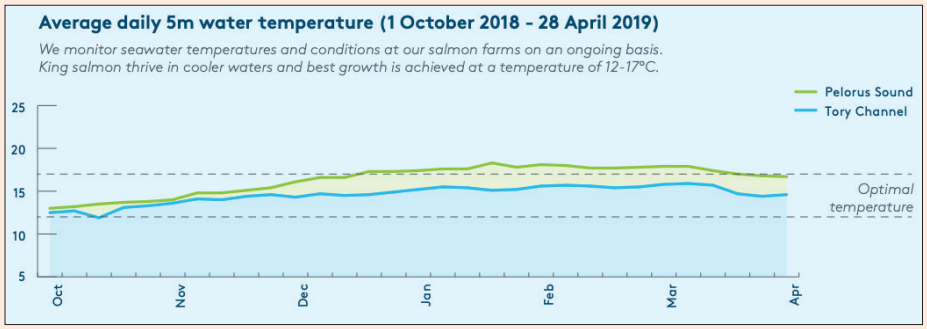
## BIOLOGICAL PERFORMANCE – KEY INDICATORS

The FY19 harvest volume of 7,931 tonnes (t) was in line with FY18 of 8,018t however high summer water temperatures gave rise to a significant increase in mortality, which increased to 23.2%, slightly up on the prior year (20.4%). This increase in summer mortality also negatively impacted closing livestock biomass, which at 5,125t is below the prior year. High water temperatures led us to implement a new production model based on single year class for the FY20 year. Single year class will mean farm managers and team members can focus on improving biosecurity, feeding and fish health. It also allows the establishment of fallow periods on all farms, which is better for the environment. The new production model also includes the following to be implemented:

- Reduced handling of stock – all stock entered in their eventual harvest pen.
- Upwelling systems to be installed on all farms, providing cooler water from depth and improving waterflow.
- Passive grading systems to reduce biomass before summer periods.
- All nets removed post harvest (predator and grower), returned to land, cleaned of all biofouling, disinfected and repaired before being reinstalled prior to smolt entry.

We continue efforts to further improve FCR and are working with Seafood Innovations Ltd, the Cawthron Institute, and existing and prospective international feed partners to undertake research into improving feed for the King salmon species. FY19 saw an increase in average feed cost versus the previous year due to the increased use of specialty diets, which showed limited apparent benefit.

The table below shows key biological measures against the actual performance and the 2018 forecast detailed in the PDS:

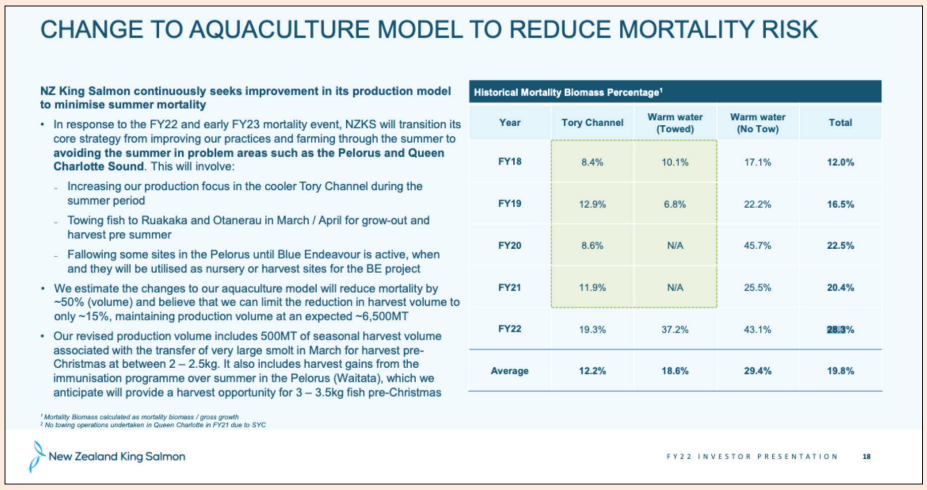



March 2022

**C: Refreshed aquaculture strategy**

We will avoid the higher water temperatures associated with the Pelorus and Queen Charlotte Sounds over the summer months. The company will focus on the cooler Tory Channel farms and utilise the nearby Queen Charlotte farms to tow stock to, after summer, for the harvest before the following summer.

2022: FY22 Results and Equity Raising Presentation (p. 18)[25]



## CHANGE TO AQUACULTURE MODEL TO REDUCE MORTALITY RISK

**NZ King Salmon continuously seeks improvement in its production model to minimise summer mortality**

- In response to the FY22 and early FY23 mortality event, NZKS will transition its core strategy from improving our practices and farming through the summer to **avoiding the summer in problem areas such as the Pelorus and Queen Charlotte Sound**. This will involve:
  - Increasing our production focus in the cooler Tory Channel during the summer period
  - Towing fish to Ruakaka and Otanerau in March / April for grow-out and harvest pre summer
  - Fallowing some sites in the Pelorus until Blue Endeavour is active, when and they will be utilised as nursery or harvest sites for the BE project
- We estimate the changes to our aquaculture model will reduce mortality by ~50% (volume) and believe that we can limit the reduction in harvest volume to only ~15%, maintaining production volume at an expected ~6,500MT
- Our revised production volume includes 500MT of seasonal harvest volume associated with the transfer of very large smolt in March for harvest pre-Christmas at between 2 – 2.5kg. It also includes harvest gains from the immunisation programme over summer in the Pelorus (Waitata), which we anticipate will provide a harvest opportunity for 3 – 3.5kg fish pre-Christmas

**Historical Mortality Biomass Percentage[1]**

| Year | Tory Channel | Warm water (Towed) | Warm water (No Tow) | Total |
|---|---|---|---|---|
| FY18 | 8.4% | 10.1% | 17.1% | 12.0% |
| FY19 | 12.9% | 6.8% | 22.2% | 16.5% |
| FY20 | 8.6% | N/A | 45.7% | 22.5% |
| FY21 | 11.9% | N/A | 25.5% | 20.4% |
| FY22 | 19.3% | 37.2% | 43.1% | 28.3% |
| Average | 12.2% | 18.6% | 29.4% | 19.8% |

[1] Mortality Biomass calculated as mortality biomass / gross growth
[2] No towing operations undertaken in Queen Charlotte in FY21 due to SYC

New Zealand King Salmon

FY22 INVESTOR PRESENTATION 18

In addition the Institute found:

- Revenue was higher in FY2022 than in previous years (i.e. 2016 onwards), see Appendix 4, Figure 30.
- Volume sold in FY2022 was equivalent to FY2018 (see Appendix 4, Figure 30).
- NZKS's reporting of mortality was inconsistent. NZKS state the mortality rates in their 2019 annual report (see Table 2, row 2, see Biological Performance – Key Indicators, above) as 23.2% (FY2019) and 20.4% (FY2018); whereas the *FY22 Results and Equity Raising Presentation* states the mortality rates for those same years as 16.5% (FY2019) and 12.0% (FY2018). For this reason, the Institute has used a standard mortality formula and applied it over previous years (see Appendix 4, Figure 36). Based on our calculations, the mortality rate in FY2022 was 29%, which was similar to FY2019 (being 28%).
- A significant NLAT, see Table 3.

Table 3: NPAT/-NLAT 2015–2022 (for financial years of a 12-month period)[26]

| Year (12-months) | Millions ($000,000) |
|---|---|
| 2022 | -$73.202 |
| 2020 | $18.004 |
| 2019 | $11.350 |
| 2018 | $16.125 |
| 2017 | $22.764 |
| 2016 | $2.593 |
| 2015 | $6.259 |

**What we think**

In the Institute's view, given that a number of farms in the Pelorus Sound are no longer usable over the summer months, previously 12-month assets have in effect become 9-month assets. This means to some extent they are now stranded. The TCFD classifies stranded assets as those "exposed to devaluation or conversion to 'liabilities' because of unanticipated changes in their initially expected revenues."[27]

Further, mortality (due to climate change) is portrayed as the major culprit for NZKS's loss in FY2022. However, there were also a number of other issues that together may have had a significant impact, for example, a feeding issue at Te Pangu farm, Tory Channel (linked to increased mortality, see Figure 3), and a major increase in freight costs to market. The increase in freight costs may have occurred as a result of the COVID-19 pandemic and/or a significant increase in sales to North America in the FY2022 (see Appendix 4, Figure 33). In addition, banks and other investors may be developing a lower appetite for risk given the emerging financial crisis and the climate change crisis.

The goodwill, arising from business combinations of $39.3m, was fully impaired. The plant, equipment and fittings were impaired on a 'value in use calculation', using a discounted cashflow to estimate the recoverable amount of cash-generating units (CGUs). This resulted in $14.4m being impaired. Identifying CGUs is a critical step as it requires a high level of judgement given it may have a significant impact on the financial results. Given the limited information provided, the reader is reliant on the auditors to highlight all key audit matters in their report.

However it is what happened post year-end (being after the 31 January 2022) that holds the key to understanding the financial results.

## Question 2: Can mortalities be considered to be 'unforeseen'?

**What we found**

The statement that refers to 'unforeseen mortalities' can be found in Note 20: Interest bearing loans and borrowings (see full note in Figure 2). It states:

> The impacts of the **unforeseen** mortalities **resulted in the Group breaching** a number of its bank related covenants as at 31 January 2022 and forecasting to be in breach of the following covenants in the next 12 months. ... As a result ... the Bank of New Zealand has agreed in principle to a combination of temporary covenant waivers, renegotiation of facilities and adjustments ... on the basis the Group completes an equity raise of a minimum of $50m (net of transaction costs). [bold added]

Other key information includes:

Mortality/mortality rate is defined in the 2022 annual report as:

> The percentage mortality of salmon in **seawater**, calculated as the biomass of salmon mortalities in kg divided by the growth of salmon in kg.[28] [bold added]

A 2017 MPI Intelligence Report, *MPI Technical Paper No. 2017/39*, states:

> As with all farmed animals, mortality occurs throughout the farmed salmon lifecycle. NZKS expect a mortality rate of approximately **25%.**[29] [bold added]

A 2021 *Environmental Product Declaration* report, commissioned by NZKS, discusses freshwater mortalities and states:

> Salmon are called smolts during their intermediary stage of life where they mature to being ready for migration to the sea. Smolts are sourced from one of our three **freshwater** hatcheries in Takaka, Waiau, and Tentburn. A **mortality rate of 11.1%** was assumed. Mortalities are generally sent away for composting or rendering.[30] [bold added]

We found many examples in previous years of mentions of mortality events that occurred due to changes in water temperature (see, for example, the FY2019 annual reports, see excerpt in Table 2, row 2).

**What we think**

Mortalities are not new to NZKS, nor is the level of mortalities when comparing FY2022 with previous years. Figure 36 (Appendix 4) compares mortality against biomass at year end, and found 29% in FY2022 and 28% in FY2019. Based on our calculations, there is little difference between FY2022 and FY2019.

Further, using our calculations, the average over four years (2018, 2019, 2020 and 2022) is 24.5%. This aligns with the 25% mortality rate quoted by MPI in 2017. See wider discussion in Section 4, Question 10.

Appendix 6, Figure 46, illustrates the gradual increase over time and the seasonal nature of mortalities (i.e. between December and April). The move to the new year end unfortunately occurs halfway though the mortality season, whereas the 30 June year end made the full impacts more obvious.

Therefore mortalities could not be considered to be unforeseen as the trend was clear.

The Institute remains unclear as to the size of the mortalities post 31 January 2022. The only indicators we have of the scale of mortalities is the amount of salmon dumped in the Blenheim landfill (see Appendix 6) and the size of the rights offer negotiated with the Bank of New Zealand. The Institute believes that the post year end mortalities should have been disclosed to MDC and to shareholders.

NZKS had a number of opportunities to inform shareholders about the level of mortalities after 31 January 2022 in dollars and weight (for the months of February and March 2022):

1. Any time between 1 March 2022 and 2 May 2022, using an 'NZX Assessment: NZK Market update'.
2. 13 April 2022 (when the FY2022 results became public), in 'Note 28: Events after balance date'.
3. 13 April 2022 (when the 2022 Offer Document became public), in the Offer Document.
4. 2 May 2022 (when the 2022 annual report became public). Ideally in both the Chair and CEO Report, and the wider 'management commentary'.

## Question 3: Is it possible the NZKS announcement on 31 March 2022 (containing pro forma reporting) misled shareholders?

**What we found**

The board and the management made the following announcements on the NZX Main Board:

1. On 31 March 2022, NZX published a 'New Zealand King Salmon – Results Announcement Date Waiver' (8:30am, 31 March 2022),[31] stating: 'Although we are still finalising our financial results, we continue to expect our FY2022 pro forma EBITDA to be in the previously indicated range of $6.5m – $7.5m.'[32]

   This announcement had little impact on the share price (see point 2, on Appendix 9).

2. However, by 8 April 2022 (8 days after the 31 March 2022 announcement), the share price began to materially drop (see comment on Appendix 9). By 14 April 2022 the market had responded (possibly as word of the scale of mortalities spread in the community, post 31 January 2022).

3. On 13 April 2022 (13 days after the 31 March 2022 announcement and five days after the share price dropped), shareholders were advised: 'New Zealand King Salmon Investments Limited has requested a trading halt pending a material announcement regarding its full year results and a potential capital raising.'[33]

4. Later that day (1:39 pm), the results and equity raising were made public.[34]

   The final 2022 annual report GAAP results were materially different from the pro forma results issued only 13 days earlier:

   GAAP EBITDA was -$15.593m (whereas pro forma EBITDA was a profit of $6.698m) and
   GAAP NLAT was -$73.202m (whereas pro forma NLAT was a loss -$55.715m)
   Note: See reconciliation on p. 9 of the 2022 annual report.

**Background**

**EBITDA** stands for earnings before interest, taxes, depreciation, and amortisation.

**NLAT** stands for net loss after tax.

**GAAP** stands for generally accepted accounting principles.

Accounting standards issued by the XRB Board or the NZASB and are the primary indicators of generally accepted accounting practices (GAAP) in New Zealand. They set out the recognition, measurement, presentation and disclosure requirements for transactions and events that are important in the preparation of financial reports—including those that may arise in specific industries. In general, entities with statutory reporting requirements must prepare financial reports based on GAAP. XRB standards are widely accepted as appropriate to accounting practice and necessary in order that financial statements are meaningful, comparable and consistent across a wide variety of businesses and industries.[35]

**Pro forma results** (also called non-GAAP or prospective financial statements) are not computed using standard GAAP and usually leave out one-time expenses that are not part of normal company operations. Essentially, a pro forma financial statement can exclude anything a company believes obscures the accuracy of its financial outlook. See further discussion in Section 5.2 (v).

5. In contrast to the 31 March 2022 announcement, this announcement did make a significant impact on the share price (see Appendix 9).

   NZKS launched a $60m rights offer to existing shareholders (closing 6 May 2022).

Figure 7: 2022 annual report, FY22 reconciliation between GAAP results and pro forma financials[36]

## Appendix

**FY22 RECONCILIATION BETWEEN GAAP RESULTS AND PRO FORMA FINANCIALS**

| FY22<br>NZD 000s | Statutory Financial Statements | Fair Value Adjustments | IFRS 16 Lease Adjustments | FX Close-outs | Pro Forma Operating Financial Information |
|---|---|---|---|---|---|
| **Revenue** | **174,530** | | | | **174,530** |
| Cost of goods sold | (177,774) | 52,050 | (1,968) | | (127,692) |
| Fair value gain/(loss) on biological transformation | 41,261 | (41,261) | | | - |
| Freight costs to market | (25,275) | | | | (25,275) |
| **Gross Profit** | **12,743** | **10,788** | **(1,968)** | | **21,563** |
| Other operating income | 402 | | | 13,471 | 13,873 |
| **Overheads** | | | | | |
| Sales, marketing and advertising | (13,471) | | | | (13,471) |
| Distribution overheads | (5,204) | | | | (5,204) |
| Corporate expenses | (8,649) | | | | (8,649) |
| Other expenses | (1,414) | | | | (1,414) |
| **EBITDA** | **(15,593)** | **10,788** | **(1,968)** | **13,471** | **6,698** |
| Depreciation and amortisation | (10,125) | | 1,747 | | (8,378) |
| Impairment | (59,255) | | | | (59,255) |
| **EBIT** | **(84,973)** | **10,788** | **(221)** | **13,471** | **(60,935)** |
| Finance income | 17 | | | | 17 |
| Finance costs | (2,636) | | 249 | | (2,387) |
| Net finance costs | (2,619) | - | 249 | | (2,370) |
| **Profit/(loss) before Tax** | **(87,593)** | **10,788** | **29** | **13,471** | **(63,305)** |
| Income tax (expense)/credit | 14,390 | (3,021) | (8) | (3,772) | 7,590 |
| **Net Profit/(loss) for the Year** | **(73,202)** | **7,768** | **21** | **9,699** | **(55,715)** |

**What we think**

When comparing the FY2022 results with those of FY2020 (the last 12-month year), the changes are as follows:

1. In terms of cash:
    - Freight costs increased by $9.924m (FY2022: $25.275m; FY2020: $15.351m)
    - Financial costs increased by $0.888m (FY2022: $2.636m; FY2020: $1.748m)
2. In terms of non-cash transactions and valuations:
    - Impairment of goodwill: (FY2022: $39.255m; FY2020: $0) (see Figure 4, FY2022 Note 5: Impairment).
    - Impairment (other than goodwill): (FY2022: $20.0m; FY2020: $0) (see Figure 4, FY2022 Note 5: Impairment).
    - Depreciation for property, plant and equipment – a difference of $0.74m (FY2022: $10.125m; FY2020: $9.385m) (see FY2022, Notes 16, 17 and 18).
    - Fair value gain on biological transformation – a difference of $22.863m (FY2022: $41.261m [12-months to 31 January]; FY2020: $64.124m [12-months to 30 June])[37] (see FY2022, Note 15).

Taking into account the transactions above, the 2022 NLAT (2022: -$73.202m) would have been more like a NPAT of $19.581m (which is similar to the years 2017–2020, see Table 3 and Figure 37 in Appendix 4. In the Institute's view, the freight costs were one of the reasons for the loss in FY2022.

The Institute's view is that the pro forma results announced on 31 March 2022 may have given shareholders a false sense of confidence, however this changed as early as 8 April 2022. See Figure 53 in Appendix 9.

We also discuss the FX close-outs of $13.471m, see Figure 7, and whether the FX close-outs should have been added back to create the pro forma EBITDA of $6.698m. See discussion in Section 5.2 (v), under NZX Announcements.

Managing climate change is an expected part of any business, and companies should be working hard to gain a clear understanding of how to manage the impacts of climate change. See discussion on the risks of organisations climatewashing their financial results in Question 12.

**Background**

Climatewashing, similar in nature to greenwashing, is a term used by the Institute to describe an entity's attempt to convey an impression that climate change, rather than management skills and board decision making, are responsible for entity challenges and/or poor results. See also discussion in Question 12.

## Question 4: What caused the banking breaches?

**What we found**

The bank negotiated an equity raise of a minimum of $50m (net of transaction costs) due to the Group breaching a number of bank-related covenants. In addition, a significant amount of debt was moved from non-current to current debt. See Figures 8 and 9.

Figure 8: 2022 financial statements, Note 20: Interest bearing loans and borrowings[38]

**20. INTEREST BEARING LOANS AND BORROWINGS**

| Current interest bearing loans and borrowings | 2022 $000 | 2021 $000 |
|---|---|---|
| Secured bank loans | 47,000 | 750 |
| Other borrowings | 2,659 | 2,274 |
| **Total current interest bearing loans and borrowings** | **49,659** | **3,024** |
| | | |
| **Non-current interest bearing loans and borrowings** | | |
| Secured bank loans | - | 39,250 |
| **Total non-current interest bearing loans and borrowings** | **-** | **39,250** |

The Company has facilities with BNZ for $60m. Land and buildings, plant and equipment, motor vehicles and vessels with a total carrying value of $38.196m are subject to a first charge under a General Security Deed granted to BNZ. The expiry date of facility A of $20m is 18 October 2022, facility B of $20m expires on 18 October 2023, and facility C of $20m expires on 18 October 2024. At balance date $20m of facility A was drawn, $20m of facility B was drawn and $2.75m facility C was drawn (as at 31 January 2021 total: $40m). During the period, the financial covenants relating to interest coverage and leverage ratios have been amended. In prior year,the Group also secured a Business Finance Scheme Loan via BNZ for $5m (expiry October 2025) that arose from the Government providing financial assistance following the pandemic virus Covid-19. At balance date the Business Finance Scheme loan was fully drawn at $4.25m (as at 31 January 2021: $5m).

The impacts of the unforeseen mortalities resulted in the Group breaching a number of its bank related covenants as at 31 January 2022 and forecasting to be in breach of the following covenants in the next 12 months being:

- Interest Cover Ratio (EBIT/Interest expense)
- Leverage Ratio (Gross debt/EBITDA)
- Guarantee Group cover ratio – EBITDA of the Guaranteeing Group (A)

As a result of breach of covenants default interest has been charged on the borrowings since the events of default. The Bank of New Zealand has agreed in principle to a combination of temporary covenant waivers, renegotiation of facilities and adjustments to covenant definitions on the basis the Group completes the equity raise of a minimum $50m (net of transaction costs). See also Note 2 Significant accounting judgements, estimates and assumptions, Going Concern.

Figure 9: 2021 financial statements, Note 20: Interest bearing loans and borrowings[39]

**20.INTEREST BEARING LOANS AND BORROWINGS**

| Current interest bearing loans and borrowings | 2021 31 January $000 | 2020 30 June $000 |
|---|---|---|
| Secured bank loans | 750 | 97 |
| Other borrowings | 2,274 | 1,035 |
| **Total current interest bearing loans and borrowings** | **3,024** | **1,132** |
| | | |
| **Non-current interest bearing loans and borrowings** | | |
| Secured bank loans | 39,250 | 37,000 |
| **Total non-current interest bearing loans and borrowings** | **39,250** | **37,000** |

The Company has facilities with BNZ for $60m, secured by a general security deed over the assets of the Group. The expiry date of facility A of $20m is 18 October 2022, facility B of $20m expires on 18 October 2023, and facility C of $20m expires on 18 October 2024. At balance date $20m of facility A was drawn, $15m of facility B was drawn and facility C was undrawn (as at 30 June 2020 total: $37m). During the period, the financial covenants relating to interest coverage and leverage ratios have been amended and are in place until 30 June 2021. The Company also secured a Business Finance Scheme Loan via BNZ for $5m (expiry October 2025) that arose from the Government providing financial assistance following the pandemic virus Covid-19. At balance date the Business Finance Scheme loan was fully drawn at $5m.

## What we think

It is hard to argue mortality events were 'unforeseen' (see answer to Question 2).

However, it is also important to emphasize that it was not the mortalities that occurred before 31 January 2022 that caused the banking breaches, but the mortalities post year end (after 31 January 2022). Hence, based on the information to date, our understanding is that it was the events after balance date that led to the rights offer.

**Background**

**The next four questions – Questions 5–8**

In addition to the impairment calculations and assumptions discussed in Question 1 (Figure 4), we found four other areas where the explanation and implications were less than clear: freight costs to market, cashflow, fair value gain on biological transformation and the basis of non-cash transactions. In our view, more information is necessary to fully understand the implications on future profitability and liquidity. Without this information in the financial statements, the reader is reliant on the auditors to identify and audit material transactions, review assumptions and highlight any resulting key audit matters (KAM).

## Question 5: Should the FY2022 financial statements and annual report provide more information on the 'freight costs to market'?

### What we found

This question is included because of the size of the increase in 2022, when compared with the last 12-month financial year (being FY2020). Freight costs to market increased by $9.924m; (FY2022: $25.275m; FY2020: $15.351m), (see Figure 34, Appendix 4).

The 2022 financial statements mention freight in two places. The first mention is in the consolidated statement of comprehensive income (see Figure 10 below) and the second mention is in Note 15: Biological assets (see Figure 11 overleaf). The other relevant note is in Figure 3: Note 28: Events after balance date:

> We have faced an incredibly challenging operating environment throughout FY22. Pandemic-related restrictions have necessitated an agile approach to our processing operations and like many businesses, maintaining the supply chain has been a constant challenge. We have been constricted by reduced freight options, increased freight costs and international logistics congestion, in addition to enduring the domino effect from suppliers due to their own supply chain issues and reduced workforce availability.[40]

Figure 10: 2022 financial statements, consolidated statement of comprehensive income, freight costs to market[41]

**Consolidated Statement of Comprehensive Income**

**FOR THE YEAR ENDED 31 JANUARY 2022**

| | Note | 2022 12 Months to 31 January $000 | 2021 7 Months to 31 January $000 |
|---|---|---|---|
| Revenue from contracts with customers | 32 | 174,530 | 95,239 |
| Cost of goods sold including fair value uplift at point of harvest | 14 | (177,774) | (98,820) |
| Fair value gain on biological transformation | 15 | 41,261 | 29,350 |
| Freight costs to market | | (25,275) | (11,616) |
| **Gross profit** | | **12,743** | **14,153** |

## Figure 11: 2022 financial statements, Note 15: Biological assets[42]

### 15. BIOLOGICAL ASSETS

The Group has three hatcheries in the South Island and nine operational marine salmon farms in the Marlborough Sounds. The fish livestock typically grow for up to 31 months before harvest.

| Biological assets | Cost $000 | Fair Value Gain $000 | Total $000 |
|---|---|---|---|
| **As at 1 February 2021** | 55,025 | 33,163 | 88,188 |
| Increase due to biological transformation[1] | 83,311 | 33,876 | 117,188 |
| Decrease due to harvest[2] | (66,920) | (50,038) | (116,958) |
| Decrease due to mortality[3] | (20,841) | - | (20,841) |
| Changes in fair value[4] | - | 7,385 | 7,385 |
| **As at 31 January 2022** | **50,575** | **24,386** | **74,961** |

*[1]Biological transformation fair value is impacted by volume increases and fish weight at reporting date relative to the target fish harvest weight of 4 kgs (proportional recognition).*
*[2]Harvested fair value is included in cost of goods sold in the statement of comprehensive income and is calculated by multiplying the current period's harvest (biomass) by the prior period's estimated gross margin per kg (recognised at 100%).*
*[3]Mortality cost is expensed directly to the statement of comprehensive income in the period which it occurs and is not subject to a fair value uplift.*
*[4]Changes in fair value are impacted by movements in margin primarily being changes in sales price and costs to sell (fish cost, harvest, processing and freight to market).*

| Biological assets | Cost $000 | Fair Value Gain $000 | Total $000 |
|---|---|---|---|
| **As at 1 July 2020** | 53,704 | 38,674 | 92,378 |
| Increase due to biological transformation | 51,807 | 33,726 | 85,533 |
| Decrease due to harvest | (42,233) | (34,860) | (77,093) |
| Decrease due to mortality | (8,253) | - | (8,253) |
| Changes in fair value | - | (4,377) | (4,377) |
| **As at 31 January 2021** | **55,025** | **33,163** | **88,188** |

| | 2022 12 months $000 | 2021 7 months $000 |
|---|---|---|
| **Fair value gain/(loss) recognised in profit and loss** | | |
| Gain arising from growth of biological assets | 33,876 | 33,726 |
| Movement in fair value of biological assets | 7,385 | (4,377) |
| **Total fair value gain on biological transformation** | **41,261** | **29,349** |

| | 2022 tonnes | 2021 tonnes |
|---|---|---|
| **Estimated closing biomass** | | |
| Closing fresh water stocks | 199 | 173 |
| Closing sea water stocks | 5,816 | 6,691 |
| **Total estimated closing biomass live weight as at year end** | **6,015** | **6,864** |

| | 2022 12 months tonnes | 2021 7 months tonnes |
|---|---|---|
| **Total live weight harvested for the year** | **8,389** | **5,545** |

**Fair value measurement**

Measurement of fair value is performed using a fair value model. The method of valuation therefore falls into level 3 of the fair value hierarchy as the inputs are unobservable inputs.

The valuation of biological assets is carried out separately for each site at a brood and strategy level. Estimated actual cost up to the date of harvest per site is used to measure the expected margin at the time the fish is defined as ready for harvest, being 4.0kg live weight. Selling price is estimated at balance date based on the most relevant future market price at expected harvest date. The expected gross margin is recognised proportionately based on average biomass at reporting date. Fair value measurement commences at the date of transfer to sea water as this is considered the point at which the fish commence their grow out cycle.

**Fair value risk and sensitivity**

The Group is exposed to financial risks relating to the production of salmon stock including increasing climate change volatility, climatic events, disease and contamination of water space.

The Group seeks to produce and market the highest quality salmon products. Extensive monitoring and benchmarking is carried out to provide optimum conditions and diets to maximise fish performance during the grow out cycle. Sales are maintained in a range of brands, products and markets to maximise returns from the quality mix of fish harvested. The Group has insurance to cover some of the risks relating to the livestock.

The estimated unrealised fair value gain from cost at 31 January 2022 has decreased due to an increase in forecasted mortalities and a consequential decrease in the forecasted harvest. Mortality assumptions made in the fair value model are in line with the FY23 forecast which sees FY22 high mortalities continued into the beginning of FY23. Average price increases are forecast due to reduced lower value sales. Additional to this there are forecasted general price increases due to higher costs of inputs. Changes in these assumptions will impact the fair value calculation. The realised profit which is achieved on the sale of inventory will differ from the calculations of fair value of biological assets because of changes in key factors such as the final market destinations and product mix of inventory sold, changes in price, foreign exchange rates, harvest weight, growth rates, mortality, cost levels and differences in harvested fish quality.

Leaving all other variables constant a 15% increase/decrease in average future sales prices would increase/decrease the fair value of biological assets on hand and profit before tax by $13.2m (2021: $18.3m) (excludes the impact of finished goods), while a 15% increase/decrease in future harvest volume would increase/decrease the fair value of biological assets on hand and profit before tax by $3.3m (2021: $2.1m).

A 15% increase/decrease in costs to sell would decrease/increase the fair value of biological assets on hand and profit before tax by $9.7m (2021: $15m). Changes in fish health and environmental factors may affect the quality of harvested fish, which may be reflected in realised profit via both achieved sales price and production costs.

### What we think

Given the increase in 'freight costs to the market' is material, the Institute believes freight costs should have been discussed in more detail in the Notes to the 2022 financial statements and the wider 2022 annual report. We are unclear as to whether this increase was a one-off due to the COVID-19 pandemic (e.g. the import of feed from Australia or Chile) or an increase in sales to North America (see Appendix 4, Figure 33), or if it instead indicated a more permanent long-term increase in costs. Climate change may result in material increases in freight costs, hence companies dependent on imports and exports are at a higher risk. Arguably freight costs are a key issue for risk committees and auditors to watch and report on.

## Question 6: Should the FY2022 financial statements and annual report provide more information on the implications of the cashflow problem?

### What we found

This question is included because the bank negotiated an equity raise of a minimum of $50m (net of transaction costs) due to the Group breaching a number of bank related covenants. A significant amount of debt, $39.25m, was moved from non-current to current debt. The loan expiry dates are: 18 October 2022 ($20.0m), 18 October 2023 ($20.0m), 18 October 2024 ($20.0m) and October 2025 ($5.0m). See Figures 8 and 9. In addition, it is useful to note the size of the FX close-outs, being $13.471m, see Figure 7. See discussion in Section 5.2 (v), under NZX Announcements.

### What we think

The 2022 auditor's report contains a number of red flags regarding cashflow, however the financial statements is less clear. For example, Note 24: Risk management does not explain in detail the existing liquidity risks and how those risks will be managed in the next 12-months (other than daily forecasts and monthly monitoring against bank covenants). Furthermore, we are not sure why the $47.0m bank loan is sitting in the less than 'one year column' when only $20.0m is due on 18 October 2022 (nine months away).

## Question 7: Should the FY2022 financial statements and annual report provide more information to explain the 'fair value gain on biological transformation'?

### What we found

This question is included because of the significant difference between financial years. This is discussed in both FY2022 Note 15: Biological assets (see Figure 11) and pp. 3–4 of the auditor's report (see Figure 12). The 2022 financial statements show a lower increase in fair value gain on biological transformation in 2022 compared to 2020 – a difference of $22.863m over a 12-month period (2022: $41.261m [12-months to 31 January]; 2020: $64.124m [12-months to 30 June]).

### What we think

The relevant standard is NZ IAS 41: Agriculture. The principle idea is that an increase in value is recognised as an asset grows and not solely when it is harvested or sold – hence the term 'fair value'. In practice, this means that salmon swimming in a farm are accounted for in accordance with IAS 41: Agriculture, whereas dead salmon are accounted for as inventory (in accordance with IAS 2: Inventories).

Fair value is recognised in the statement of comprehensive income. Changes in fair value may be due to both physical changes and price changes in the market. Therefore the accountant/auditor needs a high level of judgement and expertise to make/verify assumptions, which in turn determine 'fair value'.

We found the explanation in Note 15 (Figure 11) and the audit opinion (Figure 12) difficult to understand, particularly given the extent of the change. For example, the 2022 figure for NZKS was 24% ($41.261m/$174.53m) of revenue from contracts with customers, in comparison with 41% ($64.124m/$155.344m) in FY2020.

**Background**

Key definitions contained in NZ IAS 41: Agriculture include:

A **biological asset** is a living animal or plant.

**Biological transformation** comprises the processes of growth, degeneration, production and procreation that cause qualitative or quantitative changes in a biological asset. Costs to sell are the incremental costs directly attributable to the disposal of an asset, excluding finance costs and income taxes.

**Harvest** is the detachment of produce from a biological asset or the cessation of a biological asset's life processes.

Of particular relevance to 'fair value' is NZ IAS 41, Para 10: 'An entity shall recognise a biological asset or agricultural produce when, and only when: (a) the entity controls the asset as a result of past events; **(b) it is probable that future economic benefits associated with the asset will flow to the entity; and (c) the fair value or cost of the asset can be measured reliably.'** [bold added]

If we understand Note 15 correctly, it implies that (leaving all other variables constant) the level of sensitivity is as follows:

- A 15% increase/decrease in average future sales prices would increase/decrease the fair value of biological assets on hand and profit before tax by $13.2m (FY2021: $18.3m) (excluding the impact of finished goods).
- A 15% increase/decrease in future harvest volume would increase/decrease the fair value of biological assets on hand and profit before tax by $3.3m (FY2021: $2.1m).

- A 15% increase/decrease in costs to sell would decrease/increase the fair value of biological assets on hand and profit before tax by $9.7m (FY2021: $15m).

Note 15: Biological assets explicitly states:

> Changes in these assumptions will impact the fair value calculation. The realised profit which is achieved on the sale of inventory will differ from the calculations of fair value of biological assets because of changes in key factors such as the final market destinations and product mix of inventory sold, changes in price, foreign exchange rates, harvest weight, growth rates, mortality, cost levels and differences in harvested fish quality. A 15% increase/decrease in costs to sell would decrease/increase the fair value of biological assets on hand and profit before tax by $ 9.7m (2021: $15m). Changes in fish health and environmental factors may affect the quality of harvested fish, which may be reflected in realised profit via both achieved sales price and production costs.[43]

In the Institute's opinion, careful reporting is required to explain to shareholders and other interested parties how the non-cash transactions were generated. For example, is this difference related to the seasonal nature of the business model, given the change in balance date? (See Appendix 6).

## Figure 12: 2022 auditor's report: Biological assets[44]

**Biological assets**

| Why significant | How our audit addressed the key audit matter |
|---|---|
| At 31 January 2022, the consolidated statement of financial position includes biological assets (live salmon) of $75.0 million with an estimated biomass of 6,015 metric tonnes measured at fair value less costs to sell. This includes a fair value increase above cost of $24.4 million.<br><br>This is a key audit matter because the group's estimation of the fair value of biological assets involves estimation of year-end biomass and a valuation model that relies on significant estimation including:<br>▸ year end biomass and future growth to harvest;<br>▸ future fish mortalities;<br>▸ forecast sales prices;<br>▸ forecast costs to harvest date and of sale;<br>▸ forecast sales product mix; and<br>▸ use of a weight-based method, to recognise the estimated fair value gain at balance date<br><br>Disclosures in relation to biological assets are included in Note 15 to the group financial statements. | In considering the valuation of live salmon we:<br>▸ evaluated the appropriateness of key estimations and assumptions and their impact on the valuation assessment;<br>▸ agreed key estimation inputs used by the group in their valuation model to source data and to board approved forecasts;<br>▸ involved our valuation specialists in the evaluation and testing of the mathematical integrity of the calculations in the valuation model;<br>▸ challenged the accuracy of model inputs compared to historical actual values and considered the accuracy of previous forecasts; and<br>▸ considered post year end harvest mortality data to assess the impact, if any, on the forecasts used in the valuation model.<br><br>In considering live salmon biomass at year end we:<br>▸ tested controls over fish count recording at the point of transfer from the freshwater hatcheries to sea pens;<br>▸ considered the key inputs used by the group in estimating growth and biomass;<br>▸ tested controls over fish quantity and biomass adjustments to the livestock recording system;<br>▸ agreed significant quantity and biomass adjustments made by the group in the livestock recording system to source data;<br>▸ performed analytical procedures over feed conversion to biomass; and<br>▸ considered the accuracy of historical forecasts of average fish weight and quantity recorded in the livestock recording system to actual fish harvest data.<br><br>We also considered the appropriateness and sufficiency of biological assets disclosures included in the group financial statements. |

**Information other than the financial statements and auditor's report**

The directors of the company are responsible for the Annual Report, which includes information other than the consolidated financial statements and auditor's report which is expected to be made available to us after the date of this auditor's report.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained during the audit, or otherwise appears to be materially misstated.

When we read the Annual Report, if we conclude that there is a material misstatement therein, we are required to communicate the matter to those charged with governance and, if uncorrected, to take appropriate action to bring the matter to the attention of users for whom our auditor's report was prepared.

**Directors' responsibilities for the financial statements**

The directors are responsible, on behalf of the entity, for the preparation and fair presentation of the consolidated financial statements in accordance with New Zealand equivalents to International Financial Reporting Standards and International Financial Reporting Standards, and for such internal control as the directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the directors are responsible for assessing on behalf of the entity the group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the group or cease operations, or have no realistic alternative but to do so.

**Auditor's responsibilities for the audit of the financial statements**

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a

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## Question 8: Should the FY2022 financial statements and annual report provide more information on the assumptions underlying the non-cash transactions, given their impact on the NLAT?

### What we found

There are a number of business transactions that together brought about the loss, as recorded in the financial statements (NLAT FY2022: -$73.202m). The distinction between cash and non-cash transactions are significant, (as illustrated in Table 4 below).

- Impairment: The difference of $59.255m (FY2022: $59.255m; FY2020: $0). See Figure 4.
- Freight costs to market: The difference of $9.924m (FY2022: $25.275m; FY2020: $15.351m).
- Finance expenses: The difference of $0.888m (FY2022: $2.636m; FY2020: $1.748m).
- Depreciation and amortisation expenses: The difference of $0.74m (FY2022: $10.125m; FY2020: $9.385m).
- Fair value gain on biological transformation: The difference of $22.863m (FY2022: $41.261m [12-months to 31 January]; FY2020: $64.124m [12-months to 30 June]). See FY2022 Note 15: Biological assets (Figure 11) and 2022 auditor's report (Figure 12).
- Mortalities: The difference of $9.193m (FY2022: $20.841m; FY2020: $11.648m).

Interestingly, there was a significant cash transaction of $13.471m from FX close-outs (see Figure 7 and the 2022 annual report, p. 103). This is discussed further in Section 5.2 (v), under NZX Announcements.

### What we think

It is difficult to understand exactly what happened during the FY2022, but we have undertaken a 'back of the envelope exercise', taking a closer look at the scale of the non-cash transactions. (See Table 4 below).

Given the above exercise, if the mortalities event after 31 January 2022 had not occurred, it may have been possible for NZKS to report NPAT in FY2022.

**Background**

Looking forward, Question 9 explores whether NZKS could make a profit based on the refreshed aquaculture strategy.

Table 4: The impact of removing two significant non-cash transitions from NLAT

Note: The FY2020 and FY2022 results are both for 12-month periods.

| | 2022 | 2020 | Difference | NPAT/(NLAT) (millions) |
|---|---|---|---|---|
| NLAT as at 31 January 2022 | | | | -$73.202 |
| 1. Fair value gain on biological transformation (see Question 7) | $41.261 | $64.124 | $22.863 | $22.863 |
| 2. Impairment (see Question 1) | $59.255 | 0 | $59.255 | $59.255 |
| Adjusted NPAT/(NLAT) | | | | $8.916 |

## Question 9: What evidence exists that a move to the refreshed aquaculture strategy will be successful?

### What we found

NZKS discusses the need to adopt a refreshed aquaculture strategy. Table 2 outlines the three different strategies discussed in recent annual reports. The new strategy is also mentioned in the 2022 Offer Document (see Figures 13 and 14 below).

Figure 13: 2022 Offer Document, Mentions of 'mortality'[45]

**PART 1: LETTER FROM THE CHAIR**

13 April 2022

Dear Shareholder,

On behalf of the directors of New Zealand King Salmon Investments Limited (*NZKS*), I am pleased to present you with the opportunity to participate in this Offer of New Shares to repay all outstanding debt and strengthen NZKS' balance sheet, providing the business with significant liquidity as it resets its farming model whilst navigating heightened mortality and the ongoing impacts of the Covid-19 pandemic.

**Update on FY22 summer mortality and aquaculture farming model**

Fish performance continues to be a key focus for the business and the mortality events during FY22 dictate major change is required to ensure our farming strategy is more sustainable over the long term. Warm summer temperatures have been the main factor of multifactorial mortality events with approximately 2/3 of mortality biomass from warmer sites occurring between January and April when the fish are generally smaller. In light of FY22 mortality, NZKS has reviewed the underlying risk factors and has revised our farming strategy. We will avoid the higher water temperatures associated with the Pelorus and Queen Charlotte Sounds over the summer months. The company will focus on the cooler Tory Channel farms and utilise the nearby Queen Charlotte farms to tow stock to, after summer, for harvest before the following summer.

Figure 14: 2022 Offer Document, Purpose[46]

**Purpose of the Offer**
NZKS intends that the proceeds raised from the Offer will be applied to repay debt, strengthen NZKS' balance sheet and reposition the company for its refreshed aquaculture strategy.

### What we think

We did not find any detailed financial forecasts to illustrate how profitable the new model might be. Although the move to the new refreshed operational strategy will result in a reduction in production over summer months, it is, in reality, a tweak to its existing farming model. It is not a strategic rethink over how best to leverage its brand and develop a long-term sustainable and robust business model, one that is able to respond to shocks (whether it be a pandemic, climate change or a financial crisis etc). To illustrate this point, we did not find any consideration of land-based farming options (see Table 1). This was surprising, given that land-based salmon farming is a key part of the Minister's *2019 Aquaculture strategy for New Zealand* (see Figure 26 in Appendix 2).

However, to conclude, there is not sufficient information to know whether the refreshed aquaculture strategy will be successful in the medium-term. Salmon farming is a commodity business, therefore scale will be important. This means knowing what costs are fixed and what are variable will be one of the keys to understanding the implications of the refreshed strategy.

# 4.0 Analysis of future reporting requirements (climate-related disclosures)

This section of the paper looks more specifically at climate change and in particular climate-related disclosures. The Financial Sector (Climate-related Disclosures and Other Matters) Amendment Act 2021 requires listed companies to make climate-related disclosures in climate statements (see for example s 461Z Climate statements must be prepared and s 461ZI Lodgement of climate statements).

The discussion from this part of the report supports the Institute's submission to the XRB on climate-related disclosures Proposed Strategy and Metrics and Targets sections of NZ CS 1.[47] While the standards are being consulted on, the closest framework we have is the Financial Stability Board's *TCFD recommendations on climate-related financial disclosure* (see Figure 15). Figure 16 is an excerpt from NZKS's 2022 annual report on a climate change gap assessment to assess their readiness to prepare climate-related disclosures.

Figure 15: TCFD recommendations and supporting recommended disclosures[48]

Figure 4

**Recommendations and Supporting Recommended Disclosures**

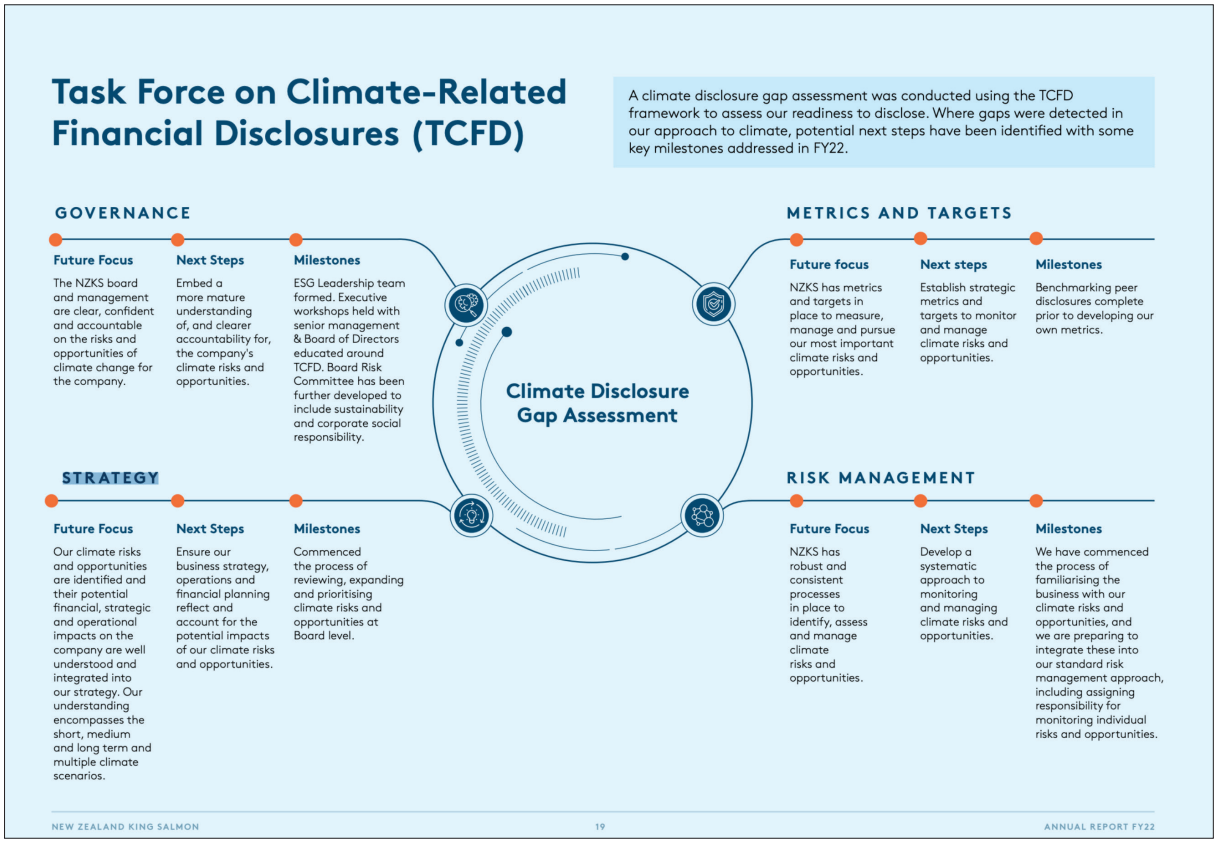
| Governance | Strategy | Risk Management | Metrics and Targets |
|---|---|---|---|
| Disclose the organization's governance around climate-related risks and opportunities. | Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material. | Disclose how the organization identifies, assesses, and manages climate-related risks. | Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material. |
| **Recommended Disclosures** | **Recommended Disclosures** | **Recommended Disclosures** | **Recommended Disclosures** |
| a) Describe the board's oversight of climate-related risks and opportunities. | a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term. | a) Describe the organization's processes for identifying and assessing climate-related risks. | a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process. |
| b) Describe management's role in assessing and managing climate-related risks and opportunities. | b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning. | b) Describe the organization's processes for managing climate-related risks. | b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks. |
| | c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario. | c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management. | c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets. |

In addition to the information in the annual report (see Figure 16 overleaf), the financial statements discuss climate change as follows:

> **Note 24: Risk management [climate risk]**
>
> **Climate Risk**
>
> The Group recognises climate change will have a significant impact on our operations. The key risks are both physical risks (climate and water temperature impacting fish health) and transition risks resulting from the process of consumers adjusting their taste and preferences towards a low carbon economy. During the transition period, regulatory risk has also been identified, as the cost of compliance is increasing and not showing any signs of stabilising. The Health, Safety and Risk Committee has responsibility for the oversight of all risk domains, which includes managing climate risk, as delegated by the Board. An internal sustainability working group is being established to develop the Groups strategic response to climate risk in line with the recommendations of the Task Force on Climate-Related Disclosures (TCFD).[49]

Markets need timely and accurate information to operate. There is a risk climate change might be a convenient reason for poor results. That may have been acceptable in 2000, but that is not the case in 2020 and definitely will not be the case in 2030. There is an expectation that companies will seek out, identify and find ways to navigate climate change risks. We need to design mechanisms that help companies to be climate intelligent. That is one of the purposes of the climate-related standards being developed by the XRB.

Figure 16: 2022 annual report, a climate change gap assessment[50]




The discussion in Section 3.0 raises three additional questions:

## Question 10: What is the evidence that the temperature is warming in the Marlborough Sounds and Raukawa Moana Cook Strait?

**What we found**

Marine heatwaves are not new, and warning systems are now established. Further advice from scientists has been clear and specific, including statements to the aquaculture industry.

An April 2021 article in the *NZ Herald* noted that the marine heatwaves warning system 'could guide efforts such as early harvesting, or, in coastal aquaculture facilities, even moving stock'.[51] One would have expected NZKS to have an established plan in place on how to manage the impacts of marine heatwaves, to both minimise stress to the fish and optimise profit.

It is well known that climate change will continue to heat the ocean and make salmon farming more difficult over the next ten years, however it is not unforeseen (as discussed in Question 2). It has been discussed at every public hearing since 2011, and no doubt a lot earlier.

What was new at the *Blue Endeavour* hearing in late 2021 was the extent of the warming in Raukawa Moana Cook Strait (where the proposed new salmon farms were to be located).

What we learned is that the proposed location has similar risks to Pelorus Sound in terms of heating.

Figures 17 and 18 come from the Institute's working paper on water temperatures: *Working Paper 2021/14 – The Role of Water Temperature in Climate Change Policy – A New Zealand King Salmon Case Study* (November 2021). Whether water temperatures are sea surface temperatures (SST) or taken at some specific depth below the sea surface was unclear. For example, the temperatures in the *NZKS Operations Report*[52] do not mention the depth.

The only information on depth was found in the 2019 annual report, see Table 2, row 2. The gap in reliable information led the Institute to write the working paper: *Working Paper 2021/15 – Looking for a taxonomy for Aotearoa New Zealand's oceans* (November 2021).

Table 5: Farm site temperatures (2016 or earlier)[53]

| Farm site name | Excerpt on water temperature range |
|---|---|
| Waihinau Farm (Pelorus Sound) | 'Over an annual period, water temperature generally ranges from ~12–17.5°C (but can exceed 18°C for an extended period).' |
| Forsyth Bay Farm (Pelorus Sound) | 'Average water temperatures range from ~12–17.5°C (but can exceed 18°C for an extended period).' |
| Waitata Farm (Pelorus Sound, new 2013 BOI Decision) | 'Water temperatures range between ~12–18.0°C.' |
| Kopāua Farm (Pelorus Sound, new 2013 BOI Decision) | 'Water temperatures range between ~12–18.0°C.' |
| Ruakaka Farm (Queen Charlotte Sound) | 'Water temperatures at this site generally range from ~11–18°C (however can peak at up to 20°C).' |
| Otanerau Farm (Queen Charlotte Sound) | 'Water temperature generally ranges from ~11.5–18°C (but can exceed 18°C for an extended period), but due to the consistently higher warmer temperatures in summer at this site, salmon are only grown here for nine months of the year (April to January).' |
| Te Pangu Farm (Tory Channel) | 'Water temperatures generally range from ~11.5–16.5 °C.' |
| Clay Point Farm (Tory Channel) | 'It has cooler water temperatures (~10.5–16.5°C) compared to farms in Pelorus and Queen Charlotte Sounds, making this site ideal for growing salmon.' |
| Ngamahau Farm (Tory Channel, new 2013 BOI Decision) | 'Water temperatures range between 10.5–16.5°C.' |

In 2016/17 the focus was generally on water flow (rather than temperature) (see Appendix 7). Over recent years the focus has moved to temperature (as can be seen in the earlier relocation proposal and NZKS's Operational Report, mentioned above).

Figures 17-19 evidence the rising temperature in the Raukawa Moana Cook Strait area and illustrate why the location of the *Blue Endeavour* site is looking increasingly challenging, (see Appendix 8). NZKS management has indicated that they may be able to lower the salmon cages to a depth where they can find an appropriate temperature (see article below). This may technically be achievable, however it would first need to be tested on King salmon, which are renowned as difficult salmon to farm.[54]

The 19 April 2022 NBR article, titled '*NZ King Salmon CEO: "We tried everything but it didn't work.*"' states:

> "And we have deployed now all of those: we've tried upwelling cooler waters, we've tried **single year class** [keeping salmon of different ages separate], we've tried scrupulous net cleaning," he said.
>
> "We were expecting a good summer this year. And then after deploying all of those practices, and then having the very opposite occur, we thought: 'OK, that is a tipping point, there doesn't seem to be a technology or a practice that can overcome these elevated temperatures.' We will keep searching [in small trials] but we're not going to take stock through those summers any more."
>
> "We are not alone in facing the challenges of climate change and we have identified the risks early and responded accordingly."
>
> **Rosewarne said surface water temperatures were irrelevant to fish health due to Blue Endeavour's depth (80–110m) and a strong current creating sharply declining temperatures with depth.**
>
> During January the company's data indicated that the surface temperature at the site was around 17.5°C, but 20m down it was about 16.5°C and about 15.5°C at 40m.[55] [bold added]

Figure 17: NIWA mean sea surface temperature for the Marlborough Sounds from 2004, 2012 and 2020[56]

Source: NIWA Timeseries GIS database. They show the average sea surface temperature (SST) (°C) for the months of February and August.

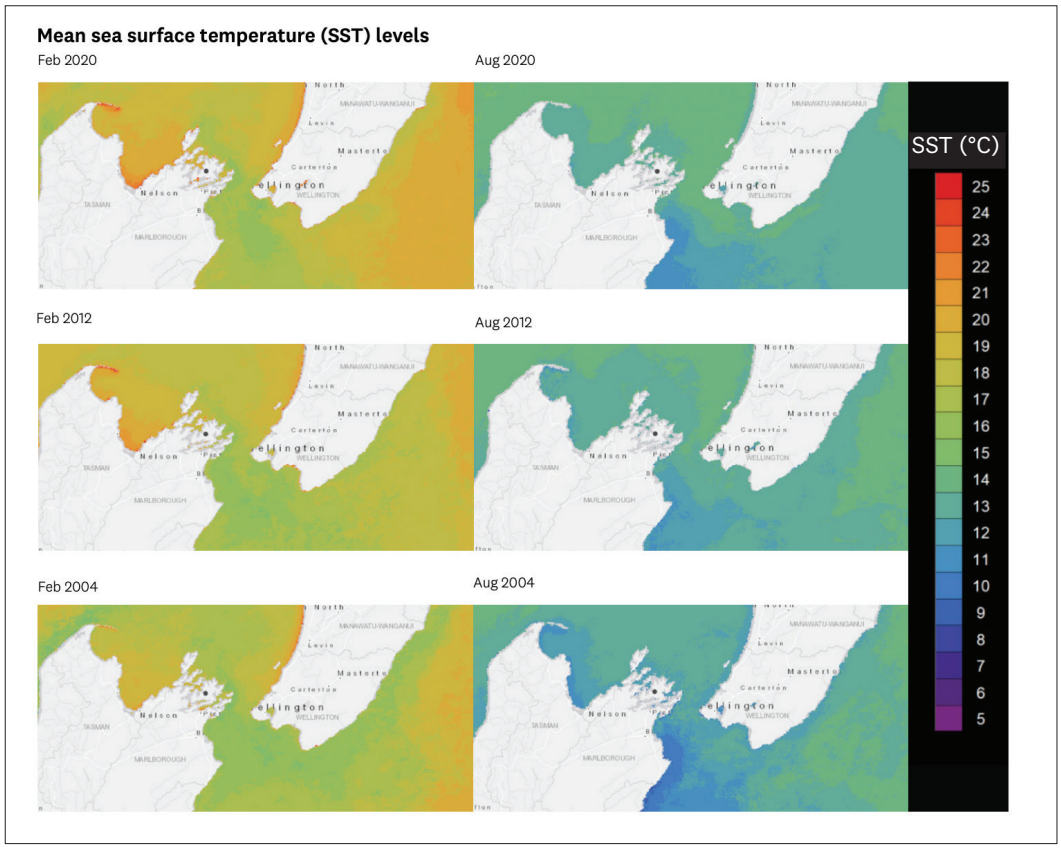



Figure 18: Magnified illustration showing how water below 15°C is shrinking and now isolated from the currents along the eastern face of the South Island[57]

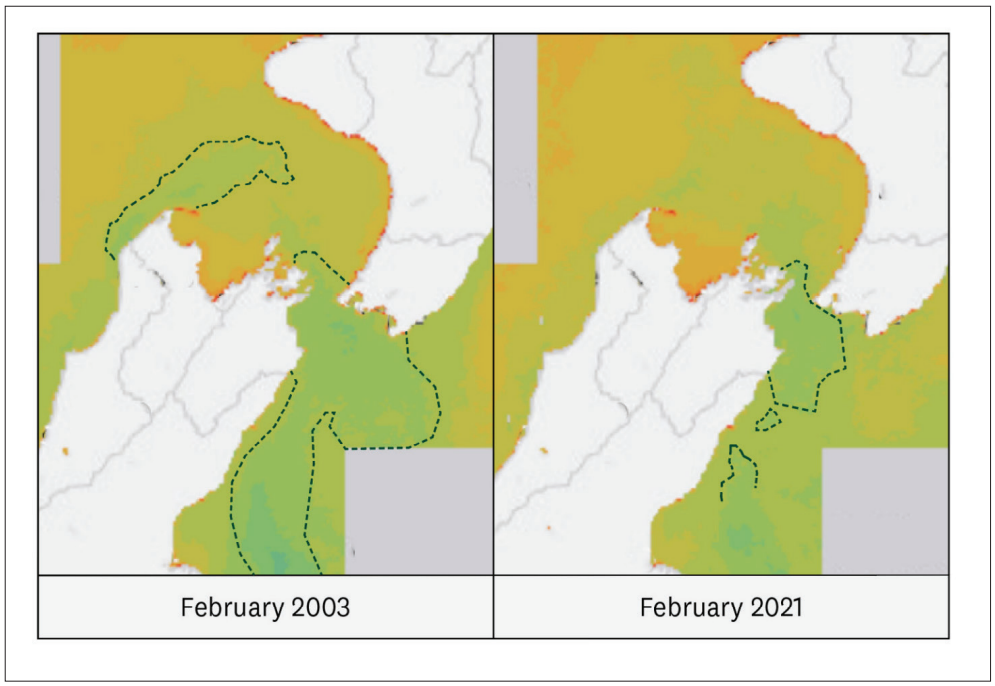
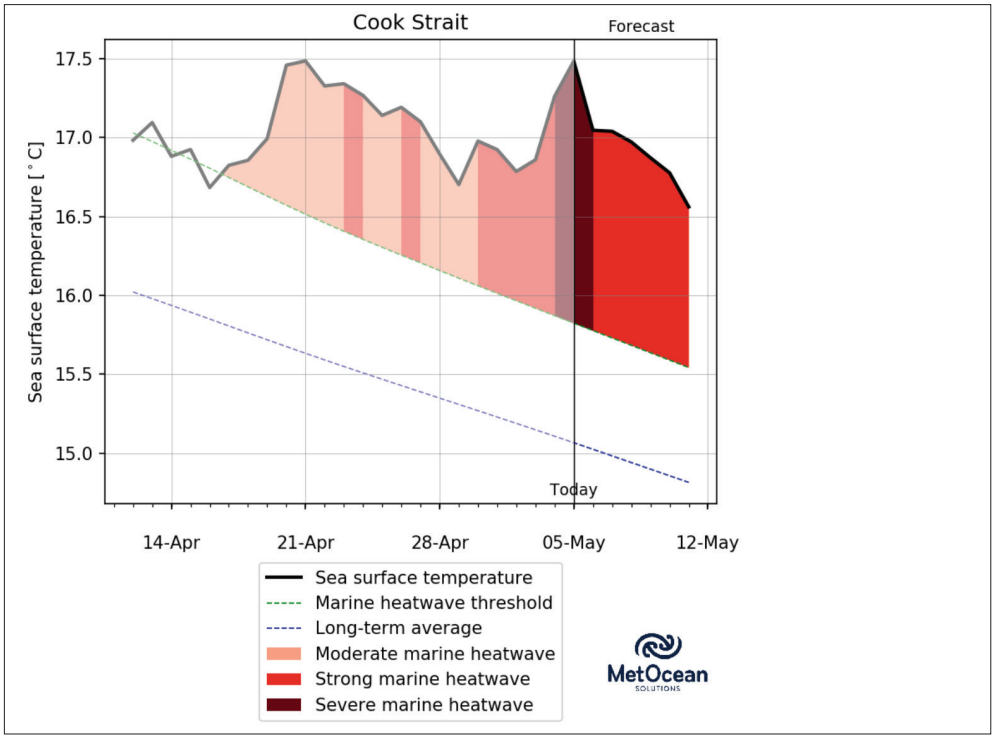


Figure 19: Moana Project, Forecast of sea surface temperature (SST) as at 5 May 2022 [58]




Although the Institute has not undertaken extensive research on how salmon die when 'warmed', a 2019 study of Atlantic salmon, *Sudden exposure to warm water causes instant behavioural responses indicative of nociception or pain in Atlantic salmon* (2019) found:

> Shortly before the fish exposed to the higher temperatures reached the endpoint, they changed behaviour and lost swimming control, moved in circle patterns and splashed in the surface, and some fish even showed an abnormal bending of their body. If these abnormal behaviours arise because of increasing nociception or pain in the skin, possible nociception or pain from organ failure ('deep pain'), or if they rather reflect neurological and/or physiological impairment and loss of muscle control, or a combination of these, cannot be judge by visual observations alone. However, it can be argued that both temperature itself and possible breakdown of body functions cause nociception or pain, and therefore that the experience of alarm increases with temperature and exposure time.[59]

This demonstrates why the animal welfare impacts on salmon require careful consideration. The Institute is unsure who is undertaking this work in Aotearoa New Zealand in regard to King salmon, however it is an emerging question as to when farmed fish should be euthanised. Farmers frequently have to euthanise stressed livestock, and as climate change will impact all livestock, it is essential to start developing strategies now.

## What we think

There is a high probability that the sea surface temperature is going to rise due to climate change. This means farming salmon in the Marlborough Sounds (and Raukawa Moana Cook Strait) will be challenging in the short to medium term. The farms in the Tory Channel are likely to be the last to be seriously affected – arguably a question of not if, but when.

What was new to the Institute last year was that the *Blue Endeavour* proposal is located in an area that is being (and has a high probability of continuing to be) impacted by changes in water temperature due to climate change (see Appendix 8). The cost of the *Blue Endeavour* proposal is not mentioned in the annual report or the Offer Document.[60] Furthermore there may be shareholders who have become confused, given the discussion of a share issue last year in the press (to progress the *Blue Endeavour*) has been followed so quickly by the rights offer (to resolve the company's short-term cashflow). There is a low probability that NZKS could successfully float a share issue (or indeed another rights offer) three times the size of the recent 2022 rights offer any time soon.

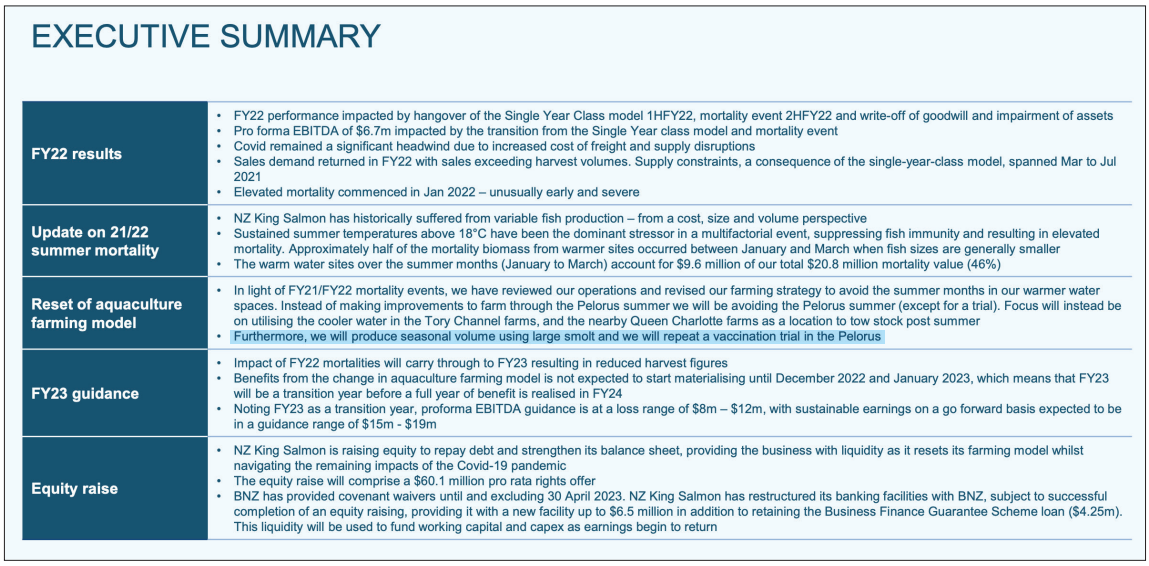
The evidence is clear, the temperature is warming in the Marlborough Sounds and Raukawa Moana Cook Strait.

## Question 11: What is the business model and has it changed?

### What we found

Given the rising water temperature, the company is aiming to reduce its exposure to high temperatures in the Pelorus Sound by instigating a new aquaculture farming model, a reduction in volumes and a vaccination trial. It is unclear, from the information provided, what the salmon vaccination is for (see Figure 20).

Figure 20: 2022 NZKS FY2022 results and equity raising presentation [vaccination][61]



EXECUTIVE SUMMARY

| | |
|---|---|
| **FY22 results** | • FY22 performance impacted by hangover of the Single Year Class model 1HFY22, mortality event 2HFY22 and write-off of goodwill and impairment of assets<br>• Pro forma EBITDA of $6.7m impacted by the transition from the Single Year class model and mortality event<br>• Covid remained a significant headwind due to increased cost of freight and supply disruptions<br>• Sales demand returned in FY22 with sales exceeding harvest volumes. Supply constraints, a consequence of the single-year-class model, spanned Mar to Jul 2021<br>• Elevated mortality commenced in Jan 2022 – unusually early and severe |
| **Update on 21/22 summer mortality** | • NZ King Salmon has historically suffered from variable fish production – from a cost, size and volume perspective<br>• Sustained summer temperatures above 18°C have been the dominant stressor in a multifactorial event, suppressing fish immunity and resulting in elevated mortality. Approximately half of the mortality biomass from warmer sites occurred between January and March when fish sizes are generally smaller<br>• The warm water sites over the summer months (January to March) account for $9.6 million of our total $20.8 million mortality value (46%) |
| **Reset of aquaculture farming model** | • In light of FY21/FY22 mortality events, we have reviewed our operations and revised our farming strategy to avoid the summer months in our warmer water spaces. Instead of making improvements to farm through the Pelorus summer we will be avoiding the Pelorus summer (except for a trial). Focus will instead be on utilising the cooler water in the Tory Channel farms, and the nearby Queen Charlotte farms as a location to tow stock post summer<br>• Furthermore, we will produce seasonal volume using large smolt and we will repeat a vaccination trial in the Pelorus |
| **FY23 guidance** | • Impact of FY22 mortalities will carry through to FY23 resulting in reduced harvest figures<br>• Benefits from the change in aquaculture farming model is not expected to start materialising until December 2022 and January 2023, which means that FY23 will be a transition year before a full year of benefit is realised in FY24<br>• Noting FY23 as a transition year, proforma EBITDA guidance is at a loss range of $8m – $12m, with sustainable earnings on a go forward basis expected to be in a guidance range of $15m - $19m |
| **Equity raise** | • NZ King Salmon is raising equity to repay debt and strengthen its balance sheet, providing the business with liquidity as it resets its farming model whilst navigating the remaining impacts of the Covid-19 pandemic<br>• The equity raise will comprise a $60.1 million pro rata rights offer<br>• BNZ has provided covenant waivers until and excluding 30 April 2023. NZ King Salmon has restructured its banking facilities with BNZ, subject to successful completion of an equity raising, providing it with a new facility up to $6.5 million in addition to retaining the Business Finance Guarantee Scheme loan ($4.25m). This liquidity will be used to fund working capital and capex as earnings begin to return |

The 2022 annual report (p. 4) states:

> The company has traditionally farmed salmon all year round in the Pelorus and Queen Charlotte Sounds, as well as Tory Channel, in the Marlborough Sounds. The bulk of mortalities have occurred when farming through the summer in the Pelorus or Queen Charlotte Sounds. **To combat the continuing effects of climate change, we plan to fallow three farms in the Pelorus Sound. This will result in reduced harvest volumes but lower mortality and associated costs**, thereby giving us a more stable, predictable operation. These measures will result in a forecast decline in production in FY23 and FY24 to 5,700 and 6,500 tonnes respectively, with a 200-tonne predicted increase in 2025. This reduction in output will be partially offset by a rigorous review of overheads and **a downsizing of the company.**[62] [bold added]

### What we think

The TCFD reporting framework intends to help management, directors, shareholders and other stakeholders to focus on upcoming changes in the climate. In the case of NZKS, the scenarios would help inform the business strategy and inform future decisions by a range of stakeholders.

For example, if NZKS had focused on scaling its existing land-based farming facilities (instead of investing in the *Blue Endeavour),* the company may be better positioned in 2022 to withstand the impacts of climate change. Notably, the *FY22 Investor Presentation* (p. 14) suggested the company had spent $3.2m on the *Blue Endeavor* resource consent YTD (and $5.5m in total).

The Institute believes that there is a medium probability that if NZKS had shifted towards land-based farming five years ago, the company may have been able to develop a more sustainable and robust business model in 2022 (e.g. aligned with the 2019 *Aquaculture strategy for New Zealand*, see Figure 26 in Appendix 2).

This case study illustrates the benefits of scenarios, as well as the need for good, reliable research that measures impacts over time in a comparable and verifiable manner. It also illustrates the difference between an operational strategy and a whole-of-business strategy. The strategies in Table 2 are operational and the strategies in the 2019 *Aquaculture strategy for New Zealand* highlight a change in the whole-of-business strategy. The first is relatively minor, and the second is strategic.

Lastly, it will not have been missed by the Minister and the team at MPI, that land-based farming (a key component of the 2019 *Aquaculture strategy for New Zealand)*, is not mentioned in recent key documents prepared by NZKS (see Table 2).

## Question 12: How would the content of NZKS's 2022 financial statements and annual report have altered, if NZKS had published a TCFD statement?

### What we found

Figure 21: 2022 annual report, mortalities and government support (Minister Parker)[63]

**MORTALITIES**

Unusually early elevated seawater temperatures were a major factor behind high mortality rates, with the marine heatwave during summer associated with a La Niña event, resulting in a $20.8m negative impact on profitability.

The company has traditionally farmed salmon all year round in the Pelorus and Queen Charlotte Sounds, as well as Tory Channel, in the Marlborough Sounds. The bulk of mortalities have occurred when farming through the summer in the Pelorus or Queen Charlotte Sounds. To combat the continuing effects of climate change, we plan to fallow three farms in the Pelorus Sound. This will result in reduced harvest volumes but lower mortality and associated costs, thereby giving us a more stable, predictable operation. These measures will result in a forecast decline in production in FY23 and FY24 to 5,700 and 6,500 tonnes respectively, with a 200-tonne predicted increase in 2025. This reduction in output will be partially offset by a rigorous review of overheads and a downsizing of the company.

The hearing for our open ocean Blue Endeavour application, 7km north of Cape Lambert in the Cook Strait, is due to be completed at the end of April and we are hopeful for a decision mid-year. This project is expected to have multiple benefits including an increase in scale of operations, reduction in operating costs and improvements in fish health.

If Blue Endeavour is approved, the three fallowed farms in the Pelorus Sound will be used as nursery sites for nine months of the year, representing an efficient use of assets, capital and resources. The application is aligned with the Government's Aquaculture Strategy which was launched in late 2019 and now has an accelerated objective of the industry achieving $3 billion in revenue by 2030.

**GOVERNMENT SUPPORT**

It was heartening to see the Government acknowledge some of the reasons for our current difficulties in a media release (8 February 2022) when Minister David Parker said our situation was a 'sharp reminder that resource management system reforms are needed to deliver better management for aquaculture.'

The release went on to say: '*The reforms we are putting in place will deliver a planning system that provides for growth in the sector, sets environmental standards that ensure sustainable practices, and delivers processes that enable adaptation to a changing environment.*

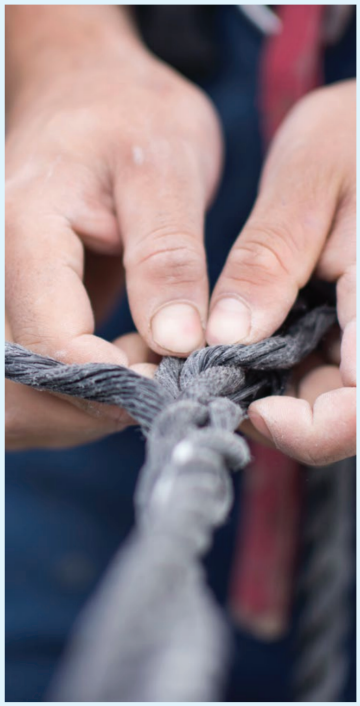
*We will also ensure a fair return to New Zealanders through the use of marine space for marine farming. The changes will ensure that none of these benefits come at the expense of sustainability.*

*We have one of the world's largest Exclusive Economic Zones, with a marine area more than 15 times larger than New Zealand's land area. That means we can gain the benefits of a thriving, sustainable aquaculture sector while allocating a relatively small part of our marine environment to marine farming.*'

Continued support from the New Zealand government is vital to achieving our future farming objectives and our national goals for aquaculture.

**EQUITY RAISE**

Due to the current trading uncertainties and to take the company through to its next expansion phase, the Board has decided to undertake an equity raise in the form of a pro rata renounceable rights offer. Post the rights offer, the company will have no net bank debt and liquidity of $13.2 million, providing significant flexibility as we transition our farming model and navigate the ongoing impacts of the Covid-19 pandemic.



NEW ZEALAND KING SALMON 4 ANNUAL REPORT FY22

### What we think

A climate statement (based on TCFD) should disclose the actual and potential material climate impacts on an organisation's businesses, strategy and financial planning. The statement should also disclose how the organisation identifies, assesses and manages climate-related risks. Below we discuss a few thoughts.

#### A: Climate statement and annual report

The climate statement information, under the new legislation, would have either been included in the annual report or included as a link in the annual report to a separate report. As a result, the auditors would have read the climate statement to ensure the annual report and financial statements aligned. This is likely to have led to the auditor's report discussing climate risks, and how these risks might impact the financial results of the company. This in turn may have led to the annual report talking about the *Blue Endeavour* option in a very different way.

We expect that there would be noticeable changes to what the company actually published in 2022 if a climate statement had been prepared. These changes are naturally difficult to predict. However, alternative notes in the financial statements, the commentary in the annual report or the Offer Document might have resulted in statements like:

- NZKS have concerns that the *Blue Endeavour* farms, proposed in the Raukawa Moana Cook Strait, may also be impacted by rising SST (similar to Pelorus Sound). The company is stress testing existing technology to see if it is possible to farm King salmon at a depth of 80–110m. It will work with MDC and NIWA to share detailed temperature readings and will continue to work closely with NIWA to assist them in keeping a public record of accurate SST data; and/or

- NZKS has decided not to progress the *Blue Endeavour* proposal in the short term until the company's financial position is stronger and the economic climate is more stable; and/or
- NZKS has decided to explore land-based farming solutions, in particular ways to extend the life of King salmon in existing land-based plans to minimise time at sea.

**B: Government support (Minister David Parker)**

Minister Parker's response, highlighted in NZKS's 2022 annual report (see Figure 21), is interesting. The Institute believes the Resource Management Act 1991 has worked well for the vast majority of cases, delivering timely and durable decisions. However there are a small number of proposals that are complex, due to there being a wide range of stakeholders and where the social licence to operate is challenged by stakeholders in the community. In these cases, it will always be necessary to delegate decision making to an independent commissioner/s to collect evidence, interview experts and gather a range of different perspectives on both the problem and the solution. The goal must be to make evidence-based decisions that are durable and stand the test of time. These types of decisions should not be rushed (or fast-tracked).

The Institute believes the latest proposed reforms (suggested in the Randerson Report and the Three Waters Reform) are not very environmentally friendly, do not have a strong focus on environmental targets and limits/thresholds, and fail to put in place specific mechanisms to protect the natural environment for future generations. See the Institute's 2021 submission on the Natural and Built Environments Bill Parliamentary paper on the exposure draft.[64] When compared with the UK Environment Act 2021,[65] the latest reforms lack detail and are narrow in focus (tending to prioritise the interests of business rather than the environment).

**C: Auditor's report**

The auditor's report may have included more consideration of climate risks, such as mortality and supply chain risks. If the COVID-19 pandemic significantly impacted NZKS freight costs, it is highly likely that transportation disruptions due to climate change (such as increased air turbulence and rogue waves) may become a significant risk for the company going forward (See discussion in Section 5.2 (vi)).

**D: Financial accountants**

Accountants must work hard to deliver a true and fair view to users of financial statements and annual reports. The Institute considers that there is potential for the board and/or management to blame climate change, for all intents and purposes 'climatewashing' the accounts and reports. Climatewashing, similar in nature to greenwashing, is a term used by the Institute to describe an entity's attempt to convey an impression that climate change, rather than management skills and board decision making, is responsible for the challenges they face.

Greenwashing is defined by Professor Will Kenton (Investopedia) as follows:

> Greenwashing is the process of conveying a false impression or providing misleading information about how a company's products are more environmentally sound. Greenwashing is considered an unsubstantiated claim to deceive consumers into believing that a company's products are environmentally friendly.[66]

NZKS is a commodity business that is both a victim and a villain of climate change: a victim because its business model is being impacted by rising water temperatures (the tonnage of dead fish being dumped at the Blenheim landfill is illustrated in Appendix 6), and a villain because of its carbon footprint due to the amount of feed it imports from Australia and Chile (see Appendix 4, Figures 29 and 33).

The NZKS case study illustrates an interesting and complex dilemma: what happens if climate change is used by the board and management to distract the reader from the company's ability to design a strategy to withstand shocks? Twenty years ago, it was possible to have sympathy for businesses that were not climate-intelligent (this means being knowledgeable about climate impacts),[67] but we would argue that time has now passed.

Users have never been so reliant on standard setters and others to create and implement a well-designed, timely and cost-effective public reporting system. In light of this, it is timely to review the accounting framework, particularly reporting and auditing standards, to ensure reporting is complete, accurate and meaningful in order to minimise climatewashing and greenwashing. Importantly, this is not XRB's problem alone to solve, rather it relies on all the key players working together to design a system that works.

# 5.0 Observations and suggestions

Driving the Institute's work programme is the belief that good information will deliver good decisions, and public information will deliver a fairer and more just society. There is a risk that those with early knowledge will move early and fast, whereas those without complete or timely information may be left behind with stranded assets, flawed business models, funding issues, and possibly at a personal level unemployment or directors' liabilities.

Many commodity-based organisations will continue to have their businesses stress-tested by climate change. The COVID-19 pandemic was a sharp (and hopefully short) shock. In contrast, climate change is a long and complex shock. It is therefore prudent to explore a practical case study, to learn lessons quickly so that we can engage early with issues before they become embedded in the system.

The chance to design a climate-diverse reporting framework fit for purpose, one that helps the country invest well and pivot to a low-carbon economy, is a unique opportunity. The climate-disclosure standards are a big part of the solution, but the standards alone will not be sufficient. The whole regulatory and reporting system must be aligned with the sole objective of delivering timely and accurate information to the public, shareholders and policy makers.

The NZKS case illustrates some of the gaps in the current framework. Some of these would exist even without shocks to the system (e.g. pro forma reporting), however most are amplified due to one or a number of shocks happening in unison, whether they be related to climate change, a financial crisis, the war in Ukraine or the COVID-19 pandemic.

There is a high level of uncertainty surrounding the RMA reforms, and the way environmental limits may be selected and determined. A lot of thinking and consultation is required regarding how existing consents will be managed, how limits will be implemented, and how those responsible will be held to account.

There are several framework and system issues that need investigation, consideration and resolution. Below is a discussion of what the Institute was surprised by, a few high-level observations, and a number of suggestions regarding the way forward.

## 5.1 Surprises

- The NZKS financial statements changed considerably because of a post-year-end event (see Figure 3, Note 28: Events after balance date). This illustrates how quickly the outlook can change and the impact on an entity's liquidity and operations. Although climate change is relatively slow, once thresholds are reached, impacts can happen very fast and be very material. This is why the metrics and targets part of the proposed climate-related disclosures is so important. It will need to require companies to identify not only targets but also limits/thresholds. For example, NZKS have advised that the threshold for King salmon is 18°C (see *FY22 Investor Presentation*, p. 16), although 17°C has also been frequently mentioned. (See Appendix 6, Figure 47).

- Many existing and potential investors, lenders and other creditors cannot require reporting entities to provide information directly to them. This means they must rely on financial reports (and in particular the XRB accounting and auditing standards) for the information they need. Consequently, they are historically referred to as the primary users. However, the primary user is becoming increasingly broader in scope. This has led to a broader discussion about the distinction between shareholder and stakeholder, and the view that some companies are increasingly needing a social licence to operate. The thinking is that a social licence to operate needs to be earned; the more a company impacts public assets or gains public funding, the more responsible it needs to be in reporting on its impact and value-add in the public arena.

  In NZKS's case, this is illustrated by the use of free water space, the level of government grants ($0.83m over the last two FYs and a COVID-19 wage subsidy of $3.771m), and the extent to which MPI and the Minister have supported NZKS in its process to expand its use of water space to date (e.g. Minister Parker's press release on 8 February 2022, and the actions of previous Ministers of the Crown). NZKS

benefits from this more than most, as it uses a public asset at no cost. There are a number of persons and organisations who consider this to be inappropriate as pollution created by the farms is a public expense, whereas profit is a private income (often for overseas investors).

One example of how reporting is not meeting the needs of users is the dumping of dead fish in the Blenheim landfill. This information was requested from MDC by an NGO concerned about the number of stressed fish at sea. The cost to NZKS is not included in the accounts, nor is it in MDC's financial statements. However, without any reporting, the information on the amount of dead fish by tonne is not available. Under the existing reporting framework, the NGO is not a primary user, but they are committed to helping reduce the impacts on the public good in a public asset (the Sounds).

- Materiality is also a dominant thread in the case study: when is something material and when is it not? Although technically correct, the financial statements and annual report tend to contain climatewashing. This is a term the Institute has used, meaning that an organisation is blaming climate change for outcomes that may be attributed to other factors. Reporting needs to be complete and accurate, and roles and responsibilities must be clear. Prudence and caution lie at the heart of GAAP; these principles are designed to inform interested parties, in a cautious and prudent manner.

  Further, given that post 31 January 2022 mortalities were the driving force for change in both the banking and the operation business model, it is surprising that no supporting evidence was provided on the size of the unfolding mortality event in February and March 2022. It would have been good business practice to include the extent of the February (and March) mortalities in the financial statements (and the annual report), and to make further announcements on the NZX. Arguably, shareholders might consider they were missing critical information when deciding whether to take up the rights offer (or not). If information on the scale of mortalities (illustrated in Appendix 6) had been available to shareholders, it would be interesting to see if it would have had an impact on the uptake of the rights offer.

- Strategy is an important term. There have now been three different operational strategies discussed by NZKS in recent years (see Table 3). Whether these are the type of strategies that the XRB has in mind when consulting and preparing a climate-related standard is yet to be seen. These changes in strategy are a great example of how the company is looking at changing its operational strategies to accommodate the impact of rising water temperatures. Although we have not looked at the economics of land-based verses open ocean salmon farming in any detail, we are aware that it is an emerging global trend and that it forms part of MPI's aquaculture strategy. As such, it is clearly a feasible option worth exploring.

  We need to ensure the climate-disclosure standards require a company to think broadly about its options, rather than simply tweaking business as usual. We are surprised that the company still believes *Blue Endeavour* is a feasible option, given the rising temperatures and the untested technology (of dropping King salmon to a depth of 80–110 metres). Although our view is that this is overly optimistic, we clearly do not have all the information and research that they have undertaken.

- The speed of the shock is important. In mid 2021, NZKS was considering undertaking an equity raising exercise, rather than debt. Chair John Ryder told shareholders in June 2021 that the board will be 'leaning towards an equity raising exercise' to fund the *Blue Endeavour* proposal.[68] The *Blue Endeavour* proposal is expected to cost anywhere between $95m[69] and the $150m suggested by MPI (see Appendix 2, October 2021 entry), however by early February 2022, the company was required by the bank, in negotiation with NZKS, to raise $60m to keep the company liquid[70] (see Figure 1: Note: 2(c) Going concern and Figure 3: Note 28: Events after balance date). It therefore seems timely to remind boards and management that although climate change may be slow and emerging, impacts are likely to be sharp and fast, especially when environmental limits are reached. The limit/threshold for salmon is a water temperature of 18°C. NZKS state: 'Water temperatures have the strongest correlation with mortality, with significant adverse effects for fish when temperatures consistently exceed 18°C' (see *FY22 Investor Presentation*, p. 16).

- NZX accepted pro forma results in published announcements to shareholders. See discussion in 5.2 (v).

- The FX close-outs, as shown in the cashflow statement (p. 9) and the reconciliation between GAAP results and the pro forma results (see Appendix to the annual report, p. 103) of $13.471m, were given little prominence. They are in our view material. Further, we could not understand why these were

added back into the pro forma results, as the pro forma would normally remove the one-off non-operating events. They were rarely mentioned (see Table 1). This is not audited as it sits outside the financial statements yet it makes a material difference to the pro forma NPAT (the difference between a profit and a loss).

- The 'fair value gain on biological transformation' is unclear. Assumptions were not transparent. See the auditor's report on the matter (see for example Figure 12).
- The journal entries for goodwill and impairment dominated the narrative, making it difficult to understand what had really transpired. In particular, the lack of detail on the 'value in use' calculation (see Figure 4, Note 5: Impairment) is a concern given its significance for the asset value of the company.
- There is little discussion in the financial statements on previous years' mortalities, and the challenges of marine heatwaves (see Appendix 5: Marine Heatwaves).
- Commissioners deciding on the *Blue Endeavour* proposal should be cognisant of the company's ability to pay environmental costs and make good further down the track. As discussed below, the *Blue Endeavour* proposal hopes to locate the new farms at a similar sea surface temperature (SST) to Pelorus Sound (where the existing mortality occurred). This high SST was confirmed by the management team when they noted: 'During January the company's data indicated that the surface temperature at the site was around 17.5°C, but 20m down it was about 16.5°C and about 15.5°C at 40m.'[71] In the same article they note that this does not matter because they can drop the fish to 80–110m. They state: 'Rosewarne said surface water temperatures were irrelevant to fish health due to *Blue Endeavour's* depth (80–110m) and a strong current creating sharply declining temperatures with depth.' This is likely to require quite different plant and equipment than that described at the hearing.
- The auditor's report, namely:

  As stated in Note 2c: Basis of Preparation, these events or conditions, along with other matters explained in Note 2c, indicate that material uncertainties exist that may cast significant doubt on the group's ability to continue as a going concern. Our opinion is not modified in respect of this matter (pp. 2–3).

## 5.2 Observations

**(i) Impact on the reporting ecosystem and strategy development**

Boston Consulting Group suggests there is a 'spectrum of company maturity from corporate social responsibility (CSR) to "sustainable business model innovation" (SBM-I)', see Figure 22. A more recent article showed the relationship between shareholders and stakeholders, showing 'companies in different industries and geographies innovating business models—building on and expanding beyond their core assets and capabilities—to address significant environmental and societal challenges in their local contexts. In this way, they create new sources of value and competitive advantage.'[72] (See Figure 23).

NZKS is one small part of a very large and complex system that is evolving fast, due to a range of shocks and policy drivers. It is not an easy time to manage a big business, which makes it all the more necessary to give as much direction and guidance as possible, to help companies in Aotearoa New Zealand evolve to help our country develop strong, robust and sustainable competitive advantage. That is why the Institute has looked to NZKS as a case study to help inform how we might, as a country, curate a system that propels us towards a new approach to business.

Figure 22: From compliance to sustainable competitive advantage[73]

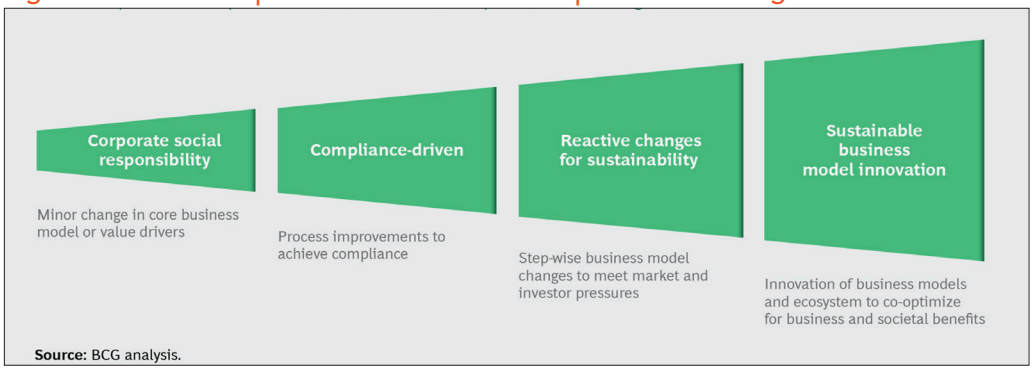


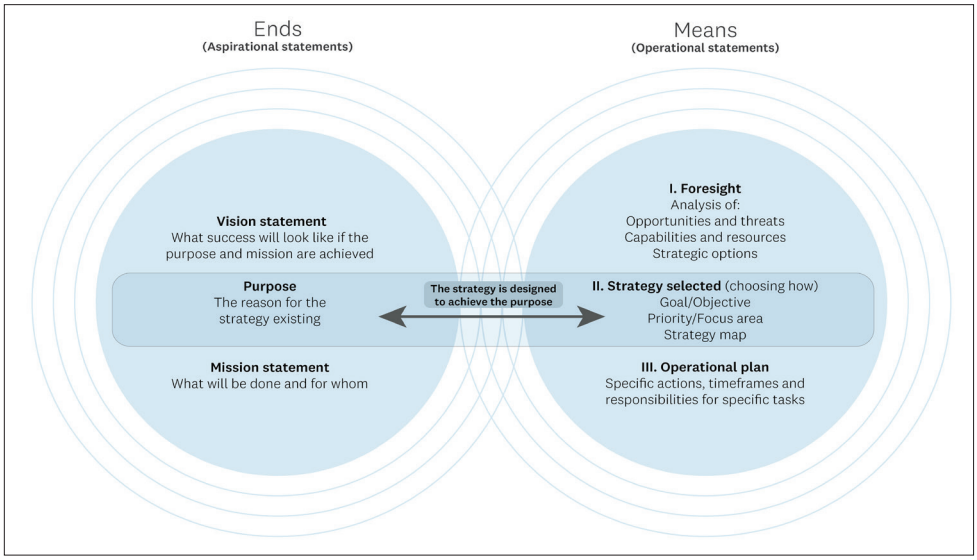
Figure 23: Sustainable business model innovation[74]


The Institute has been researching the relationship between purpose and strategy for some time. Figure 24 illustrates our thinking. Our government department strategy index (2021 *GDS Index*) is currently in the process of being updated. Learn more about the *GDS Index* and our definition of a GDS on our website.[75] We need to design a system of reporting and governance that builds the links between purpose and strategy, and ensures that strategy is built on foresight. Climate change, financial crises and pandemics are all examples of scenarios that boards should be stress testing against. Climate statements (and the latest reporting regime discussed in Section 4) are products of a company applying foresight to their strategy and ensuring it meets their purpose. This requires companies looking beyond profit and shareholders. For example, in NZKS's case, the MDC and the people of Marlborough are stakeholders that have a vested interest in the impacts of salmon farming.

In essence, a dilemma exists. Should companies focus on making profits and government focus on delivering social and environmental outcomes (via regulations and other forms of public policy)? Or alternatively, should companies focus on economic, social and environmental outcomes and government put in place more principle-based policy (rather than regulation)? If Aotearoa New Zealand has high trust in companies to act in the interests of all New Zealanders, the level of regulation could be minimised. From the Institute's research, there has already been a significant shift towards directors and management (preparers) seeking not just profit, but also seeking to retain and build on their social licence to operate.[76] The next stage in the process may be to focus on developing a common taxonomy, a shared understand of the problem and clarity over the purpose for each report, whether it be a climate statement, an annual report or a set of financial statements. This way, it may be possible to design systems to ensure preparers and users' needs are aligned in a cost effective and timely manner.

Figure 24: McGuinness Institute's model on the relationship between purpose and strategy

Source: McGuinness Institute. (2022).



### (ii) Impact on the role of government

In 2020, the Prime Minister created an Oceans and Fisheries portfolio to focus on oceans ecosystems as a whole. In June 2021, the Minister established an Oceans Secretariat, comprising officials from the Department of Conservation, the Ministry for Primary Industries and the Ministry for the Environment. The goal of the secretariat is to lead the long-term ecosystem-focused project. The Minister states: 'We need to respond to increasing and cumulative pressures on the marine environment and improve environmental performance, including by addressing depletion of marine life and seabed habitat impacts.'[77]

In 2021 a vision, a series of objectives and a set of principles were developed:

> Vision: Ensuring the long-term health and resilience of ocean and coastal ecosystems, including the role of fisheries.
>
> Objectives
>
> 1. Promote an ecosystem-based approach to research, monitoring and management
> 2. Establish a spatial planning framework that optimises the protection and use of marine space and resources
> 3. Support the development of a high-value marine economy that provides equitable wellbeing benefits
>
> Principles
>
> 1. Precautionary approach and adaptive management
> 2. Equitable allocation of costs and benefits
> 3. Give effect to the principles of Te Tiriti o Waitangi/Treaty of Waitangi, including through fisheries and aquaculture settlements and other legislation
> 4. Decision-making based on sound science and traditional knowledge
> 5. Consistency with international commitments
> 6. Transparent, inclusive and effective public participation processes.[78]

Although improved monitoring and management of fisheries will indirectly benefit the ocean, the Institute is concerned that the purpose behind the expansion of the portfolio has not been backed up by actions to improve outcomes for the marine environment. In the Institute's opinion, more emphasis (or even equal emphasis) should be placed on the inputs and processes existing in the ocean ecosystem, rather than an output (the fish).

Ministers must be careful not to be captured by organisations/industries with a vested interest in the short-term at the expense of the interests of future generations. It has become the norm for chief executives to be seen at Parliament lobbying ministers. For example, the addition of sections 360A to 360C of the Resource Management Act 1991 was considered to have come about through lobbying by the industry (see Appendix 2: Timeline) and Minister David Parker's press release of 8 February 2022 was seen by many as supporting NZKS (see *Working Paper 2022/10 – New Zealand King Salmon key documents 2012–2022*, Appendix 8). In the meantime the government has been slow to improve animal welfare policy (given the high level of mortalities) and arguably needs to review existing policy and legislation to protect the rights of flora or fauna, or future generations.

### (iii) Impact on the Commissioners

The Institute has observed first hand at the *Blue Endeavour* hearing in December 2021, that decision-makers may assume financial statements are not for them to review under the RMA. The Commissioners in that hearing indicated an initial view that such information may be outside the RMA's scope. Yet, the indications are that the Commissioners considered NZKS's economic modelling (a cost-benefit analysis) to be within scope.

The Institute's Memorandum Of Counsel (18 February 2022) explained the situation this way:

> The evidence of Ms McGuinness used the same type of financial data on which Mr Kaye-Blake relied, namely information contained in NZKS's Annual Report. To the extent that Mr Kaye-Blake's evidence relying on the financial data is relevant, so too must Ms McGuinness's critique of the same data be relevant. Equally, if Ms McGuinness's critique of financial data is not considered relevant, it would seem logical that Mr Kaye-Blake's evidence, given the significant role the same financial data had in his economic model, should also be considered irrelevant.[79]

Financial stability and profitability are critically important if the Commissioners are going to impose conditions requiring an organisation to comply with environmental and related standards both during and

after the permitted activity comes to an end. In other words, the Commissioners need to have confidence that the controls they impose can be afforded by the company.

The Institute was in particular wanting to alert the Commissioners to the emerging impact of climate change, and how that would affect the company's profitability and liquidity to implement and clean up the area after the permitted activity came to a close. Within months of this discussion, NZKS's announced their financial results which included a significant NLAT (-$73.202m). This example emphasises the importance of ensuring companies that are permitted to pollute are required to have the financial profitability and stability to cover the cost of their pollution.

We agree with the Minister of Oceans and Fisheries, Hon David Parker, when he stated:

> The impact of high water temperature on New Zealand King Salmon's forecast revenue is a sharp reminder that resource management system reforms are needed to deliver better management for aquaculture, Oceans and Fisheries Minister David Parker said today. ...
> "Our response to climate change is not something that can be delayed. Its effects are real and present for New Zealand companies, and the people who work for them.
> "This situation also highlights that the Resource Management Act is not equipped to deal with these realities. Strategic planning to get ahead of these kind of matters hasn't happened," David Parker said.
> "Establishing small areas of new aquaculture space remains a drawn out, difficult and litigious process, even after 20 years of efforts under the RMA to improve it. As a result, some marine farms need to be better located but the system makes that very difficult.[80]

Although we understand the proposed reform of the RMA may bring in an environmental limits-based system to industries such as aquaculture, it remains unclear who will determine these limits/thresholds, what they might look like, and whether the limits will apply to existing permitted activities. The latter is particularly relevant given that five of NZKS's existing farms are permitted to discharge feed until 2049 (see Appendix 4, Figure 29), and if approved, the *Blue Endeavour* may become a permitted activity to 2058, given the proposal is for a 35-year resource consent. It therefore seems timely for commissioners to consider including targets and thresholds as part of their controls when making decisions under the existing RMA, and to consider allowing for decisions to reflect new targets and thresholds as they become available.

Under the RMA NZKS has been able to secure approvals that have enabled significant growth. We agree with Sir Geoffrey Palmer and Richard Clark's recent article: *A new Natural Environment Act is needed now*, that the RMA has not served the environment equally well:

> Yet it was not until a 2014 decision of the Supreme Court in the King Salmon case that the proper legal tests were propounded and embedded in the system. It was always intended that the RMA was an environmental protection statute. Instead it morphed into a planning statute. Externalities adversely impacting on the environment were not sheeted home to and reflected in the costs of the activities that engendered them. What went wrong can be summarised. Neither central government nor local government performed well. There was not sufficient central government guidance nor use of the available statutory instruments to produce sound environmental outcomes. Within local government there was confusion and some duplication between territorial authorities and regional councils. Urban development was not handled well. Plans were too numerous and too complicated. And the processes of the RMA became far too complex and various. Further, weak enforcement in New Zealand has been a critical problem.[81]

There are lessons to be learned from the NZKS proposal that may be helpful for those designing new legislation, hopefully in regard to a new Natural Environmental Act for Aotearoa New Zealand.

**(iv) Impact on minority shareholders**

The top ten allocations make up 67.71% of the shareholding (see Appendix 1 of *Working Paper 2022/10 – New Zealand King Salmon key documents 2012–2022*). This leaves 32% of shareholders who have an allocation of less than 0.94%.[82] The pro rata rights offer of 2.85 new shares for every 1 existing share (being an issue price of NZ$0.15 per new share, see the Offer Document in Appendix 5 of *Working Paper 2022/10 – New Zealand King Salmon key documents 2012–2022*).

The legislation puts in place protections for minority shareholders, such as sections 165, 166 and 174 of the Companies Act 1993. However this is reliant on shareholders being sufficiently informed to understand and appreciate how they may be being disadvantaged. This legislation is designed to not only protect minority shareholders, but to ensure we build a robust, fair and informed market and a safe, stable and equitable society.

### (v) Impact on public information: NZX Announcements [pro forma results]

The distinction between GAAP and pro forma financials is important. Generally accepted accounting principles (GAAP) are a common set of accounting principles, standards and procedures issued by the Financial Accounting Standards Board (FASB).[83] The financial statements lodged by listed companies to the Companies Office must comply with GAAP and be audited by a qualified auditor.[84] The accountants of listed companies are required to follow GAAP when preparing financial statements.

In contrast, pro forma financials (also called non-GAAP or prospective financial statements) are not computed using standard GAAP and usually leave out one-time expenses that are not part of normal company operations. Essentially, 'a pro forma financial statement can exclude anything a company believes obscures the accuracy of its financial outlook.'[85] This is why there is generally a requirement to reconcile a company's financial statements with GAAP financial statements.

The NZX Listing Rules (see Figure 25) below states all announcements must be prepared in compliance with applicable Financial Reporting Standards. The Institute could not find out if this was required for announcements other than full-year and half-year results, however if this is the case, it should be made clear in the Rules – that all announcements that include any financial information should comply with applicable Financial Reporting Standards only.

In the Institute's view, NZKS's addition of the FX close-outs should not have been included in their pro forma operating financial information as 'other operating income' (p. 103), as it made the results look as though they aligned with earlier forecasts, rather than alerting stakeholders and shareholders that the company was facing a significant change to their financial position. This is the problem with pro forma reporting; the company can largely report what it wants and there is no need to be transparent, apart from providing a reconciliation to GAAP results.

Figure 25: 2020 NZX Listing Rules, Appendix 2: Results Announcement[86]

Source: NZX Listing Rules, Appendix 2

**Full Year and Half-Year Results Announcement**

All Results Announcements must comply with the following requirements:

1 All statements must be prepared in compliance with applicable Financial Reporting Standards or the equivalent foreign accounting standards.

2 A statement of the accounting policies (if any) that the directors believe are critical to the portrayal of the Issuer's financial condition and results and which require the directors to make judgements and estimates about matters that are inherently uncertain.

3 If there has been any material change in accounting policies applied in preparation of the statements reflected in the announcement, it must disclose the impact of the change.

4 If the financial statements have been audited, a copy of the audit report should be provided with the announcement.

5 The announcement may include any additional facts, figures or interpretative notes that the Issuer wishes to include, and must include any additional information required by any applicable financial reporting standard or necessary to ensure the announcement is not misleading.

A 2001 statement from the US Securities and Exchange Commission, *Cautionary Advice Regarding the Use of "Pro Forma" Financial Information in Earnings*, contains the following warning:

> [A] presentation of financial results that is addressed to a limited feature of a company's overall financial results (for example, earnings before interest, taxes, depreciation, and amortization), or that sets forth calculations of financial results on a basis other than GAAP, raises particular concerns. Such a statement misleads investors when the company does not clearly disclose the basis of its presentation. Investors cannot understand, much less compare, this "pro forma" financial information without any indication of the principles that underlie its presentation. To inform investors fully, companies need to describe accurately the controlling principles. For example, when a company **purports to announce earnings before "unusual or nonrecurring transactions,"** it should describe the particular transactions and the kind of transactions that are omitted and apply the methodology described when presenting purportedly comparable information about other periods.[87] [bold added]

This discussion suggests NZX should look more closely at its protocol around announcements and consider strengthening financial reporting obligations to always align with GAAP.

Given that NZKS was able to treat the FX close-outs of $13,471, a one-time income, as an addition to their income and therefore to their pro forma NPAT, leads us to believe NZX and the Companies Office should require no pro forma data on their registers.

The NZX should be careful which issuers use pro forma information. Pro forma information is not prepared against any international standards and is not audited. The decision not to disclose any GAAP results (including a reconciliation) and only issue pro forma results, should, in our view, not have been allowed.

**(vi) Impact on directors and preparers of annual reports**

The requirement for annual reports to contain information that the 'board believes is material for the shareholders to have an appreciation of the state of the company's affairs and [that] will not be harmful to the business of the company or of any of its subsidiaries' forms part of the original Companies Act 1993 (see below). However, the Institute was not able to find guidance on what 'state of the company's affairs' means in practice, and who should provide this information or regulate the annual reports. Furthermore, what the board might have believed to be important for shareholders in 1993 is likely to be very different to what they believe might be important for shareholders today. For example, some shareholders, such as ESG fund and climate finance fund providers, would have a strong interest in details regarding environmental impacts, and may question whether the report provides sufficient information on the state of the company's affairs. The second aspect of this phrase is 'harmful to the business'. Section 211 of the Companies Act 1993 (also shown below) indicates the level of judgement that directors need to make. This section is designed to inform and protect shareholders, but arguably the entirety of the general public needs to be informed and protected when it comes to climate change.

The 'nature of the business' (see s 211: Contents of annual report of the Companies Act 1993, see below) could be used to help align climate statements with annual reports, building a natural bridge between the two. In theory, as this information is already required by law to be present in the annual report, it would not need to be legislated for and would not require any further work by preparers. However, in practice, these statements are often difficult to find in annual reports, as evidenced by our research – in 2018, 42% of companies were difficult to classify in terms of their nature of business (see the Institute's *Working Paper 2018/01 – NZSX-listed Company Tables,* Table 2b).[88] Including a statement on the company's nature of business would provide real benefit to report users who wish to understand the company's emission footprint and potential environmental impact, at no cost to preparers. It may also help preparers of annual reports focus on providing a more precise statement for users on their nature of business.

**Section 211: Contents of annual report**

(1) 'Every annual report for a company must be in writing and be dated and, subject to subsection (3), must—

(a) describe, so far as the **board believes is material for the shareholders to have an appreciation of the state of the company's affairs** and will not be harmful to the business of the company or of any of its subsidiaries, any change during the accounting period in—

**(i) the nature of the business of the company or any of its subsidiaries;** or

(ii) the classes of business in which the company has an interest, whether as a shareholder of another company or otherwise; and

(b) include any financial statements or group financial statements for the accounting period that are required to be prepared under Part 11, Part 7 of the Financial Markets Conduct Act 2013, or any other enactment (if any); and

(3) The annual report of a company need not comply with any of paragraphs (a), and (e) to (j) of subsection (1), and subsection (2) **if shareholders who together hold at least 95%** of the voting shares (within the meaning of section 198) agree that the report need not do so. [bold added]

If the Companies Act 1993 was to be reviewed in the future, the Institute suggests this section could be improved to better reflect the current thinking and needs of users, and to provide more clarity to preparers. Dr Duncan Webb's Companies (Directors Duties) Amendment Bill contains key amendments to section 131 of the Companies Act, introducing additional 'recognised environmental, social and governance factors', which directors 'may' bear in mind. The Institute supports the Bill, but thinks it could go further, ideally changing 'may' to 'must'. The aim should be to design a system that is not unnecessarily costly or over-regulated, but that matches the needs of preparers and users.

**(vii) Impact on auditing and assurance**

Two relevant auditing standards in terms of understanding and reporting on risk are *ISA (NZ) 315 (Revised): Identifying and Assessing the Risks of Material Misstatement Through Understanding the Entity and Its Environment* and *ISA (NZ) 701: Communicating Key Audit Matters (KAM) in the Independent Auditor's Report.* The audit fee for FY2022 increased significantly (FY2022, $0.309m; FY2020, $0.191m) (see Appendix 4, Figure 44). This may be due to the challenges of the latest audit. Paragraph 9 explains how KAMs should be determined. Both standards should have implications for those preparing climate statements, and financial statements more generally:

1. Areas of higher assessed risk of material misstatement, or significant risks identified in accordance with ISA (NZ) 315 (Revised), Para A19-A22). [See also Para 12: Definitions, in particular business risk and significant risk]
2. Significant auditor judgments relating to areas in the financial statements that involved significant management judgment, including accounting estimates that are subject to a high degree of estimation uncertainty.
3. The effect on the audit of **significant events or transaction that occurred during the period**. [bold added] [ISA (NZ) 701, Paragraph 9]

A copy of selected NZKS auditor's reports can be found in Appendix 2 of *Working Paper 2022/10 – New Zealand King Salmon key documents 2012–2022.* The Institute has not reviewed previous auditor's reports against these standards, but we believe this would be a useful case study in its own right.

A few initial observations are:

- EY (Auckland) was the investigating accountant involved in the preparation of the Product Disclosure Statement in 2016, which formed part of the IPO.
- The EY auditors (Christchurch) identified two KAMs: the impairment assessment and biological assets.
- ISA (NZ) 701 appears not to cover events after balance date (see bold above). In our view, details regarding the post 31 January 2022 mortality events should have been disclosed, as the impacts of those events were included in the FY2022 results.
- In the Institute's view, the NZKS 2022 auditor's report could have provided more information to shareholders, highlighting the major key challenges in auditing fair value gain on biological transformation, fair value of biological assets and impairment (in particular, the value in use calculation using the discounted cashflow approach; see Note 5: Impairment).

**(viii) Impact on level of public scrutiny**

If the company did remove itself from the stock exchange and revert to being a private company, it would in practice remove itself from a significant level of public scrutiny. For example, it would no longer be subject to the FMA *Corporate Governance in New Zealand: Principles and Guidelines*,[89] *NZX Corporate Governance Code*,[90] or be required to prepare a climate statement (as it would no longer meet the legal definition of a climate-reporting entity found in s 461O Meaning of climate reporting entity of the Financial Sector [Climate-related Disclosures and Other Matters] Amendment Act 2021).

There will be a number of companies that remain relatively unseen, but that have a significant environmental and carbon footprint. There needs to be some consideration and consultation as to how these large non-listed companies might report in the future.

## 5.3 Suggestions

Below is a list of ideas and initiatives that may be of interest to selected organisations.

**Minister of Ocean and Fisheries – the change-maker**

**Background**

The Minister is responsible for both oceans and fisheries. See discussion in 5.2 (ii) Impact on the role of government.

- Set a limit on the level of mortality and pollution that is acceptable before a farm must be closed. This will require regular independent reporting. The Minister of Oceans can and should set environmental limits across the ecosystem (similar to what has been developed in the UK).
- Require farms to pay for water space. This revenue could be provided to the MDC to help minimize negative impacts and monitor farms.
- Establish an independent animal welfare agency and a refreshed version of the New Zealand animal welfare strategy (2013).
- Take a long-term view.and be careful not be captured by vested interests; the Minister of Oceans should obtain accurate information and canvas diverse views.
- Put in place an oceans research strategy for climate change impacts; in particular, regular reporting on water quality, water temperature, changing currents, farmed products (e.g. fish and shellfish) and the impacts on the wider ecosystems.
- Review and strengthen the Companies Act to manage impacts of climate change; in particular (i) protect the interests of minorities, (ii) prioritise transparency of donations, separating political and non-political donations (see the Institute's *Working Paper 2018/01 – NZSX-listed Company Tables,* Tables 4g and 4h)[91] and (iii) reporting risks under the Company's Act 1993 (see the Institute's *Legal Opinion: Obligations on directors to report risk in New Zealand annual reports under the Companies Act 1993*).[92]
- Alongside the Minister of Climate Change, consider implementing a strategy disclosure regime similar to the UK legislative framework: The [UK] Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013.[93] This could support the climate statement legislation and help ensure a smooth transition to a low-emissions economy.

**XRB – the standard setter**

**Background**

The XRB's functions are prescribed by Section 12 of the Financial Reporting Act 2013 and include developing preparing and issuing auditing & assurance standards and accounting standards (including where applicable 'non-GAAP standards' for entities entitled by Law to use cash accounting) and liaising with national and international organisations that exercise functions that correspond with, or are similar to, those conferred on the XRB.[94]

- The standard must be very specific and rule-based so that users and preparers can have confidence in reliable data that can be compared both between entities, and for one entity over time. Pro forma reporting is an example of how loose protocols result in uncertainty. Work with all regulatory bodies to develop a cost-effective and useful system for users of climate statements, annual reports and financial statements.
- Remove the term 'primary user' from the climate-related financial disclosures, and instead focus on the public purpose that the climate statements are designed to achieve.
- Ensure climate statement terminology is common, clear, concise and easy to understand. It will be important to have a taxonomy that can be understood and applied. Some definitions will be difficult to determine, such as those for the terms 'strategy', 'climate scenario', 'materiality', 'user', and 'business model'. In addition, other metrics will need to be able to be independently verified, such as SST and mortality (given that climate change is likely to have a major impact on all forms of livestock). See the Institute's 2022 submission on XRB's *Strategy and Metrics and Targets Consultation Document*.[95]
- Review and report on how the standards operate in practice by analysing the climate statement register annually to ensure they meet the purpose outlined in the legislation. Ideally survey preparers and reviewers would also learn how the reporting system can be improved.
- That climate statements state whether they are required to be published for mandatory reasons, and if yes, state the specific legislation.
- Assurance: Require auditors to make a statement in the auditor's report that they do not provide an assurance on pro forma results (Section 5.2 (v)).

- Assurance: Explore the issue of after balance date events, and whether they apply to the audit opinion. There is some uncertainty over whether this is covered in the auditor's report. See excerpt in *ISA (NZ) 701* in the discussion above (Section 5.2 (vi)).

### NZXReg – the market regulator

**Background**

NZ RegCo's 'functions in relation to regulation of operations on NZX's markets include: (i) monitoring and enforcing compliance with NZX's market rules by issuers listed on NZX's markets and (ii) monitoring and enforcing compliance with the NZX Participant Rules and the NZX Derivatives Market, Rules by participants operating on NZX's markets, such as NZX Firms, NZX Advisors and Trading Participants (iii) working with FMA as a co-regulator under the FMCA in relation to continuous disclosure, market manipulation and insider trading.'[96]

- Pro forma data should be excluded from announcements on the NZX. We consider the 31 March 2022 announcement, advising shareholders to expect NZKS's FY2022 pro forma EBITDA to be in the previously indicated range of $6.5m–$7.5m, may have been misconstrued as GAAP by less informed minority shareholders.[97]
- Ensure climate-related disclosures are firmly entrenched in the NZX Rules; run courses and provide support for all listed companies.
- Scrutinise announcements closely before making them public.
- Identify vulnerable listed companies. There will be a small group of listed companies that will be particularly vulnerable to climate change. Identifying and supporting them early will help them manage the transition well, and protect minority shareholders.
- Penalise companies that don't follow the rules, particularly those that intentionally misrepresent information to minority shareholders. Ensure the board and management of a company take responsibility when they make mistakes.
- Publicise the role of NZX Reg and invite comments, in addition to complaints.

### FMA – the standard keeper

**Background**

The FMA aims to build investor confidence and understanding so they can make informed investment decisions and choose the right products. They oversees a range of legislation and have certain powers, including the power to monitor compliance, investigate and enforce conduct where it applies to financial market firms and individuals.[98]

- Review how the standards operate in practice by analysing the climate statement register annually to ensure they meet the purpose of the legislation.
- Review the 'nature of business' obligation to report, as required in s211: Contents of annual report, Companies Act 1993. How might this be useful for preparers and users of climate statements?
- Conduct more regular reviews of annual reports against corporate governance and accounting standards. Currently the last review we found was 2016. It found: 'Of the nine principles outlined in our handbook, stakeholder interests had the lowest reporting (19%), followed by reporting on remuneration (37%). We encourage companies to improve their corporate governance reporting in these areas, and we have provided examples of good reporting.'[99]
- Consider strengthening the requirement so that audit firms rotate (rather than audit partners) and that this rotation should occur at least every five years. See the current FMA policy: 'Although there is mandatory rotation of audit partners for FMC audits (engagement lead audit partners have to rotate every seven years, or five years for most of the NZX-listed markets), New Zealand has no mandatory audit firm rotation to avoid a long or overly close relationship with a client.'[100] EY has both completed the IPO and been the auditor for at least eight years (see Appendix 4, Figure 44).
- Metrics will be critically important. Good practice would be providing any sources (e.g. NIWA) alongside calculations, the full citation of the report (and ideally a link), the authors name and the date of publication. If the company has developed a formula, it should ensure the formula is provided and

that any change is explained (i.e. the reason for changing from the old formula to the new formula). See discussion on the metrics of mortalities in Question 1 and sea surface temperature (SST) in Question 10.

- Develop guidance for preparers of annual reports, including guidance on how to prevent washing the content and overall narrative to ensure users get true and fair view of the company's current situation. Provide examples of greenwashing (where an example company is falsely portraying itself as having a low carbon impact and being climate-friendly), 'climatewashing' (where an example company is falsely using climate change to explain its situation) and 'climate-intelligence' (where a company actively seeks to understand climate change, how it might impact their organisation and how it might reduce its carbon footprint). Climate-intelligence and climatewashing are novel terms the Institute has developed to discuss these challenges.

### Companies Registrar (MBIE) – the record keeper

**Background**

For more information, see Section 2.5 in the Institute's submission to the XRB on climate-related disclosures Proposed Strategy and Metrics and Targets sections of NZ CS 1.[101]

- Design and establish a Climate Statement Register for both mandatory and voluntary reporters to lodge their reports (provided voluntary reporters meet the same assurance requirements set out for mandatory reporters). It will be important for users to be able to have confidence that the voluntary and mandatory reports can be relied upon equally (e.g. the same level of assurance).
- Require annual reports of listed companies to be published on the Companies Register. Reports must be accessible and comparable.
- Review how the standards operate in practice by analysing the Climate Statement Register annually to ensure standards meet the purpose of the legislation.

### Ministry for the Environment and Department of Conservation – the ecosystem protectors

**Background**

MfE is the government's primary adviser on environmental matters. The department also have a stewardship role, which involves taking a long-term perspective on environmental issues when making decisions.[102]

- Review how the standards operate in practice by analysing the Climate Statement Register annually to ensure they meet the purpose of the legislation.
- Think about the next steps. Look now at ways to extend the climate-related disclosures regime, including providing a voluntary regime. This includes developing a lodgment system that requires mandatory reporters to lodge climate statements and enables voluntary reporters to lodge their reports (provided they meet the same assurance requirements).

### Ministry for Primary Industries – the industry supporter

**Background**

'The Ministry for Primary Industries is helping to seize export opportunities for our primary industries, improve sector productivity, ensure the food we produce is safe, increase sustainable resource use, and protect New Zealand from biological risk.'[103]

- Research and develop a salmon welfare strategy, building on *New Zealand's animal welfare strategy* (2013).[104] The Animal Welfare Act 1999 is administered by the Ministry for Primary Industries and defines animals to include mammals, birds, reptiles, amphibians, fish, and other aquatic animals. MPI has been relatively silent on this issue, which may be because the welfare of salmon is in conflict with MPI's broader industry development goals. Further, climate change will impact other livestock. It may be timely to move the role of animal welfare to an independent agency.
- Work with MfE and NIWA on better climate change reporting indicators (such as SST and mortality). See discussion on the metrics calculations of mortalities in Question 1 and SST in Question 10.

# List of Appendices

# Appendix 1: Relevant McGuinness Institute publications

This discussion paper is the tenth in a series of papers exploring proposals and decisions relating to salmon farming activity in the Marlborough Sounds.

**Relevant publications**

1. *Working Paper 2013/01 – Notes on the New Zealand King Salmon Decision* (May 2013)
2. *Report 10 – One Ocean: Principles for the stewardship of a healthy and productive ocean* (March 2015)
3. *Working Paper 2016/02 – New Zealand King Salmon: A financial perspective* (July 2016)
4. *Working Paper 2017/02 – Letter to the Minister on New Zealand King Salmon* (May 2017)
5. *Working Paper 2018/01 – NZSX-listed Company Tables* (March 2018)
6. *Report 17 – ReportingNZ: Building a Reporting Framework Fit for Purpose* (June 2020)
7. *Working Paper 2021/06 – Reviewing TCFD information in 2017–2020 Annual Reports of NZSX-listed companies* (June 2021)
8. *Working Paper 2021/14 – The Role of Water Temperature in Climate Change Policy – A New Zealand King Salmon Case Study* (November 2021)
9. *Working Paper 2021/15 – Looking for a taxonomy for Aotearoa New Zealand's oceans* (November 2021)
10. *Working Paper 2022/10 – New Zealand King Salmon key documents 2012–2022* (May 2022)
11. *Discussion Paper 2022/02 – New Zealand King Salmon Case Study: A financial reporting perspective* (May 2022)

**Upcoming and relevant McGuinness Institute publications that may be of interest:**

1. *Working Paper 2022/07 – Analysis of COVID-19 wage subsidy in 2020 Annual Reports by NZSX-listed companies*
2. *Working Paper 2022/08 – Analysis of Non-IFRS information in 2020 Annual Reports by NZSX-listed companies*
3. *Working Paper 2022/09 – Analysis of NZSX-listed companies in terms of market capitalisation and net assets in their 2018-2021 Annual Reports*

# Appendix 2: Timeline of key events since 1990

**Note:** * indicates documents listed on the MPI consultation website under a different title than the title noted on the front page of the document. Where this has happened, we have used the title on the document.[105]

## Late 1990s[106]

'[D]emand for access to unpolluted, nutrient-rich waters for a diverse range of marine farming increase[s] five-fold'.

## August 2000[107]

'The Government seeks submissions on proposals to change the way aquaculture is managed – 242 submissions [are] received'.

## November 2001[108]

'The Government approves the proposed reforms and puts in place an immediate moratorium on new applications, pending the new regime'.

## March 2002[109]

'The Resource Management (Aquaculture Moratorium) Amendment Act comes into force. Originally for two years, the moratorium is extended to 31 December 2004 to ensure the aquaculture reform is consistent with the foreshore and seabed policy'.

## Later in 2002[110]

'Wai 953 raises the possibility of conflict between the aquaculture reform and Treaty principles. This is addressed by the 20 percent iwi provision in the Maori Commercial Aquaculture Claims Settlement Act 2004'.

## August 2004[111]

'The Aquaculture Reform Bill is introduced for its first reading'.

## December 2004[112]

'The Aquaculture Reform Bill is passed into law, and takes effect from 1 January 2005'.

## July 2006

*The New Zealand Aquaculture Strategy*[113]

Commissioned by the New Zealand Aquaculture Council with assistance from the New Zealand Seafood Industry Council and the Ministry of Economic Development.

Prepared by LECG (Mike Burrell and Lisa Meehan, with assistance and input from others).

To our knowledge there has been no review of the approach taken; it remains based on out-of-date data and values. The strategy articulated the goal of growing the industry to a value of $1 billion a year by 2025. This was echoed by the government at the time: 'The Government supports the aims of the New Zealand Aquaculture Strategy, released in June 2006. The strategy's goal is to grow the industry to $1 billion a year by the year 2025.'[114] Mike Burrell was later appointed CEO of the newly established New Zealand Aquaculture Ltd.

## 10 September 2009

*New Zealand Aquaculture: Industry Growth Scenarios*[115]

Commissioned by Aquaculture New Zealand, funded by New Zealand Trade and Enterprise (NZTE).

Prepared by Ernst & Young (EY) (Peter Goss, Duncan Wylie, Ray Greenwood and Michael Ross).

It is in this report that the estimated figure for the growth potential of the aquaculture industry was doubled from $1 billion to $1.7/2.2 billion (see quote from Aquaculture Technical Advisory Group [TAG] in the timeline entry for 15 October 2009).

## 15 October 2009

*Re-Starting Aquaculture: Report of the Aquaculture Technical Advisory Group*[116]

The 'Technical Advisory Group (TAG) was established to provide the government with a report including recommendations "to enable the development of sustainable aquaculture in New Zealand."' Mike Burrell, CEO of New Zealand Aquaculture Ltd, was a member of the group. The TAG drew on the content of the *New Zealand Aquaculture: Industry Growth Scenarios* report by EY referenced in the timeline entry for 10 September 2009.

> In the medium term the growth potential of aquaculture has been estimated in a recent Ernst and Young report to be in the order of between $1.7 to $2.2 billion per annum by 2025 if some basic business practices are followed, further water space is made available and there is flexibility for farm conversions in some existing space.

## 15 March 2010

*Cabinet Minute of Decision (10) 9/2*[117]

Prepared by Secretary of the Cabinet.

This decision notes that 'the government supports the industry goal of generating annual sales of $1 billion by 2025'.

## June 2010

*The Net Economic Benefit of aquaculture growth in New Zealand: Scenarios to 2025*[118]

Commissioned by Aquaculture New Zealand.

Authored by NZIER (Chris Schilling and James Zucollo).

## June 2010

*Aquaculture in New Zealand: Supplementary analysis for "New Space" settlement obligation* (draft)[119]

Commissioned by the Ministry of Fisheries.

Prepared by LECG (Sally Wyatt, Bastiaan van der Scheer and David Moore).

This report reviewed the 2009 EY report *New Zealand Aquaculture: Industry Growth Scenarios* and the 2010 NZIER report *The Net Economic Benefit of aquaculture growth in New Zealand: Scenarios to 2025*. Both reports were found to be optimistic, with NZIER's assumptions about future production being considered 'significantly more optimistic than Ernst & Young's'.

## 3 December 2010

*The New Zealand Coastal Policy Statement 2010*[120]

Published by the Department of Conservation.

## 2011

*Aquaculture legislative reforms 2011*[121]

## July 2011

*Aquaculture Growth Strategy Phase II*[122]

Prepared by Aquaculture New Zealand.

This is a 12-page action plan, rather than a document based on strategic analysis.

## August 2011

*Salmon Aquaculture GHG Emissions A Preliminary Comparison of Land-Based Closed Containment and Open Ocean Net-Pen Aquaculture*

Prepared by Andrew S. Wright Ph.D.

> Critics of land-based closed containment salmon production frequently cite that this production method is not desirable, in part, because of its large greenhouse gas (GHG) footprint. This Report provides a preliminary comparison of the production footprint for two salmon farm scenarios: an open ocean net-pen and a land-based closed containment recirculating aquaculture system (RAS). The Report models the GHG emission for 2000 metric tons of production at an open ocean net-pen farm in the Broughton Archipelago and compares this with the scenario for a land-based farm of commensurate production in Port Hardy. The analysis accounts for GHG emissions released from the point of feed production leaving the manufacturing gate in Vancouver to the final harvest of fish at the processing plant. The findings are that the total GHG emissions from open net-pens are substantially higher (5x-10x) than they would be for a modern, efficient closed containment design based in British Columbia. The prime reasons for the lower GHG emissions for closed containment are the use of BC Hydro for power (low fossils fuel use) and the controlled handling of sewage/waste.[123]

## 13 August 2011

*NZ King Salmon Report*[124]

Prepared by NZKS as part of their proposal before the Board of Inquiry (BOI) for additional farms.

The report relies on earlier reports written by EY and NZIER (*Ernst & Young 2009: New Zealand Aquaculture Industry Growth Scenarios* and *NZIER 2010: The Net Economic Benefit of aquaculture growth in New Zealand*):

> 97. Aquaculture is an important contributor to the New Zealand economy, with exports of $380 million in 2009, and a goal of becoming a $1 billion industry by 2025.
> 98. Independent expert assessment of the sector growth potential confirm revenues closer to $2 billion are attainable by the New Zealand aquaculture industry.

## 22 August 2011

*Review of Salmon Farming Proposal: Market Economics Analysis for New Zealand King Salmon Proposal*[125]

Commissioned by the Environmental Protection Authority (EPA).

Prepared by NZIER (Bill Kaye-Blake).

This report 'reviewed the economics technical report prepared by Market Economics and supplied by the New Zealand King Salmon Company Ltd (NZKS) to support the application lodged with the Environmental Protection Authority (EPA). The review determined whether the report contained enough information for the public (and a board of inquiry, if appointed) to assess the effects of the NZKS application.' NZIER was not asked to undertake a peer review, therefore sources of data were not verified and assumptions not externally assessed.

## 12 September 2011

*Resource Management Amendment Act (No 2) 2011*

This Act added new sections 360A to 360C (below) to the Resource Management Act 1991. This section enabled the establishment of the Advisory Panel to consider the relocation of selected existing farms, see 14 February 2018 timeline entry. This was seen by many as a way of the industry finding a way around the existing legislation.

- 360A Regulations amending regional coastal plans in relation to aquaculture activities
- 360B Conditions to be satisfied before regulations made under section 360A
- 360C Regional council's obligations

## 3 October 2011

*Sustainably Growing King Salmon – A Proposal of National Significance*[126]

Prepared by NZKS as part of the company's application to be considered as a proposal of national significance under the Resource Management Act 1991.

This report is NZKS's application for plan changes and resource consents with the Environmental Protection Authority (EPA). The report again relies on work by EY.

29. In terms of the Proposal's implications for the aquaculture sector, the NZ King Salmon Report echoes the findings of **Ernst & Young cited in the TAG Report** - that while up to $2 billion of net revenue is attainable by the industry, delays in reforming the regulatory environment have led to decreased spill-over benefits to the economy. In short, NZ King Salmon needs space urgently. Any further delay is costing NZ King Salmon and the economy. [bold added]

## 3 November 2011

*Minister's Direction on NZ King Salmon's proposal*[127]

Prepared by Minister of Conservation, Hon Kate Wilkinson.

In this statement the Minister of Conservation considered the two plan change requests to the Marlborough Sounds Resource Management Plan and the nine resource consent applications by NZKS as a proposal of national significance and accordingly referred it to a Board of Inquiry under section 147 of the Resource Management Act 1991. Her statement identifies that the proposal 'involves or is likely to involve significant use of natural and physical resources (s 142(3)(a)(ii))', citing the doubling of operational fin-fish sites in the Marlborough Sounds with an increase in occupied area of approximately 206 hectares and a possible length of occupation up to 35 years. The statement also notes the feed discharge of 40,000 tonnes per annum and the increase in farmed and harvested salmon in the area of 20,000 tonnes per year.

## March 2012

*The Government's Business Growth Agenda* (Cabinet paper)[128]

Prepared by Office of the Minister of Finance and Office of the Minister for Economic Development.

This Cabinet paper does not discuss the goal of growing the aquaculture industry to a value of $1 billion a year by the year 2025. Instead it outlines a 120-point action plan for economic development. Point number 70 is 'Aquaculture: reform legislation to promote investment, reduce costs and uncertainty.' The paper notes that this action point has been achieved, giving it the status 'completed'.

In 2013, the action point is recorded in *The Business Growth Agenda: Future Direction 2014* as 'Implement the aquaculture reforms to enable the industry to become a $1b contributor to the economy' and is coded as 'implementing'.[129] Note also the change in wording from 'promote' in the Cabinet paper to 'enable' in the *Business Growth Agenda*, as well as the re-inclusion of the $1 billion goal. This may explain why it again became part of public policy – see timeline entry for November 2015.

## April 2012

*The Government's Aquaculture Strategy and Five-year Action Plan to Support Aquaculture* prepared by MPI.[130]

The Government adopted an aquaculture strategy and five-year action plan to guide sustainable growth of the aquaculture sector. The document does not review strategic options. It refers to an action plan to guide sustainable growth with the goal of building an industry valued at $1 billion at the centre of the handout.

## May 2012

*Investment Opportunities in the New Zealand Salmon Industry*[131]

Commissioned by Ministry of Economic Development (now the Ministry of Business, Innovation and Employment) as part of the Food and Beverage Information Project. Prepared by Coriolis.

The report notes that initially there was a lot of industry hype about the potential for growth; five companies were listed on the stock exchange between 1980 and 1990. However, all five proved to be 'poor long term investments.' Further, the report suggests on pp. 32–34 that the recent production surge in New Zealand was 'purely export driven', hence domestic consumption has 'flattened and stabilised' and is unlikely to increase in the future.

## May 2012

The EPA received 1294 submissions on the NZKS plan changes and consent applications. According to the EPA, the majority of the submissions (approximately 725 of the 1294) were in opposition to the plan changes and the resource consent applications, while approximately 358 of the submissions were in support of both

the plan changes and all of the resource consent applications. Approximately 118 submissions indicated mixed positions, while the remaining submissions either supported in part, opposed in part, were neutral or did not state a position.[132]

## 11 September 2012

*Joint Statement of Economics Experts*[133]

Prepared for the 2012 Board of Inquiry into NZKS requests for plan changes and applications for resource consents.

Bill Kaye-Blake is one of the NZKS economics experts who prepared this statement for the BOI.

## 22 February 2013

*Final Report and Decision of the Board of Inquiry into the NZ King Salmon Proposal*[134]

The final report and decision was the culmination of the 2012 BOI initiated by the 2011 Minister's direction (see timeline entry for 3 November 2011). The EPA received 1294 submissions on the NZKS plan changes and consent applications by 28 June 2012 (1221 submissions were received before the submission period closed on 2 May 2012 and a further 73 late submissions were granted a waiver and accepted). According to the EPA, the majority of the submissions (approximately 725 of the 1294) were in opposition to the plan changes and the resource consent applications, while approximately 358 of the submissions were in support of both the plan changes and all of the resource consent applications. Approximately 118 submissions indicated mixed positions, while the remaining submissions either supported in part, opposed in part, were neutral or did not state a position (p. 46).

The BOI allowed plan change requests and resource consents for four of the nine proposed sites, declined plan change requests and resource consents for four sites and declined resource consent for one site. It was later appealed and then taken to the Supreme Court, where one of the farms was further declined.

## March 2013

*Think Piece 16 – New Zealand King Salmon: Was it a good decision for New Zealand?*[135]

Prepared by the McGuinness Institute.

## June 2013

*Aquaculture Mid-Term Research Strategy: 2013* (MPI Information Paper No: 2013/01)[136]

Published by The Aquaculture Unit for MPI.

The 'Aquaculture Research Strategy aims to communicate a vision for research in the aquaculture sector. It focuses on seven key Research Areas: biosecurity; animal productivity; climate change; water; new species; social licence for aquaculture; consumers, products, and markets'.

## July 2013

*Salmon Mortality Investigation: REW-1017 Pelorus Sound* (MPI Technical Paper 2013/19)[137]

Prepared by MPI.

NZKS 'notified MPI of a significant mortality event' at a farm in Waihinau Bay in outer Pelorus Sound on 1 March 2012. This MPI technical paper outlines the investigations into possible causes of the deaths. These included two forms of bacteria, high water temperature, water flow and fish feed. The investigations did not reach a definitive conclusion on the cause of the mortality event.

## 8 August 2013

The Environmental Defence Society Incorporated appealed to the High Court, alleging that the BOI made errors in law. However, the decision to grant NZKS resource consents was not changed.[138]

## August 2013

*Overview of Ecological Effects of Aquaculture*[139]

Published as part of the Aquaculture Ecological Guidance Package, developed by MPI with the Cawthron Institute, NIWA, DoC, regional councils and the aquaculture industry.

The package is a 'web-based package [that] provides information and advice on the ecological effects of marine-based aquaculture to assist in planning and managing aquaculture development.'

## November 2013

NZKS and Marlborough District Council (MDC) made a commitment to work together to develop environmentally and economically sustainable salmon farming practices.[140] This led to the formation of the Benthic Standards Working Group with membership comprising Nigel Keeley (Cawthron Institute), Mark Gillard (NZKS), Niall Broekhuizen (NIWA), Richard Ford (MPI), Rob Schuckard (Sounds Advisory Group) and Steve Urlich (Marlborough District Council). Specialist advice was also provided by Ross Sneddon (Cawthron Institute).

## 17 April 2014

The Environmental Defence Society Incorporated took the BOI decision to the Supreme Court.[141] Papatua, one of the previously approved farms, was declined because it did not comply with Resource Management Act 1991 s 67(3)(b) as 'it did not give effect to policies 13(1)(a) and 15(a) of the *New Zealand Coastal Policy Statement*', leaving only three of the nine farms approved.

## November 2014

*Best Management Practice Guidelines for salmon farms in the Marlborough Sounds: Benthic environmental quality standards and monitoring protocol*[142]

Prepared by the Benthic Standards Working Group (see November 2013 timeline entry for membership).

This was published as a living guidance document to inform benthic monitoring programmes for salmon farms in the Marlborough Sounds. The document stated that 'ideally all salmon farm consents should include a standard condition' of being in compliance with the *Best Management Practice Guidelines* (BMP). One of the intentions in creating this document was to 'align' standards and protocols for salmon farming 'with the consent conditions resulting from the BOI process.'

## March 2015

*Report 10 – One Ocean: Principles for the stewardship of a healthy and productive ocean*[143]

Prepared by the McGuinness Institute.

New Zealand has one of the largest exclusive economic zones in the world. This report discusses the role of oceans in New Zealand's culture, economy and natural environment as well as the need for change in oceans governance. It contains 30 unique perspectives and proposes a principle-based approach.

## September 2015

*The economic contribution of marine farming in the Marlborough region: A Computable General Equilibrium (CGE) analysis*[144]

Commissioned by the Marine Farming Association.

Prepared by NZIER (Peter Clough and Erwin Corong).

This report was relied on by MPI as evidence of economic impact in the *Marlborough Salmon Working Group: Advice to the Minister of Aquaculture*, which notes in Para 33: 'The Government supports well-planned and sustainable aquaculture growth in New Zealand and the industry's goal to grow to a $1 billion annual sales a year by 2025' (see timeline entry for 23 November 2016).

## October 2015

Heads of Agreement entered into between NZKS and MPI.

This is not included in the consultation documents on the MPI website, but was referred to in Para 39 of the December 2016 Cabinet Paper (see timeline entry for December 2016).

## November 2015

*Best Management Practice Guidelines for salmon farms in the Marlborough Sounds: Operations*[145]

Prepared by the Farm Operations Working Group.

This document was published as an updated version of the *Best Management Practice Guidelines*. This updated document specified that 'in the future all salmon farm consents should be referenced to these guidelines with a standard condition that relates to compliance with the BMP.'

## November 2015

*Business Growth Agenda 2015/16: Towards 2025: Building Natural Resources* (Chapter 04)[146]

Prepared by the Ministry of Business, Innovation and Employment.

This chapter outlines a number of goals including to 'develop our aquaculture, fisheries and other marine resources, while maintaining marine biodiversity and sustainability.' Within this goal is a specific project to 'explore opportunities to support aquaculture development regionally' and it is noted as part of this that 'MPI is investigating Government intervention to unlock salmon growth opportunities in Marlborough.' This is the first time that the Marlborough Sounds are mentioned in the *Business Growth Agenda*.

## December 2015

*Think Piece 22 – Proposal for the creation of an Oceans Institution*[147]

Prepared by the McGuinness Institute.

## 20 April 2016

*Multiple factors responsible for Marlborough salmon farm deaths*[148]

Authored for the *Marlborough Express* by Mike Watson and republished on *Stuff*.

The article notes increased controls placed on salmon farms in the Sounds by MPI in the previous 12-months following a large-scale salmon mortality event in February 2015, additional to the event reported in 2012. MPI also produced a fact sheet, dated October 2015 and titled *Unusual Mortality Rates in Marlborough farmed salmon*.

## June 2016

*NZKS Operations Report*[149]

This was prepared as part of the preliminary relocation proposal. Its general focus is on water flows, not temperature. The report starts: 'The Marlborough District Council and Central Government are working with NZ King Salmon and community representatives on options to implement the Best Management Practice guidelines (BMP) for salmon farms in the Marlborough Sounds. Options to enable adoption of BMP include the potential relocation of some existing low flow farms to more environmentally appropriate locations to ensure the guidelines can be met in the future.' See Table 3 for water temperatures by farm. Note, without the depths at which these temperatures were taken, this information has little value.

## 1 August 2016

*McGuinness Institute report attacks King Salmon financial position*[150]

Authored for the *Marlborough Express* by Elena McPhee and republished on *Stuff*.

In this article, Chief Executive of NZKS Grant Rosewarne uses alternative performance measures (APM), claiming that 'King Salmon had four "difficult" years but each year a profit had been made'. An updated

version of the article notes the conflict of this statement with information available from the Companies Office showing losses for NZKS in 2012 and 2014. This was added after Rosewarne declined to change his statement to reflect GAAP information.

## 5 August 2016

*New Zealand King Salmon Investments Limited and Subsidiaries Financial Statements for the year ended 30 June 2016*[151]

EY Christchurch are the independent auditors of NZKS, signing the NZKS 2016 financial statements as such on 5 August 2016, as they had done every year since 2010.

## 11 August 2016

*Marlborough Salmon Working Group Terms of Reference*[152]

Prepared by Marlborough Salmon Working Group.

> Role
> The role of the Marlborough Salmon Working Group (MSWG) is to provide recommendations to implement the guidelines. The aims of the MSWG are:
> - to consider options for existing salmon farms in Marlborough to adopt the guidelines; and
> - to ensure the enduring sustainability of salmon farming in Marlborough, including environmental outcomes and landscape, amenity, social and cultural values.
>
> While non-binding, the recommendations will inform the future planning work on salmon farming in Marlborough. The group will not replace statutory consultation processes required to establish any potential new salmon aquaculture space under the Resource Management Act 1991.

## 29 August 2016

*New Zealand King Salmon IPO*[153]

> New Zealand King Salmon Investments Limited has confirmed its intention to undertake an initial public offering and a listing on the NZX Main Board and a foreign exempt listing on ASX. New Zealand King Salmon seeks to raise capital to fund future investment and working capital, repay debt and to enable Direct Capital to realise some or all of its investment. A product disclosure statement is expected to be available in September and New Zealand King Salmon expects its shares to be quoted on the NZX Main Board and ASX in mid-October.

## 23 September 2016

*Pro Forma Statement of Financial Position as at 30 June 2016*[154]

Prepared by EY Transaction Advisory Services Limited (EYTAS).

EYTAS clearly indicate in the introductory section that the report was prepared for the purpose of listing NZKS on the Australian Securities Exchange (ASX).

## September 2016

*Prospective Financial Information* (PFI)[155]

This is a key excerpt that is relevant to the conclusions of this letter.

> [Note] 4. Consent swap application expense write off. All expenses relating to an ongoing initiative being progressed by the Government and the Marlborough District Council to swap all existing low flow seafarm consents to new sites with improved characteristics were written off in FY2016. The consent swap initiative has not been used before and, in the Group's view, is unlikely to be used in the future. Accordingly, these expenses are regarded as one off in nature and, while the process is progressing positively, there is insufficient certainty of outcome to meet the required test under NZ IAS 38- Intangible Assets for capitalisation of this expenditure. **Our financial forecasts do not assume any benefit as a result of this process.** [bold added]

## 23 September 2016

*Product Disclosure Statement* (PDS)[156]

Prepared by New Zealand King Salmon, with assistance from EY Transaction Advisory Services Limited (EYTAS).

The PDS states:

> **1. New waterspace.** In order to reach the industry target of over $1 billion in sales by 2025, further waterspace will be required. The Southland Regional Development Strategy identifies aquaculture as one of the key economic growth priorities for the Southland region. Should waterspace be made available in Southland, we plan to pursue this opportunity.
> **2. Waterspace swaps.** The Government and the Marlborough District Council are working together on the implementation of Best Practice Guidelines for salmon farming in the Marlborough Sounds. A possible outcome of this could be a process to swap some existing low flow seafarm consents for waterspace with improved characteristics and at which compliance with Best Practice Guidelines can be more easily achieved.

Learn more about the purpose of a PDS here.[157]

## 16 November 2016

*Marlborough Salmon Relocation Economic Impact Assessment Peer Review*[158]

Commissioned by MPI.

Authored by Chris Money of EY Wellington, Transactions in review of the PwC economic impact assessment.

## 23 November 2016

*Marlborough Salmon Working Group: Advice to the Minister of Aquaculture*[159]

Prepared by the Marlborough Salmon Working Group (MSWG) for the Minister of Aquaculture.

## 24 November 2016*

*Consultation proposal on potential relocation of salmon farms in the Marlborough Sounds* (briefing paper to the Minister for Primary Industries)[160]

Prepared by MPI with the Ministry for the Environment and Department of Conservation.

Manager responsible is Luke Southorn, Director for Economic Development and Partnerships. Principal author's name is redacted, but is the manager of the aquaculture unit.

This briefing paper recommends that the Minister for Primary Industries agrees 'to progress to consultation with the public and iwi authorities on proposed regulations [...] to amend the Marlborough Sounds Resource Management Plan to enable the relocation of up to six existing lower flow salmon farms to higher flow sites.'

## 30 November 2016

*Marlborough Salmon Relocation: Economic Impact Assessment*[161]

Commissioned by MPI.

Authored by PwC (Bill Kaye-Blake).

Bill Kaye-Blake previously worked for NZIER (see 22 August 2011) and was the economics expert for NZKS at the Board of Inquiry in 2012.[162] The extent of the relationship between PwC and NZKS was illustrated when, on request for clarification of the maths underlying key figures in the model, Kaye-Blake referred the Institute directly to NZKS rather than MPI. While on one level this was understandable, as Kaye-Blake would have relied on the numbers provided to him, it also indicated the strength of this relationship. Our understanding is that MPI was not aware that the author of the PwC report had previously been an expert for NZKS.[163]

## December 2016

*Consultation proposal on potential relocation of salmon farms in the Marlborough Sounds* (Cabinet paper)[164]

Prepared by the Office of the Minister for Primary Industries for the Chair of the Cabinet Economic Growth and Infrastructure Committee.

## 26 January 2017*

*Potential relocation of salmon farms in the Marlborough Sounds* (MPI Discussion Paper No: 2017/04)[165]

Prepared by MPI.

This is the main consultation document. It was released with a summary and photo simulations.

## February 2017

*Clean Water: 90% of rivers and lakes swimmable by 2040* (consultation document)[166]

Published by the Ministry for the Environment.

This document is part of the Government's *Clean Water package 2017* of initiatives to improve fresh water.[167] The 90% of rivers and lakes swimmable consultation seeks feedback on proposed amendments to the *National Policy Statement for Freshwater Management* and on the details of policy proposals to exclude stock from waterways.

## 21 February 2017

*Terms of Reference for Marlborough Salmon Farm Relocation Advisory Panel*[168]

Published by MPI.

## 28 February 2017

*New Zealand King Salmon Investments Limited Interim Financial Statements – For the six months ended 31 December 2016*[169]

## March 2017

Response to Bev Doole's 20 February 2017 Official Information Act request.[170]

Authored by Luke Southorn.

## May 2017

MPI Intelligence Report, MPI Technical Paper No. 2017/39

It states: 'As with all farmed animals, mortality occurs throughout the farmed salmon lifecycle. NZKS expect a mortality rate of approximately 25%.'[171]

## Mid-2017

*National direction for aquaculture*[172]

The national direction:

> will help councils and industry:
> - manage re-consenting of existing marine farms more consistently and efficiently across the country
> - enable better use of existing marine farms
> - improve environmental outcomes
> - increase community confidence in the industry.'
>
> Agencies are working with an expert reference group to provide advice on the content and scope of national direction. The reference group includes members from local government, the aquaculture industry, Te Ohu Kaimoana, and environmental organisations. Public consultation on national direction will occur in mid-2017, and decisions finalised in 2018.

## 14 February 2018

*Marlborough Sounds Salmon Farm Relocation Advisory Panel*[173]

> In respect of Policy 3(2) many comments stressed that climate change may well cause sea temperatures in the long term to rise above those that can provide a relatively stress-free environment for NZ King Salmon which ideally should be reared in waters below 17 degrees Celsius. Whether climate change does cause those significant longterm temperature rises in Pelorus Sound has yet to be shown empirically, so we do not consider the Plan Change Proposal can be refused on that ground. However, what is clear from an overall appreciation of the effects of this industry is that its long-term effects, particularly on a far-field basis, do remain uncertain, and at present unknown. Indeed, in some respects, e.g. Harmful Algal Blooms (HABS) and other toxic algae blooms, the causes remain little understood. Therefore, while the modelling evidence, coupled with the development and application of the Benthic Guidelines and the adaptive management regime, which has the support of one year's detailed monitoring results for a closely similar regime on three other sites, provides a significant measure of confidence such as to enable the Proposal to proceed in part, these far-field uncertainties do continue.
>
> The precautionary principle in the context of this Proposal requires that potential adverse effects on the benthos, water column quality, and on the threatened species of King Shag, are managed by tight monitoring and adaptive management techniques. The aim of the monitoring and tightly controlled adaptive management increases in discharges is to ensure that modelled or predicted outcomes can be verified, or not, by actual monitoring.

## October 2019

*Best management practice guidelines for salmon farms in the Marlborough sounds published*[174]

> The New Zealand King Salmon Co. Limited (NZKS) were granted resource consent for three new salmon farms in the Marlborough Sounds by the Environmental Protection Authority (EPA) in 2012. The consent conditions were determined by the EPA's Board of Inquiry (BoI) which required NZKS to monitor broader scale effects in the water column of their nitrogen discharge.

## 2019

*Aquaculture strategy for New Zealand (2019)*[175]

See strategy mapping Figure 26 overleaf. The aim is to make the industry more:

- sustainable
- productive
- resilient
- inclusive.

The strategy is three-pronged:

1. **Maximising the value of existing farms through innovation**
   Aquaculture is and will continue to be a value success story. A strong innovation programme and co-investment between Government and industry have been key to New Zealand delivering premium, high value products to the world. There is still scope for being more productive, efficient and sustainable, and deriving greater value from what we grow. Examples include mussel oils, powders and extracts; high value nutrition; and premium salmon. There are other opportunities on offer – such as through macro-algae farming to provide ecosystem services, buffering ocean acidification, and storing carbon.

2. **Extending into high value land-based aquaculture**
   Land-based aquaculture farms produce juvenile stock for growing to harvestable size in the sea. For marine aquaculture to grow, land-based hatcheries will also need to grow or increase their output. There is potential for land-based aquaculture to further support marine aquaculture in a number of ways. This includes rearing juveniles that better withstand climate change, ocean acidification or pests and diseases. Land-based aquaculture also enables increased productivity by breeding juveniles that have marketable traits such as size or nutritional characteristics; and making better use of sea space by growing juveniles for longer before they are transferred to marine farms. Land-based aquaculture also presents opportunities to farm right through to harvest. This includes precision growing to meet evolving market demands for high value seafood and extracts such as oils and powders.

3. **Extending aquaculture into the open ocean**
   Aquaculture has traditionally taken place in sheltered, enclosed bays and harbours where there are other legitimate uses and values. Many areas have reached their social carrying capacity. Both globally and in New Zealand, attention is turning to open ocean farming as the big opportunity for aquaculture growth. Open ocean farming presents an opportunity to farm in cooler, deeper waters, and more easily position farms away from areas of high competing use. New Zealand's exclusive economic zone is 15 times bigger than our land area – presenting significant potential. Open ocean farming outside of enclosed bays requires a technological shift – existing technology does not perform in open ocean environments. We can leverage work being undertaken globally to farm in high energy environments. We have the opportunity to develop and implement a world-leading framework for managing open ocean development, and ensure it integrates with existing uses and values. This will be a critical part of our work programme.

Figure 26: 2019 Aquaculture strategy for New Zealand strategy map[176]


## March 2020 (in progress)

*Application from NZKS to Marlborough District Council (MDC): U160675 [Blue Endeavour]*[177]

To establish and operate new salmon farms within a 1,791 hectare site located between 5 kilometres and 12 kilometres due north of Cape Lambert.

## September 2020

*Application from NZKS to Marlborough District Council (MDC): U140294 and U140296*[178]

Section 127 Variation to change: condition 36 of U140294 (increase the Maximum Initial Feed Discharge); condition 40 of U140294 (alter the Environmental Quality Standards and the definition of Enrichment Stages); and condition 40 of U140296 (alter the Environmental Quality Standards and the definition of Enrichment Stages).

The application was refused.

## February 2021 (in progress)

*Marlborough District Council (MDC): Variation 1: Marine Farming and Variation 1A: Finfish Farming*[179]

## 8 February 2021

Minister David Parker's press release: 'RMA reform needed to keep aquaculture moving'[180]

It states:

> The impact of high water temperature on New Zealand King Salmon's forecast revenue is a sharp reminder that resource management system reforms are needed to deliver better management for aquaculture, Oceans and Fisheries Minister David Parker said today.
>
> ..."Our response to climate change is not something that can be delayed. Its effects are real and present for New Zealand companies, and the people who work for them.
>
> "This situation also highlights that the Resource Management Act is not equipped to deal with these realities. Strategic planning to get ahead of these kind of matters hasn't happened," David Parker said.
>
> "Establishing small areas of new aquaculture space remains a drawn out, difficult and litigious process, even after 20 years of efforts under the RMA to improve it. As a result, some marine farms need to be better located but the system makes that very difficult.

## 31 March 2021 (8:30am)

*NZX: New Zealand King Salmon – Results Announcement Date Waiver*[181]

It states:

> Although we are still finalising our financial results, we continue to expect our FY22 **Proforma** EBITDA to be in the previously indicated range of $6.5m – $7.5m. [bold added]

## October 2021

*Environmental Product Declaration*[182]

This EPD was developed in accordance with ISO 14025 for King Salmon from the New Zealand King Salmon Company Ltd.

## October 2021

*Open Ocean Salmon Farming in New Zealand: Review of possible options for Government support to assist with the establishment of a sustainable, inclusive, resilient, financially viable and rapidly growing open ocean salmon farming industry*[183]

> Development of offshore farms
>
> 36. The cost of the physical assets required for open ocean farm with the capacity to produce at least 10,000 tonnes per annum is currently estimated by MPI to be in the vicinity of $150 million. This includes pens and supporting assets such as vessels and barges.
>
> 37. This is a very significant investment. Investors will need confidence in the long term-financial viability of the industry before committing to provide capital at this level.
>
> 38. Research into farming methods, farm infrastructure and the interaction with the environment is being undertaken. However, completing research trials and undertaking market assessments to confirm that the increase in volume can be sold for prices that will support financial viability will take time.

## 30 November 2021

RNZ, 'Marine heatwave occurring in waters around New Zealand, NIWA says'.[184]

> The National Institute of Water and Atmospheric Research (NIWA) says marine heatwave conditions, classified when the sea temperature is above the 90th percentile for at least five days, have been observed in waters offshore of all regions of New Zealand.
>
> Not only that, but coastal sea temperatures around New Zealand have been 1.1C to 1.4C above average during November, with daily sea surface temperatures more than 3C above average around the western and northern North Island and eastern South Island over the last week.
>
> It was comparable to November 2017, the beginning of an "unprecedented marine heatwave around the country and in the Tasman Sea", according to NIWA.
>
> Marine heatwaves were becoming more common, NIWA said.

## 1 February 2022 (12:41pm)

*NZK Market Update*[185]

## 31 March 2022 (8:30am)

*New Zealand King Salmon – Results Announcement Date Waiver* [186]

## 13 April 2022 (9:03am)

*NZX: NZ King Salmon Investments Limited ("NZK") – Trading Halt*[187]

It states:

> New Zealand King Salmon Investments Limited has requested a trading halt **pending a material announcement regarding its full year results** and a potential capital raising. … Although we are still finalising our financial results, we continue to expect our **FY22 Proforma EBITDA to be in the previously indicated range of $6.5m – $7.5m**. [bold added]

## 13 April 2022 (1:39pm)

*NZX: NZKS FY22 results and NZ$60.1 million equity raising*[188]

It states:

> New Zealand King Salmon Investments Limited (NZX & ASX: NZK) presents its results for FY22 and announces its intention to raise approximately NZ$60.1 million via a rights offer.

## 19 April 2022

NBR, 'NZ King Salmon CEO: "We tried everything but it didn't work"'.

The article states:

> "And we have deployed now all of those: we've tried upwelling cooler waters, we've tried **single year class** [keeping salmon of different ages separate], we've tried scrupulous net cleaning," he said.
>
> "We were expecting a good summer this year. And then after deploying all of those practices, and then having the very opposite occur, we thought: 'OK, that is a tipping point, there doesn't seem to be a technology or a practice that can overcome these elevated temperatures.' We will keep searching [in small trials] but we're not going to take stock through those summers any more."
>
> "We are not alone in facing the challenges of climate change and we have identified the risks early and responded accordingly."
>
> **Rosewarne said surface water temperatures were irrelevant to fish health due to Blue Endeavour's depth (80–110m) and a strong current creating sharply declining temperatures with depth.**
>
> During January the company's data indicated that the surface temperature at the site was around 17.5°C, but 20m down it was about 16.5°C and about 15.5°C at 40m.[189] [bold added]

## 10 May 2022 (8:30am)

*NZKS completes rights offer*[190]

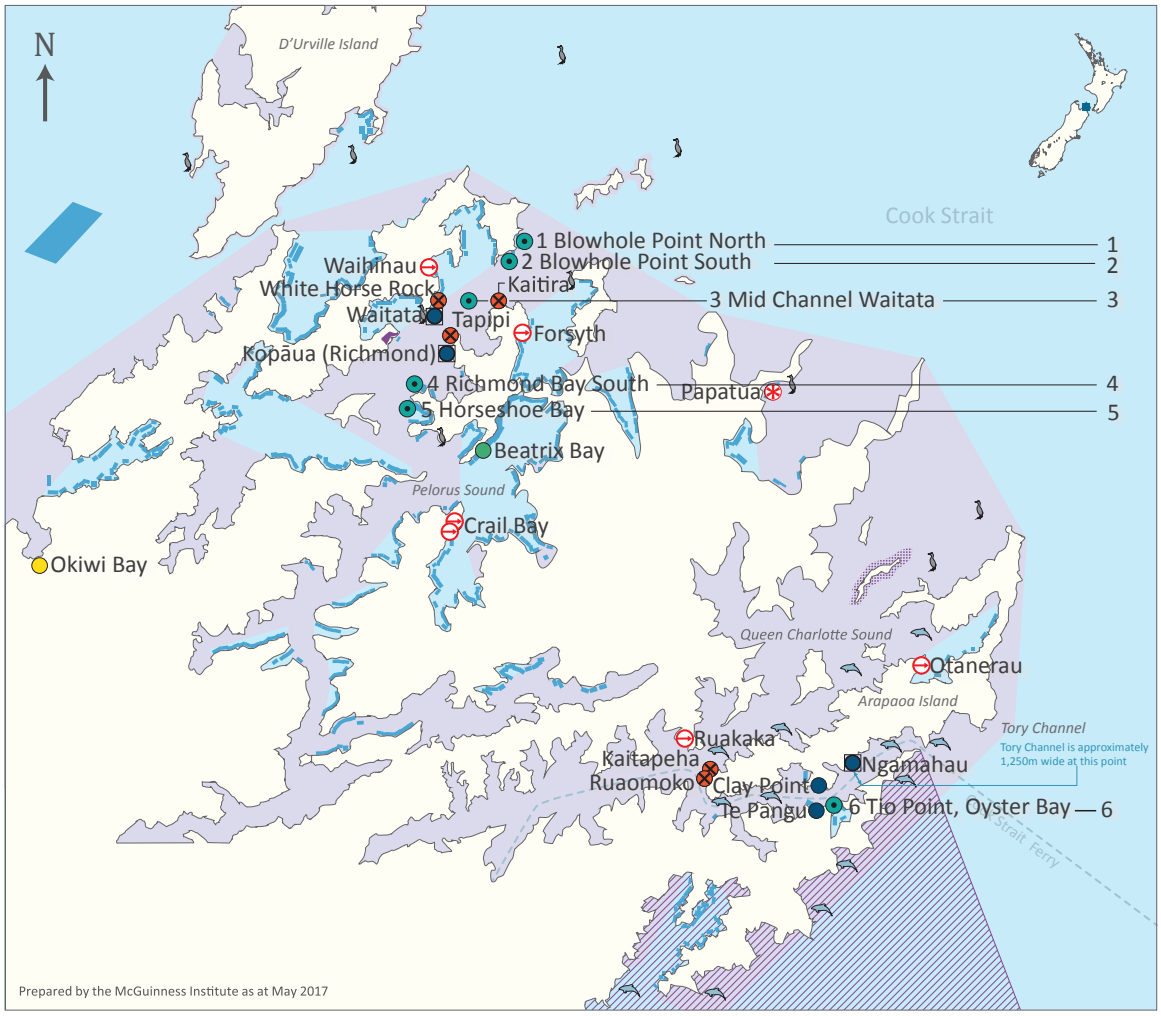
It states:

> New Zealand King Salmon Investments Limited (NZX/ASX: NZK) (NZ King Salmon) is pleased to announce the successful closure of its NZ$60.1m underwritten 2.85 for 1 pro rata rights offer (Rights Offer). NZ King Salmon received strong shareholder support with applications totalling approximately NZ$50.3m, representing Eligible Shareholders electing to take up approximately 83.6% of their entitlements under the Rights Offer. The shares will be issued at a price of NZ$0.15 per share (or A$0.14 per share).
>
> A total of NZ$60.1m was raised under the Rights Offer as announced on 13 April 2022. The proceeds of the equity raise will be used to deleverage NZ King Salmon's balance sheet and provide liquidity and funding for medium term operating requirements.
>
> Grant Rosewarne, NZ King Salmon Managing Director and CEO, said 'NZ King Salmon is delighted with the level of take-up by its Eligible Shareholders in the Rights Offer.'
>
> Settlement and allotment of new shares taken up under the Rights Offer is expected to occur on 12 May 2022, with ASX shares expected to commence trading on 13 May 2022. The new shares issued under the Rights Offer will rank equally with NZ King Salmon's existing shares.
>
> Shortfall
>
> A shortfall of approximately NZ$9.8m worth of shares out of a total Rights Offer size of NZ$60.1m remains. The shortfall will be allocated in priority to retail shareholders who over-subscribed NZ$3.5m through the Rights Offer, with the remainder being taken up by the underwriter, Jarden, or its sub-underwriters.

# Appendix 3: Farm sites in the Marlborough Sounds

## Figure 27: Map of salmon farms in Pelorus Sound, Queen Charlotte Sound and the Tory Channel[191]

Source: *Working Paper 2017/02 – Letter to the Minister on New Zealand King Salmon* (May 2017)




**1. Salmon Farm Key**

- An existing NZKS salmon farm in operation
- An existing NZKS salmon farm that is fallowed
- An existing NZKS salmon farm not in operation
  NZKS purchased the two Crail Bay farms from Pacifica in order to purchase their salmon. NZKS have told the Board of Inquiry in 2012 that both farms are uneconomic and will not be operated except for research in the future.
- A proposed NZKS salmon farm that was declined
  Declined as a result of the February 2013 Board of Inquiry.
  Declined as a result of the 17 April 2014 Supreme Court ruling.
- A consented finfish farm exists in Beatrix Bay. It is owned by Ngāi Tahu Seafoods Ltd, but is not in operation.
- Skretting Limited Finfish Research Facility (Permit U160029) This consent expires 26 January 2034.
- MPI proposal 2017 – new proposed sites
- MPI proposal 2017 – existing sites to be relocated

**2. Marine Zones, Reserves and Sanctuaries Key**

- Coastal Marine Zone 1 (CMZ1)
  New aquaculture activity is prohibited.
- Coastal Marine Zone 2 (CMZ2)
  Aquaculture activity is permitted once consent is granted by the Marlborough District Council.
- Coastal Marine Zone 3 (CMZ3)
  A special zone that is created to allow for a non-complying activity. The Marlborough District Council can grant a coastal permit if the non-complying activity meets specific requirements set by the Council. See the 2013 BOI decision.
- Kokomahua (Long Island) Marine Reserve
- Marine Mammal Sanctuary
- Tui Nature Reserve

Granted Marine Farms

A *marine farm* includes resource consents approved and still current under (i) the Marine Farming Act 1971 and (ii) the Resource Management Act 1991 (RMA) (which replaced the Marine Farming Act 1971). 'Marine farm' is defined by MDC as 'any form of aquaculture characterised by the use of surface and/or sub-surface structures located in the coastal marine area.' Consent applications for granted marine farms will outline the species able to be farmed at the site. Most marine farms have consent for more than one species. For example, it is relatively common for a marine farm to be granted consent to farm mussels, oysters and seaweed, enabling owners to change water use from one to another without a new consent process. Currently, no marine farms, other than those identified above, have consent to farm salmon. This means that if NZKS, or any other party, wishes to farm salmon in the Marlborough Sounds they must apply for a resource consent. If a consent holder wants to change to a new species and/or change the structure outside the previous consent, they must apply for a new consent. However, if a site is sold, the coastal permit can be transferred to the new owner without a new consent process.

**3. Marine and Birdlife Key**

There is no regionally based system to identify all threatened marine and birdlife in the Marlborough Sounds. There are in effect two systems, one reflecting the situation at the national level and the other at the global level. The Department of Conservation operates a 'New Zealand Threat Classification System', which classifies taxa into *extinct*, *threatened* (nationally critically, nationally endangered, and nationally vulnerable), *at risk* (declining, recovering, relict and naturally uncommon) and *non-threatened* native biota. In contrast, an 'IUCN Red List of Threatened Species' uses a continuum: *extinct*, *extinct in the wild*, *critically endangered*, *endangered*, *vulnerable*, *near threatened*, *least concern* and *data deficient*. The two systems have different numerical thresholds and criteria and may classify the same species differently because of differences in scale; hence they should be seen as complementing each other rather than conflicting. For example, the king shag is reported as *nationally endangered* in New Zealand but *vulnerable* on the IUCN Red List. In contrast, the Hector's dolphin is considered *nationally endangered* in New Zealand and *endangered* on the IUCN Red List. Other species found in the Sounds that are known to be classified include the orca (NZ: *nationally critical*; IUCN: *data deficient*), southern right whale (NZ: *nationally endangered*; IUCN: *least concern*) and bottlenose dolphin (NZ: *nationally endangered*; IUCN: *least concern*). DOC notes that any human-induced mortality of *nationally critical* or *endangered* species must be considered with a high degree of concern.

Hector's Dolphin

Hector's dolphins are endemic to New Zealand; they are one of the smallest cetaceans, and New Zealand's only endemic cetacean. There is a pod of Hector's dolphins, about 20–30 in number, that reside in Cloudy Bay (off the coast near Blenheim). During the summer months this pod travels through the Tory Channel and is often sighted by staff at Dolphin Watch Ecotours in the bays around Arapawa Island. Their natural predators are sharks, but DOC notes on its website that other 'potential threats to their survival include trawling, marine pollution, disease and impacts of tourism and aquaculture'. All dolphins are protected under the Memorandum of Understanding for the Conservation of Cetaceans and Their Habitats in the Pacific Islands Region.

King Shag Roosting Site

The New Zealand king shag is endemic to the Marlborough Sounds. There is considerable uncertainty as to their actual ecology due to the remote nature of their breeding locations and the high sensitivity of birds to disturbance. The species is strictly marine, with all foraging occurring in the Sounds area. There is at least one known king shag roosting site north of this map, and therefore not shown.

For more information about individual farms, see Tables 6 and 7.

## Table 6: Existing NZKS Coastal Permits as at May 2017

Source: *Working Paper 2017/02 – Letter to the Minister on New Zealand King Salmon* (May 2017)

| Expiry date[192] | Coastal permit (CP#)[193] | Farm site name | General location | Average water current speeds/ flows/ velocity (cm/s) (CI#)[194] | Consented area (occupancy) (ha)[195] | Maximum feed discharge approved (mt pa)[196] | Status as at May 2017 |
|---|---|---|---|---|---|---|---|
| 7 May 2021▪ | U021247 | Ruakaka | Inner Queen Charlotte | 3.7 CI#2960 | 11.300 | 4000 | In operation CI# p. 3[197] |
| 31 Dec 2024▪ | U040412 | Forsyth | Outer Pelorus | 3 CI#2958 | 6.000 | 4000 | Fallowed in 2001* CP# p. 6[198] |
| 31 Dec 2024▪ | U000956 (MFL456) | Waihinau | Outer Pelorus | 8.4 CI#2957 | 8.000 | 3000 | Fallowed (approximately November 2015)* CI# p. 3[199] |
| 31 December 2024▪ | U040217 | Otanerau | Outer Queen Charlotte | 6 CI#2961 | 10.800 | 4000 | In operation CI# p. 3[200] |
| 1 Dec 2036 | U160675 (Replaced U060926 in Nov 2016) | Clay Point | Tory Channel | 19.6 CI#2784 | 19.644 | 4500 | In operation CI# p. 3[201] |
| 31 Dec 2024▪ | U090634 (MFL032) | Crail Bay | Central Pelorus | 2.5-3 CI#2470 | 7.790 | 1440 | Not stocked since purchased by NZKS in 2011,[202] non-operational, p. 5[203] |
| 31 Dec 2024▪ | U090660 (MFL048) | Crail Bay | Central Pelorus | 2.5-3 CI#2471 | 4.500[6] | 1770 | Not stocked since purchased by NZKS in 2011,[204] non-operational, p. 5[205] |
| 1 Feb 2036 | U150081 | Te Pangu | Tory Channel | 15 CI#2809 | 21.092 | 6000 | In operation CI# p. 3[206] |
| 11 Dec 2049 | U140294 Application approved in 2013, p. 122 | Waitata | Outer Pelorus | not available | 24.000 | 6000 | Operational[207] |
| 11 Dec 2049 | U140295 Application approved in 2013, p. 122 | Kopāua (Richmond) | Outer Pelorus | not available | 10.000 | 4000 | Operational[208] |
| 11 Dec 2049 | U140296 Application approved in 2013, p. 122 | Ngamahau | Tory Channel | 22 CI#2808 | 12.000 | 4000 | Operational[209] |
| **Total** | | | | | **135.126** | **42710** | |
| **▪ Total A: Existing farm sites included in the MPI proposal** | | | | | **48.390** | **18210** | |

Note:

*NZKS has indicated that they plan to use Waihinau and Forsyth as seasonal smolt sites from April 2017.[210]

# Appendix 4: Analysis of financial data, 2009–2022

## List of Figures

### A: GHG emissions



### B: Feed discharge graphs



### C: Statement of comprehensive income graphs



### D: Statement of financial position graphs

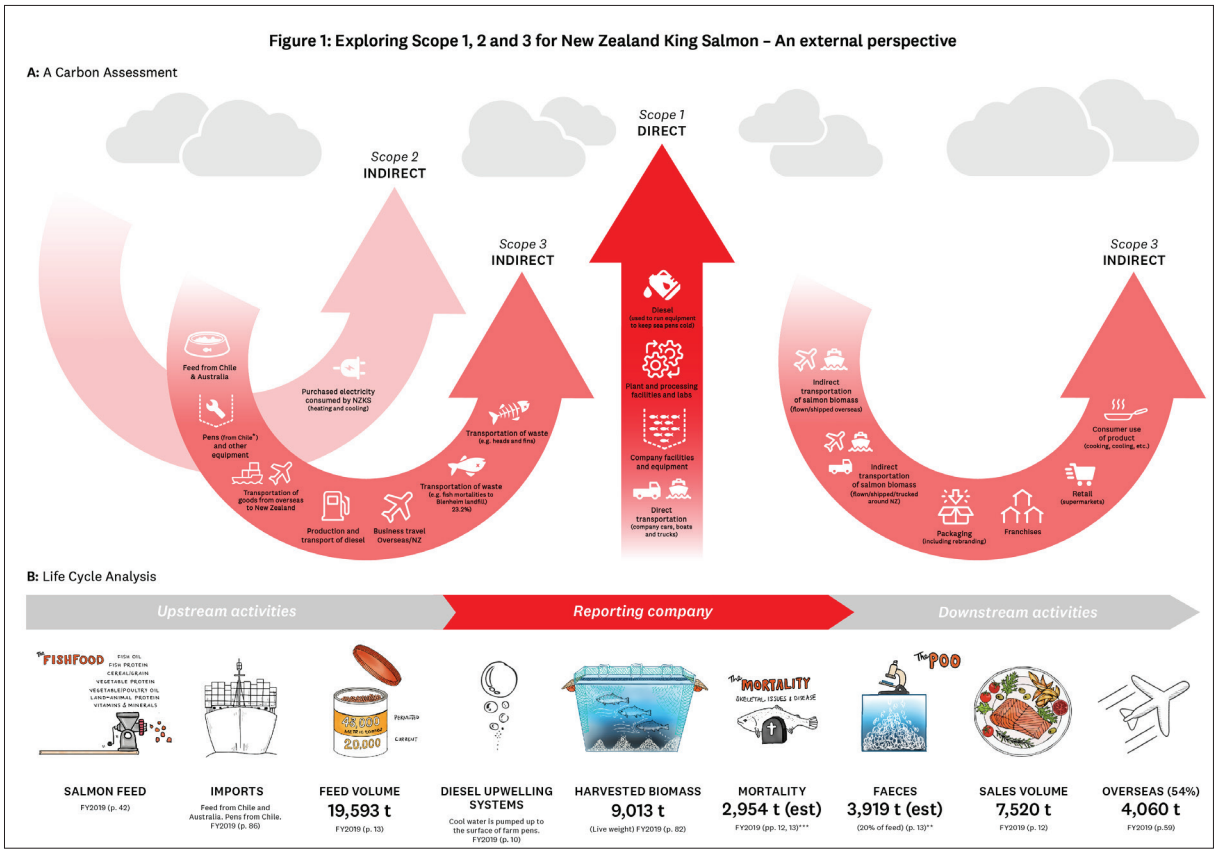


### E: Audit report fees and auditor

# A: GHG emissions

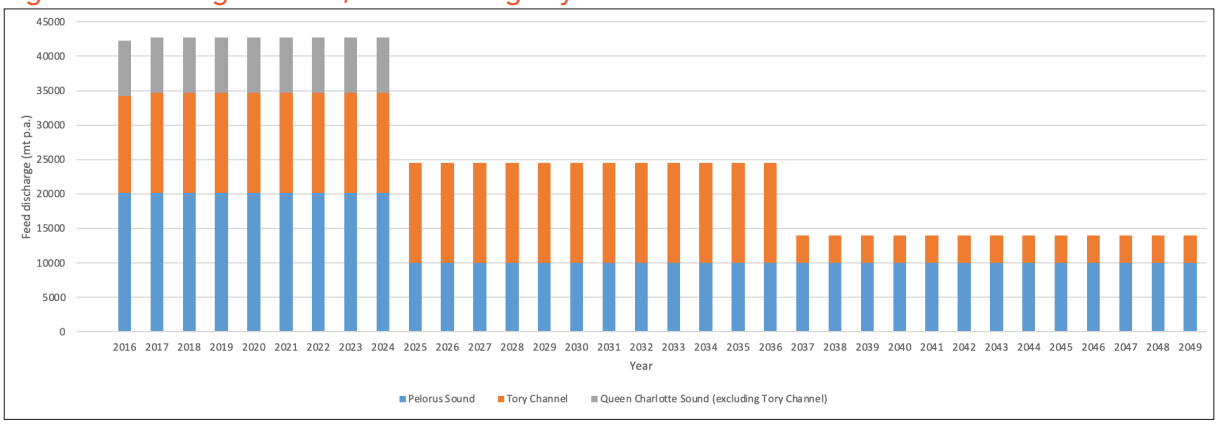
## Figure 28: Exploring scope 1, 2 and 3 for New Zealand King Salmon – An external perspective

Sources: NZKS 2019 Annual Report; *Stuff 8/1/2015 Winter: 'Chilean firm wins King Salmon contract', **NZKS BOI June 2012 Wybourne: 'Skretting expects that about 20% of the dry matter consumed is excreted as faeces, for NZ King Salmon current salmon diet range'. Faeces estimate based on 20% of feed volume (1953x0.2), ***Mortality estimate based on feed volume converted less harvest (19593/1.8 - 7931).



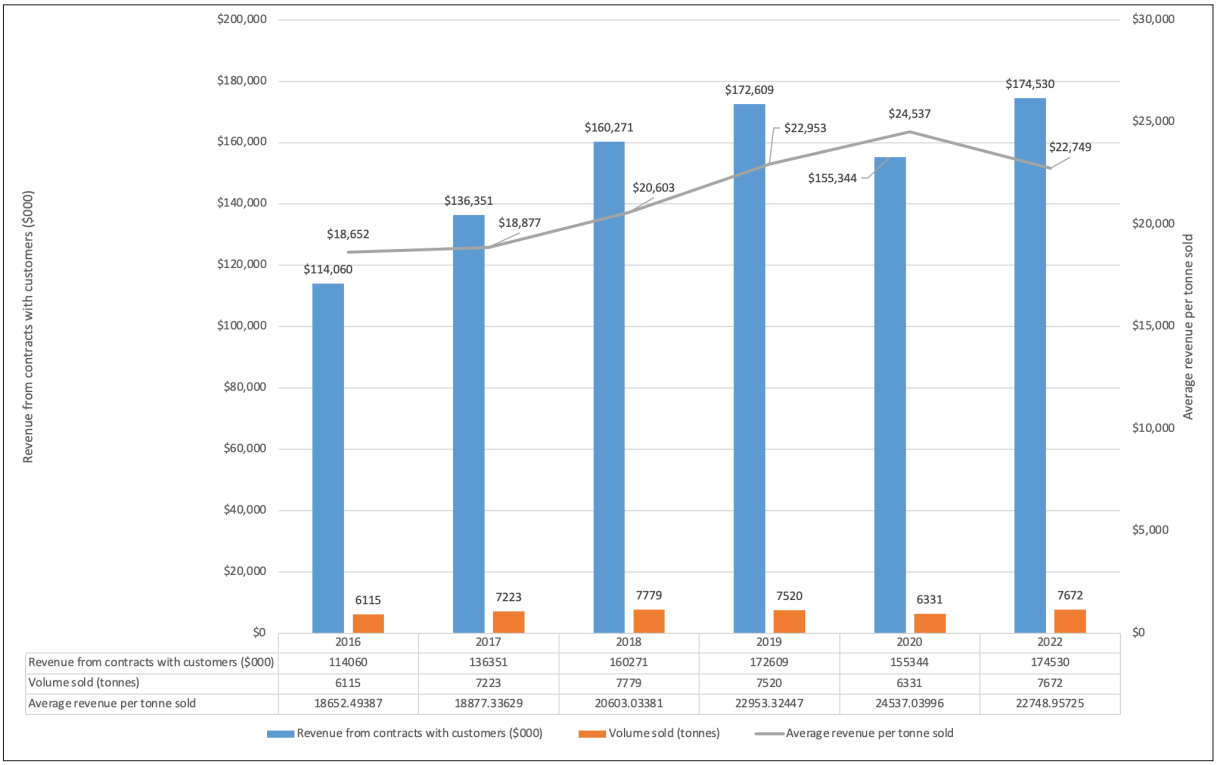

# B: Feed discharge graphs

## Figure 29: Existing consents, feed discharge by location[211]



# C: Statement of comprehensive income graphs

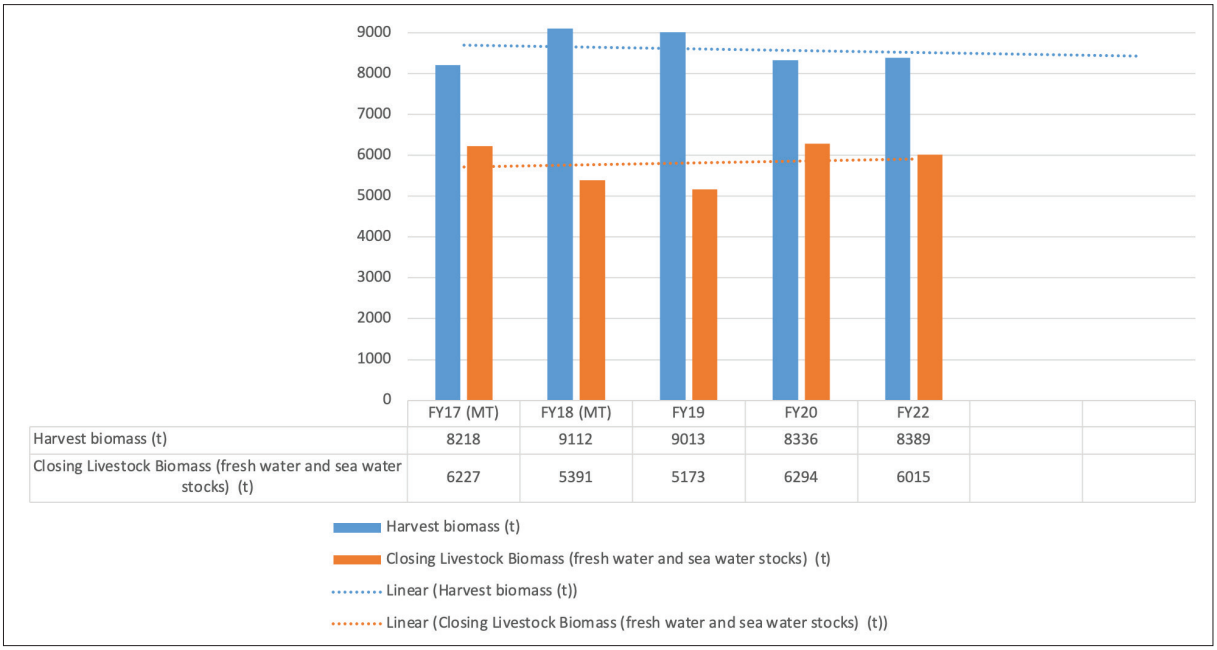
## Figure 30: Average revenue per tonne sold[212]




## Figure 31: Harvest volumes and closing livestock biomass (fresh water and seawater)[213]

Note 1: Restated to 12-months, 1 Feb to 31 Jan, *2022 Investor Report*, p. 10.

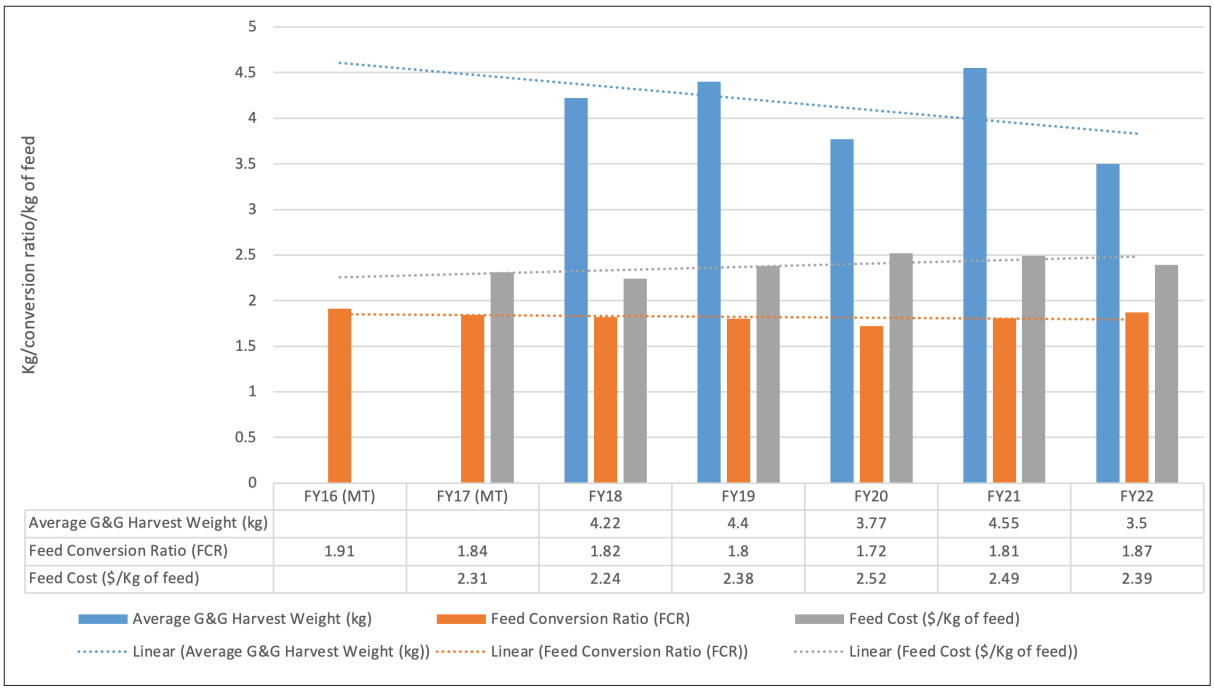
Note 2: There is a difference between the metrics contained in the FY2022 financial statements and the annual report (the management commentary). For example, the FY2022 harvest biomass volume is 8389 (t) (p. 54) while the management commentary is 7382 (t) (p.9). Given this difference, we have opted to use the metrics contained in the financial statements.



## Figure 32: Harvest weight and feed[214]

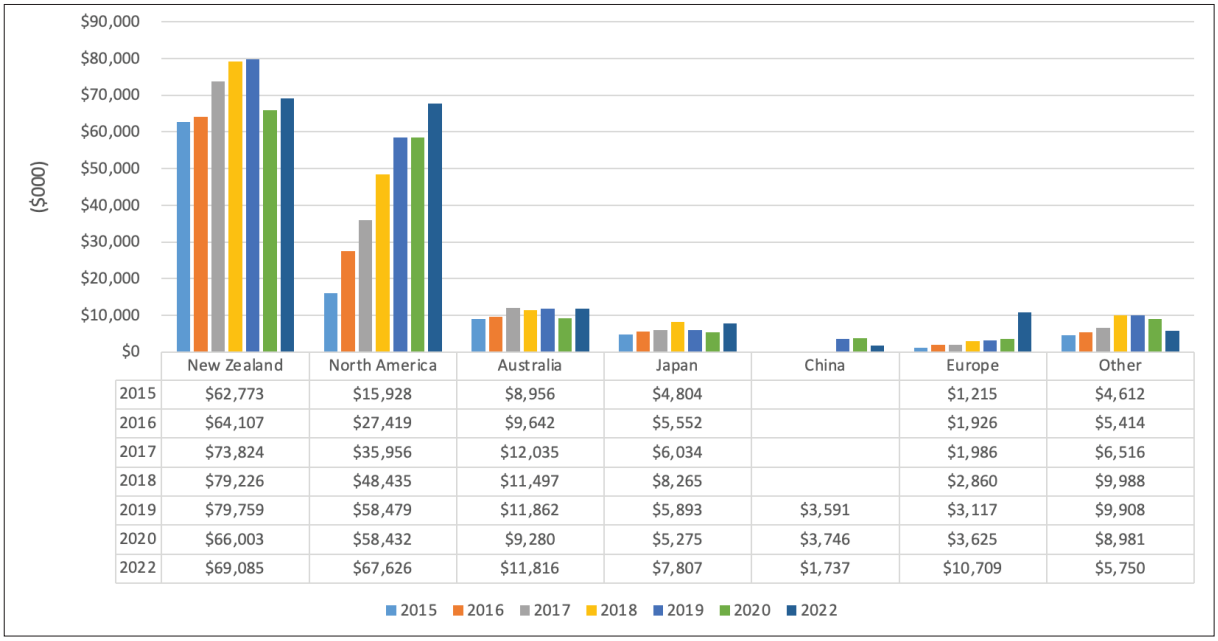
Note 1: Restated to 12-months, 1 Feb to 31 Jan, 2022 Investor Report, p. 10.

Note 2: The FY2020 annual report shows the FCR as 1.76, whereas the FY2022 annual report and 2022 *Investor Report* shows 1.72. We have used 1.72.



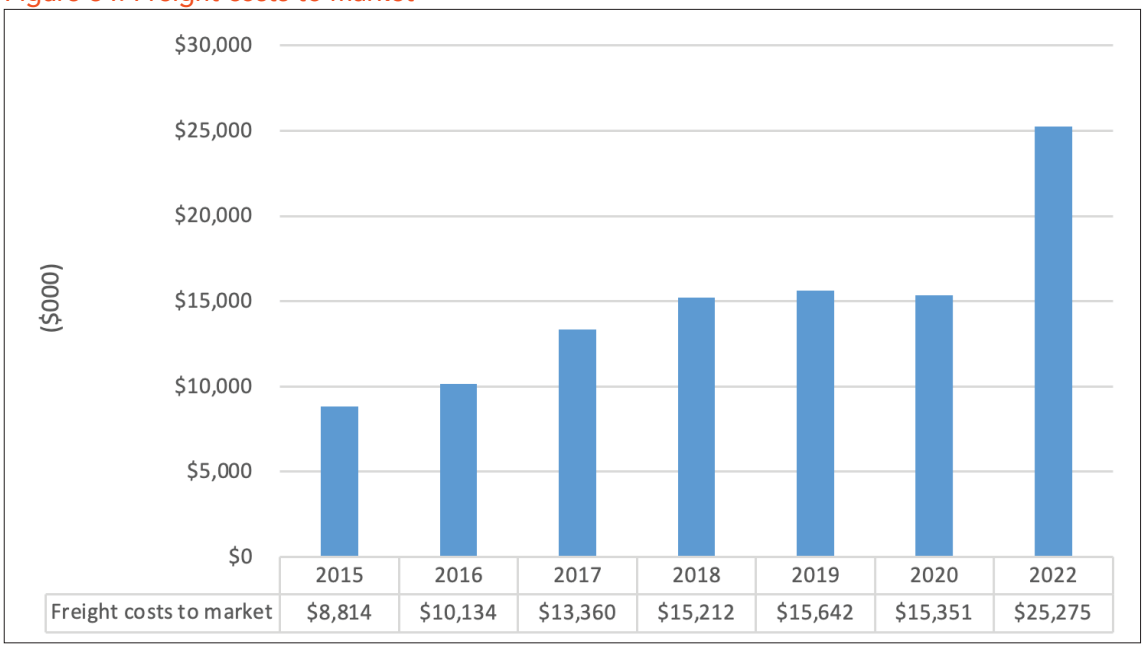

| | FY16 (MT) | FY17 (MT) | FY18 | FY19 | FY20 | FY21 | FY22 |
|---|---|---|---|---|---|---|---|
| Average G&G Harvest Weight (kg) | | | 4.22 | 4.4 | 3.77 | 4.55 | 3.5 |
| Feed Conversion Ratio (FCR) | 1.91 | 1.84 | 1.82 | 1.8 | 1.72 | 1.81 | 1.87 |
| Feed Cost ($/Kg of feed) | | 2.31 | 2.24 | 2.38 | 2.52 | 2.49 | 2.39 |

## Figure 33: Revenue by geographical location of customers[215]



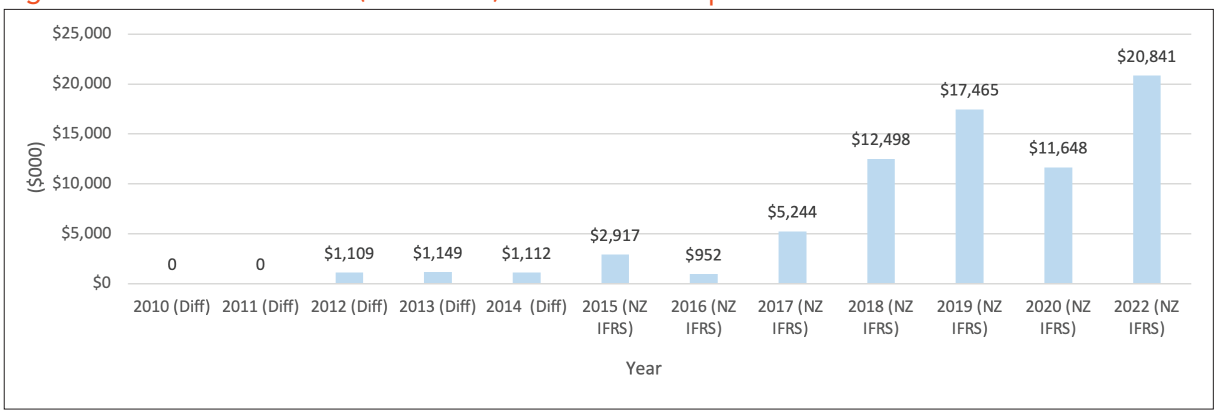

| | New Zealand | North America | Australia | Japan | China | Europe | Other |
|---|---|---|---|---|---|---|---|
| 2015 | $62,773 | $15,928 | $8,956 | $4,804 | | $1,215 | $4,612 |
| 2016 | $64,107 | $27,419 | $9,642 | $5,552 | | $1,926 | $5,414 |
| 2017 | $73,824 | $35,956 | $12,035 | $6,034 | | $1,986 | $6,516 |
| 2018 | $79,226 | $48,435 | $11,497 | $8,265 | | $2,860 | $9,988 |
| 2019 | $79,759 | $58,479 | $11,862 | $5,893 | $3,591 | $3,117 | $9,908 |
| 2020 | $66,003 | $58,432 | $9,280 | $5,275 | $3,746 | $3,625 | $8,981 |
| 2022 | $69,085 | $67,626 | $11,816 | $7,807 | $1,737 | $10,709 | $5,750 |

Figure 34: Freight costs to market[216]




| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2022 |
|---|---|---|---|---|---|---|---|
| Freight costs to market | $8,814 | $10,134 | $13,360 | $15,212 | $15,642 | $15,351 | $25,275 |

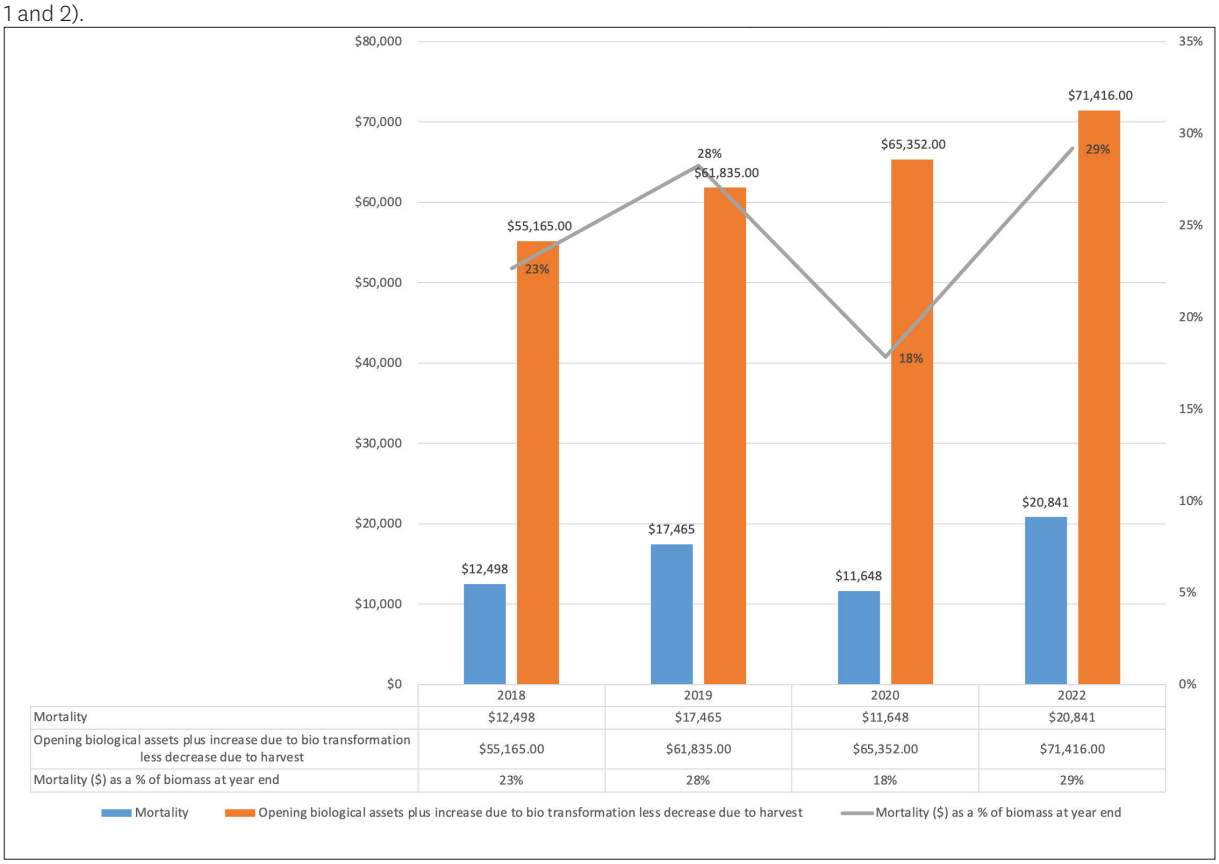
## Figure 35: Fish health events (mortalities) net of insurance proceeds[217]




## Figure 36: Mortality as a percentage of biomass at year end[218]

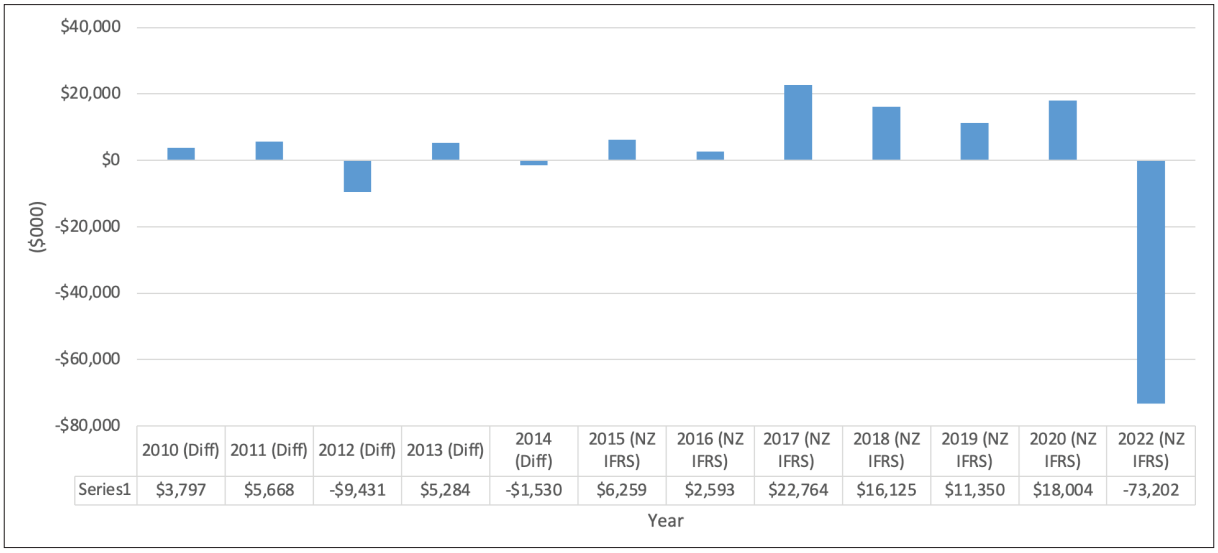
Note 1: Comparing 12-month financial years only.

Note 2: The percentage of mortalities is calculated by dividing mortalities into the total of (i) biological assets (opening balance), (ii) bio transformation over the 12-month period and (iii) harvest over the 12-month period. We were unable to recalculate NZKS 2022 mortality rates using the definition found in the 2022 annual report (see discussion in Questions 1 and 2).



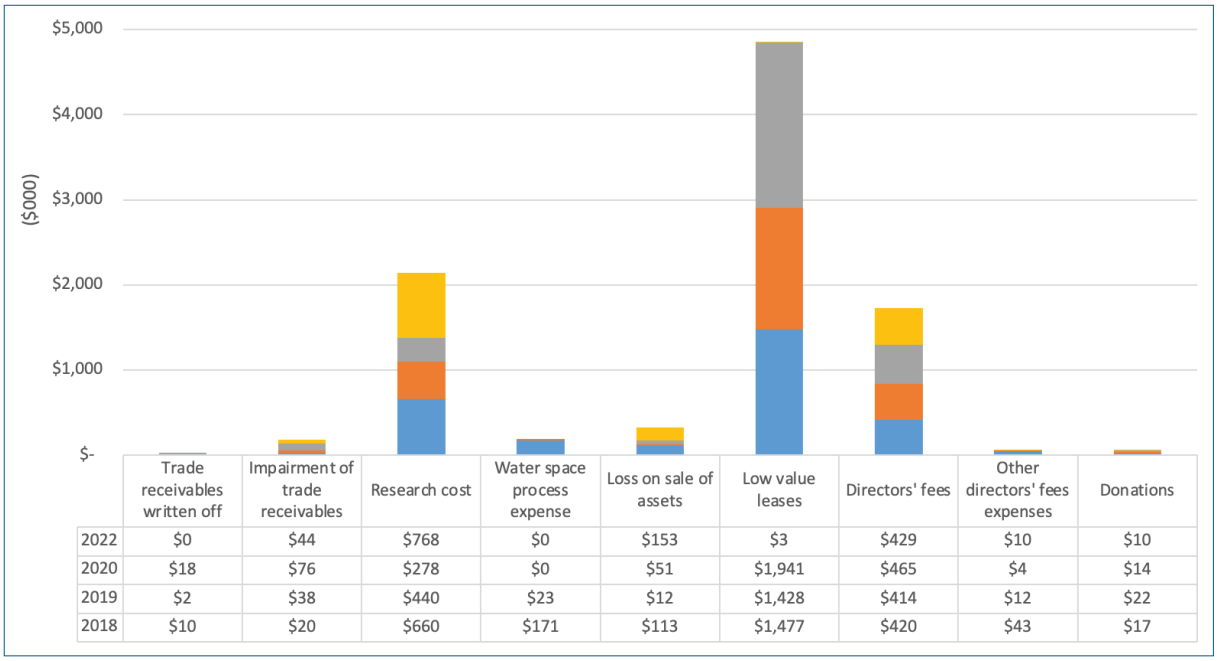

| | 2018 | 2019 | 2020 | 2022 |
|---|---|---|---|---|
| Mortality | $12,498 | $17,465 | $11,648 | $20,841 |
| Opening biological assets plus increase due to bio transformation less decrease due to harvest | $55,165.00 | $61,835.00 | $65,352.00 | $71,416.00 |
| Mortality ($) as a % of biomass at year end | 23% | 28% | 18% | 29% |

## Figure 37: Net profit/loss after tax (NPAT/NLAT)[219]



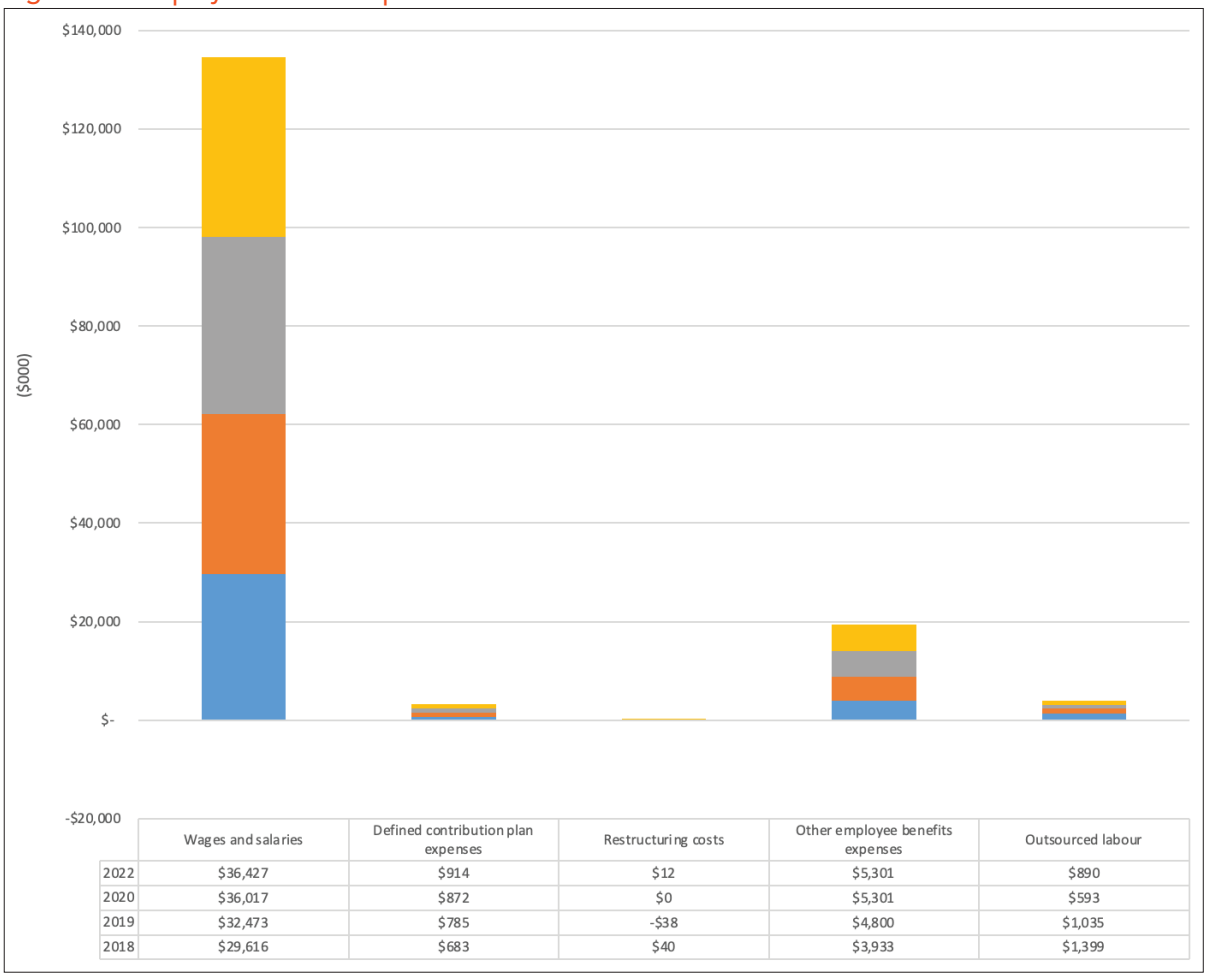

| | 2010 (Diff) | 2011 (Diff) | 2012 (Diff) | 2013 (Diff) | 2014 (Diff) | 2015 (NZ IFRS) | 2016 (NZ IFRS) | 2017 (NZ IFRS) | 2018 (NZ IFRS) | 2019 (NZ IFRS) | 2020 (NZ IFRS) | 2022 (NZ IFRS) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Series1 | $3,797 | $5,668 | -$9,431 | $5,284 | -$1,530 | $6,259 | $2,593 | $22,764 | $16,125 | $11,350 | $18,004 | -73,202 |

## Figure 38: Corporate and other expenses[220]




| | Trade receivables written off | Impairment of trade receivables | Research cost | Water space process expense | Loss on sale of assets | Low value leases | Directors' fees | Other directors' fees expenses | Donations |
|---|---|---|---|---|---|---|---|---|---|
| 2022 | $0 | $44 | $768 | $0 | $153 | $3 | $429 | $10 | $10 |
| 2020 | $18 | $76 | $278 | $0 | $51 | $1,941 | $465 | $4 | $14 |
| 2019 | $2 | $38 | $440 | $23 | $12 | $1,428 | $414 | $12 | $22 |
| 2018 | $10 | $20 | $660 | $171 | $113 | $1,477 | $420 | $43 | $17 |

## Figure 39: Employee benefit expenses[221]

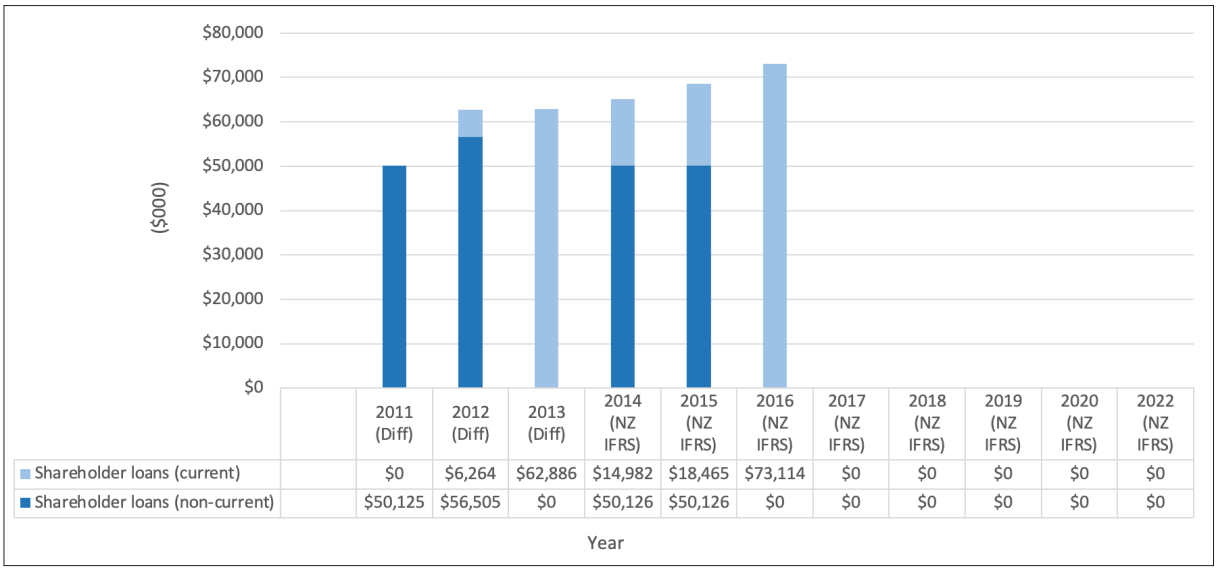



| | Wages and salaries | Defined contribution plan expenses | Restructuring costs | Other employee benefits expenses | Outsourced labour |
|---|---|---|---|---|---|
| 2022 | $36,427 | $914 | $12 | $5,301 | $890 |
| 2020 | $36,017 | $872 | $0 | $5,301 | $593 |
| 2019 | $32,473 | $785 | -$38 | $4,800 | $1,035 |
| 2018 | $29,616 | $683 | $40 | $3,933 | $1,399 |

# D: Statement of financial position graphs

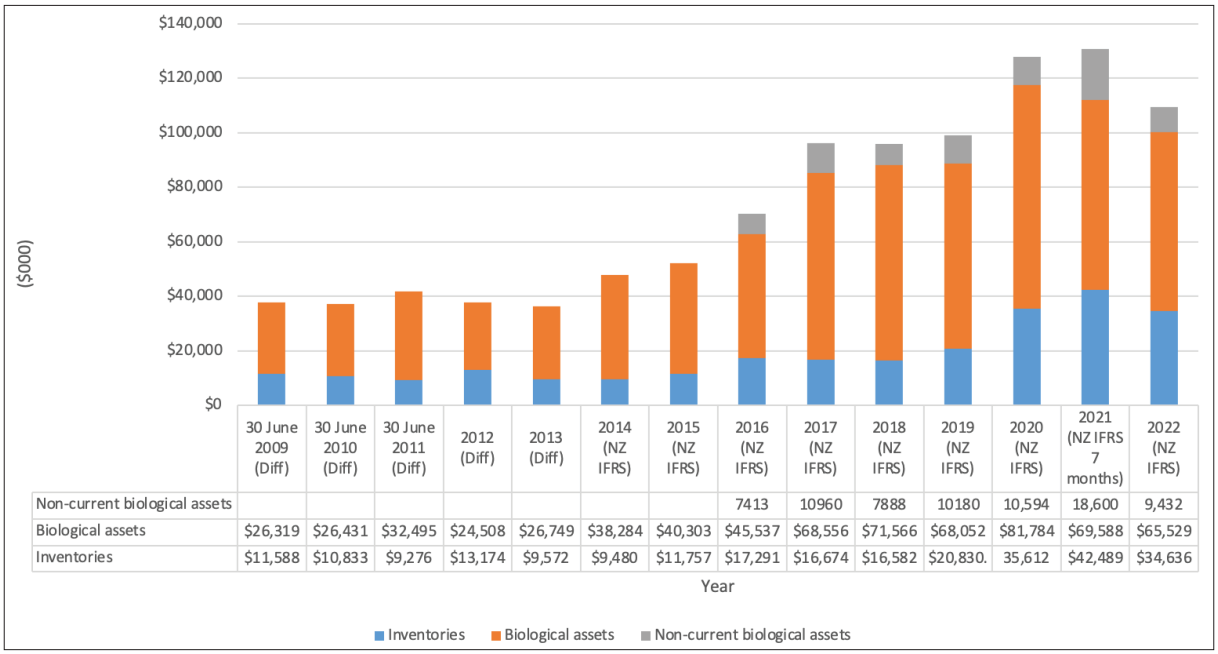
## Figure 40: Shareholder loans[222]

Note: See Note 28 Related Party Disclosures in the 2017 financial statements: 'On 19 September 2016, shareholder loans of $70,202k were converted to shares with one share issued for each $2.6058 of shareholder loan converted.'




| | 2011 (Diff) | 2012 (Diff) | 2013 (Diff) | 2014 (NZ IFRS) | 2015 (NZ IFRS) | 2016 (NZ IFRS) | 2017 (NZ IFRS) | 2018 (NZ IFRS) | 2019 (NZ IFRS) | 2020 (NZ IFRS) | 2022 (NZ IFRS) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Shareholder loans (current) | $0 | $6,264 | $62,886 | $14,982 | $18,465 | $73,114 | $0 | $0 | $0 | $0 | $0 |
| Shareholder loans (non-current) | $50,125 | $56,505 | $0 | $50,126 | $50,126 | $0 | $0 | $0 | $0 | $0 | $0 |

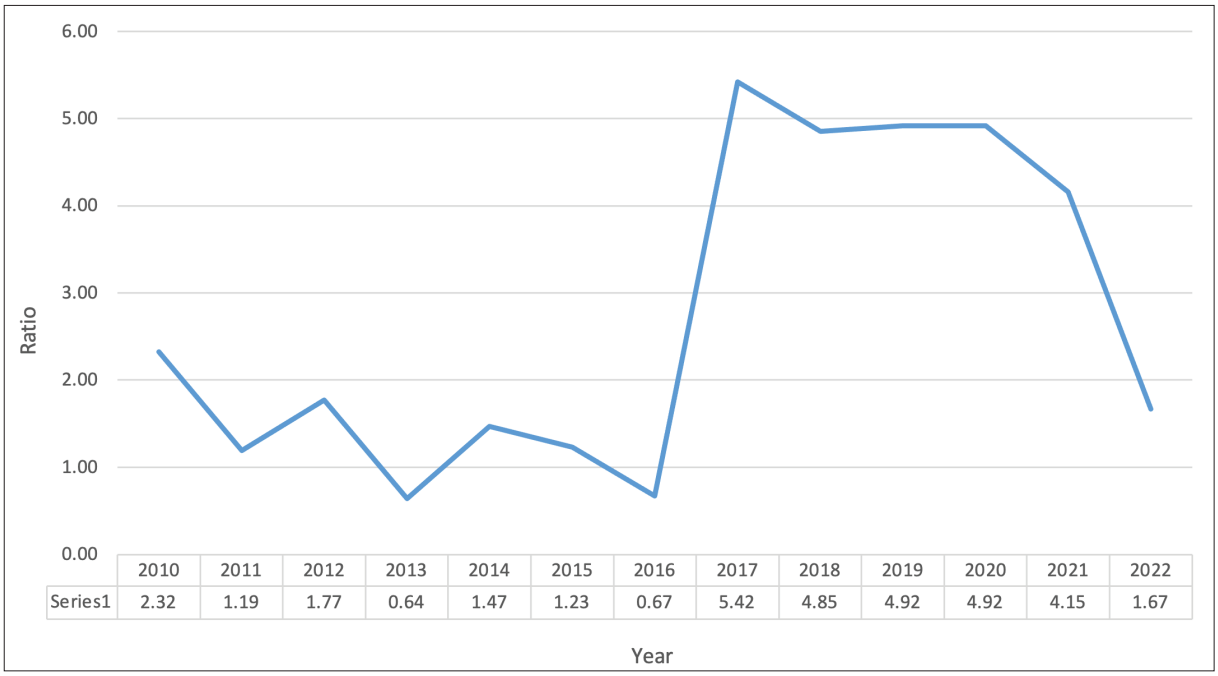
## Figure 41: Inventories, biological and non-current biological assets[223]




| | 30 June 2009 (Diff) | 30 June 2010 (Diff) | 30 June 2011 (Diff) | 2012 (Diff) | 2013 (Diff) | 2014 (NZ IFRS) | 2015 (NZ IFRS) | 2016 (NZ IFRS) | 2017 (NZ IFRS) | 2018 (NZ IFRS) | 2019 (NZ IFRS) | 2020 (NZ IFRS) | 2021 (NZ IFRS 7 months) | 2022 (NZ IFRS) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Non-current biological assets | | | | | | | | 7413 | 10960 | 7888 | 10180 | 10,594 | 18,600 | 9,432 |
| Biological assets | $26,319 | $26,431 | $32,495 | $24,508 | $26,749 | $38,284 | $40,303 | $45,537 | $68,556 | $71,566 | $68,052 | $81,784 | $69,588 | $65,529 |
| Inventories | $11,588 | $10,833 | $9,276 | $13,174 | $9,572 | $9,480 | $11,757 | $17,291 | $16,674 | $16,582 | $20,830. | 35,612 | $42,489 | $34,636 |

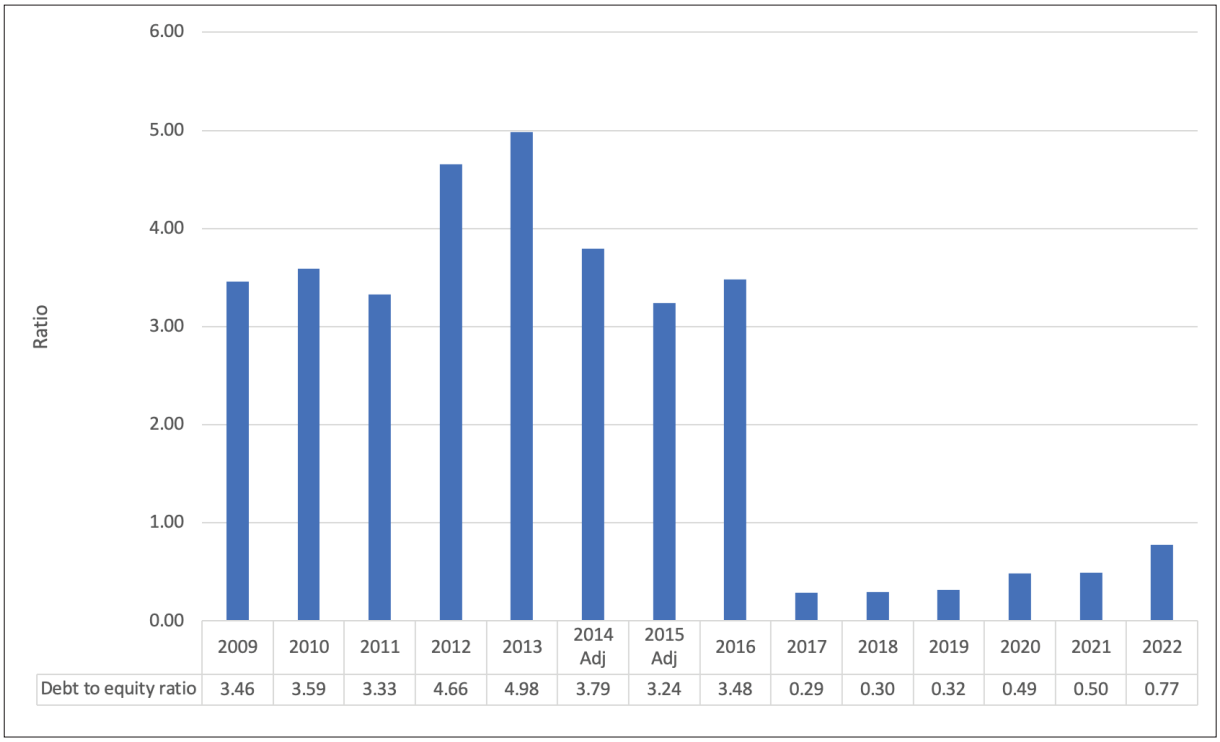
## Figure 42: Current ratio (current assets divided by current liabilities)[224]

Note: This indicates the ratio is decreasing, largely due to the shareholders loans (e.g. 2009 was better at 2.64).




| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Series1 | 2.32 | 1.19 | 1.77 | 0.64 | 1.47 | 1.23 | 0.67 | 5.42 | 4.85 | 4.92 | 4.92 | 4.15 | 1.67 |

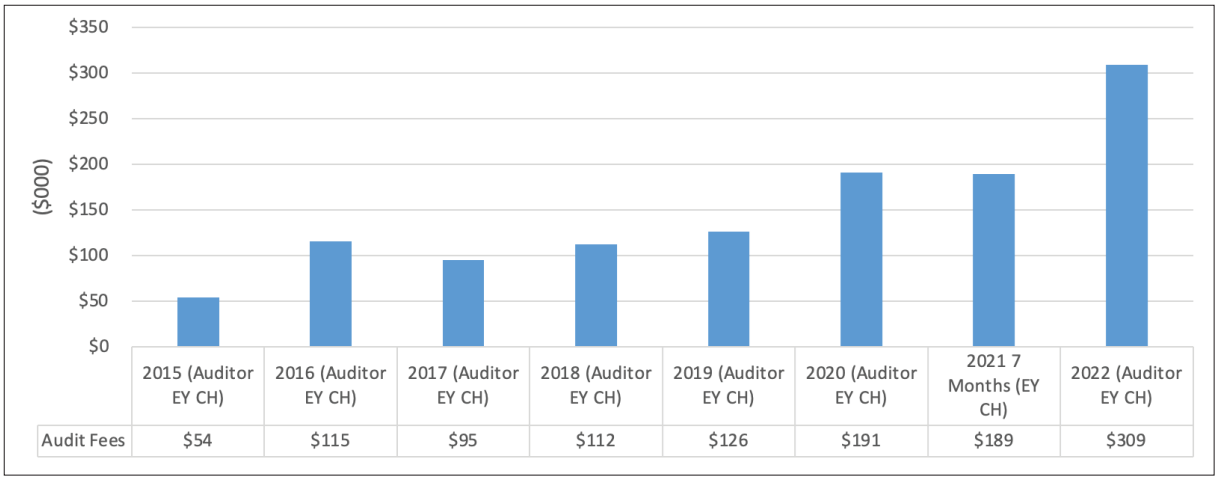
## Figure 43: Debt to equity ratio[225]




| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 Adj | 2015 Adj | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Debt to equity ratio | 3.46 | 3.59 | 3.33 | 4.66 | 4.98 | 3.79 | 3.24 | 3.48 | 0.29 | 0.30 | 0.32 | 0.49 | 0.50 | 0.77 |

# E: Audit report fees and auditor

Figure 44: Auditor fees and name of auditor[226]




| | 2015 (Auditor EY CH) | 2016 (Auditor EY CH) | 2017 (Auditor EY CH) | 2018 (Auditor EY CH) | 2019 (Auditor EY CH) | 2020 (Auditor EY CH) | 2021 7 Months (EY CH) | 2022 (Auditor EY CH) |
|---|---|---|---|---|---|---|---|---|
| Audit Fees | $54 | $115 | $95 | $112 | $126 | $191 | $189 | $309 |

# Appendix 5: Marine heatwaves

Marine heatwaves occur when water temperatures remain in the warmest 10% of historical observations for at least five days and can have significant impacts on marine ecosystems and industries.[227]

In November 2021, coastal sea temperatures were 1.1°C to 1.4°C above average, with daily sea surface temperatures more than 3°C above average around the western and northern North Island and eastern South Island.[228]

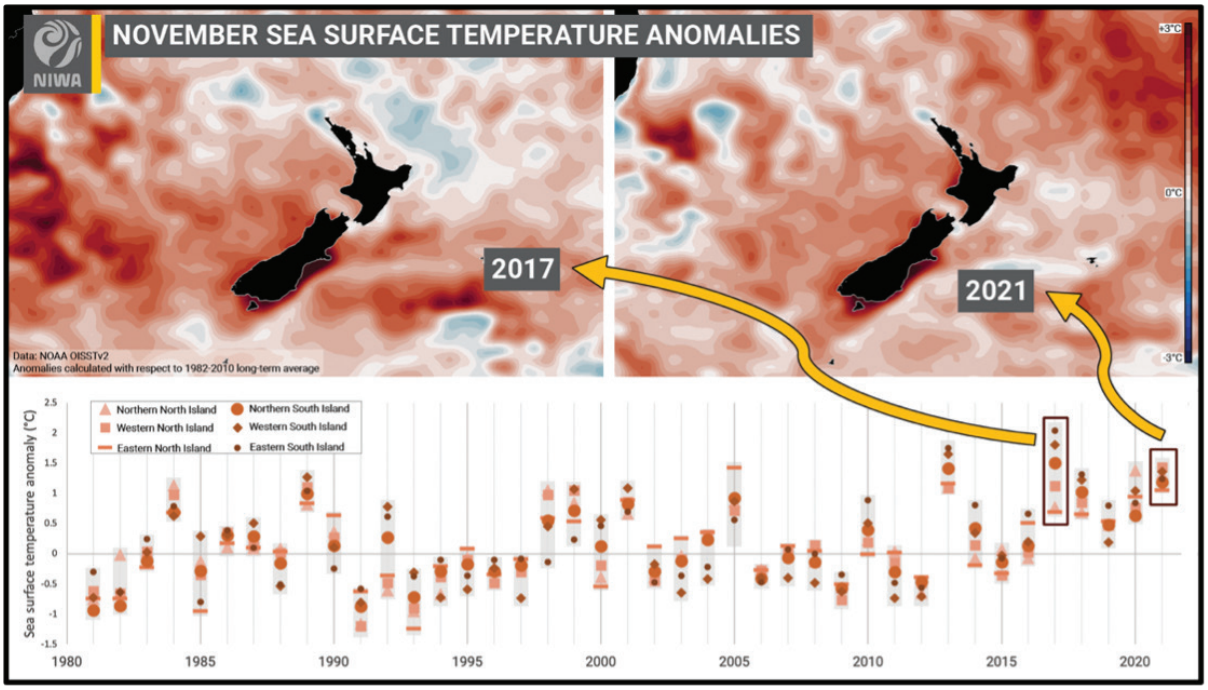
Marine heatwaves are not uncommon and are, unsurprisingly, occurring more frequently in a warming climate. Between 2000 and 2009, 336 days were recorded as 'marine heatwave days', which had increased to 963 days over the 2010–2019 period.[229] Furthermore, recent research estimates that, by 2100, the 'number of marine heatwave days we currently see in a normal year will increase to between 80 days (low emissions, best-case scenario) and 170 days (high emissions, worst-case scenario)'.[230]

Figure 45 (below) illustrates anomalies in sea surface temperatures all around Aotearoa New Zealand over a 40-year period. This further reinforces that marine heatwaves have regularly occurred in the past, and will continue to occur (at increasing frequency and severity).

The Institute would like to acknowledge that NIWA regularly produces seasonal climate outlooks to inform interested/impacted parties of climate projections. NIWA states that these outlooks are, in part produced to 'help your business succeed'.[231] The Institute believes that it is highly likely that NZKS has been aware of these (if not, similar) projections and should not incorrectly label the recent heatwaves as an 'unexpected event'.

## Figure 45: November 2021 sea surface temperature anomalies

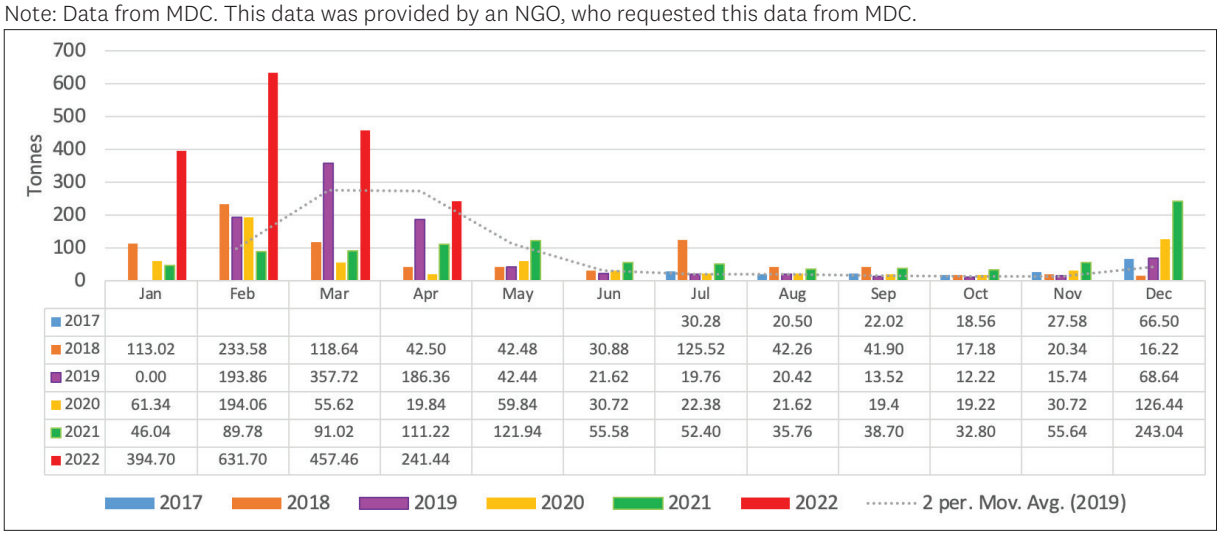
Source: NIWA (2021)[232]



# Appendix 6: Salmon dumped in Blenheim

## Figure 46: Salmon dumped at landfill in Blenheim, July 2017–2022

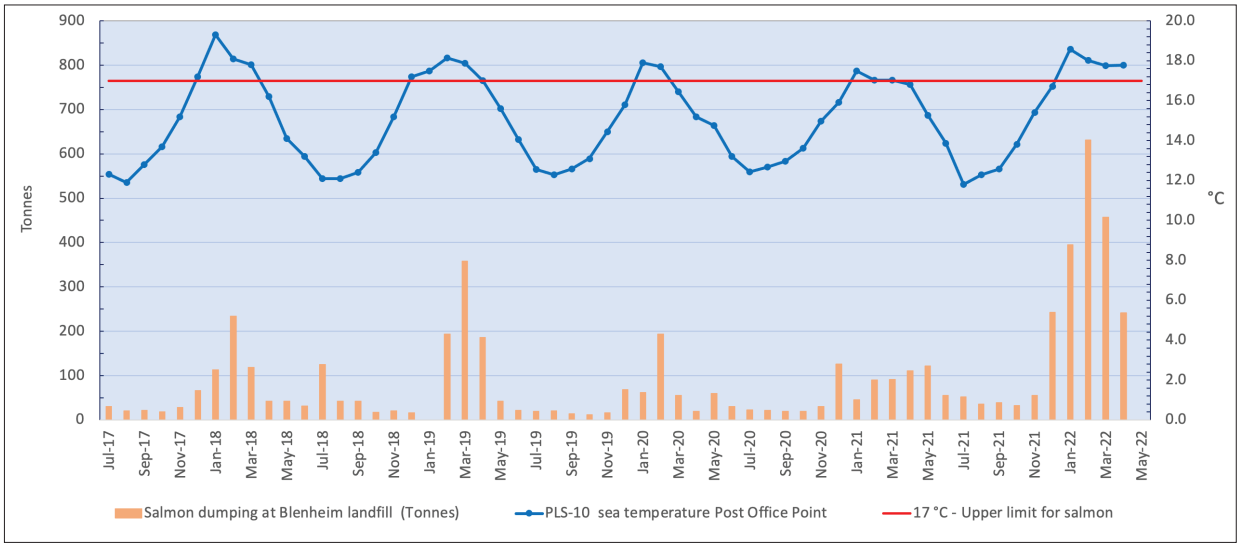
Note: Data from MDC. This data was provided by an NGO, who requested this data from MDC.




| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2017 | | | | | | | 30.28 | 20.50 | 22.02 | 18.56 | 27.58 | 66.50 |
| 2018 | 113.02 | 233.58 | 118.64 | 42.50 | 42.48 | 30.88 | 125.52 | 42.26 | 41.90 | 17.18 | 20.34 | 16.22 |
| 2019 | 0.00 | 193.86 | 357.72 | 186.36 | 42.44 | 21.62 | 19.76 | 20.42 | 13.52 | 12.22 | 15.74 | 68.64 |
| 2020 | 61.34 | 194.06 | 55.62 | 19.84 | 59.84 | 30.72 | 22.38 | 21.62 | 19.4 | 19.22 | 30.72 | 126.44 |
| 2021 | 46.04 | 89.78 | 91.02 | 111.22 | 121.94 | 55.58 | 52.40 | 35.76 | 38.70 | 32.80 | 55.64 | 243.04 |
| 2022 | 394.70 | 631.70 | 457.46 | 241.44 | | | | | | | | |

## Figure 47: Salmon dumping at landfill combined with sea surface temperature in Pelorus Sound entrance

Note: Data from MDC.



# Appendix 7: The 2016 application: The potential relocation of existing salmon farms

Figure 48: Potential relocation of salmon farms in the Marlborough Sounds – Ministry for Primary Industries, Pelorus Sound[233]

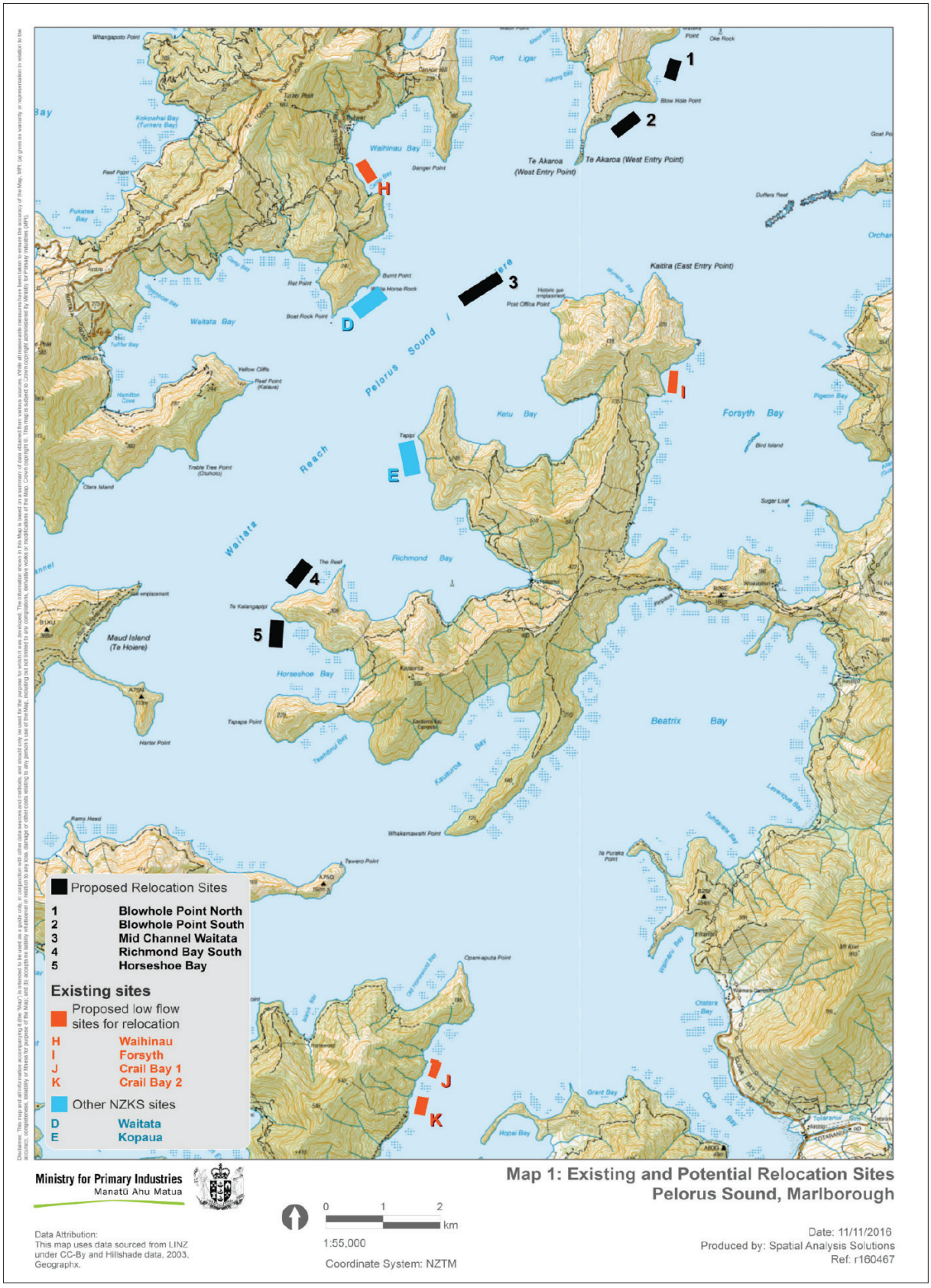


Figure 49: Potential relocation of salmon farms in the Marlborough Sounds – Ministry for Primary Industries, Queen Charlotte Sound and Tory Channel[234]

Table 7: 2016 MPI proposal, suggested relocation sites of existing farms[235]

Source: *Working Paper 2017/02 – Letter to the Minister on New Zealand King Salmon* (May 2017)

| Farm site name | General location | Average mid-water current (cm/s)* | Consented area (occupancy (ha) | Predicted feed level per year to comply with ES5* (tonnes) | Would it be consented for a barge? |
|---|---|---|---|---|---|
| Blowhole Point North | Outer Pelorus Sound (CMZ 1) | 13 | 10.020 | 4500 | Yes |
| Blowhole Point South | Outer Pelorus Sound (65% in CMZ 2, 35% in CMZ 1) | 14 | 9.990 | 5000 | Yes |
| Waitata Mid-channel | Outer Pelorus Sound (CMZ 1) | 24 | 15.950 | 7000 | A feed receptacle only |
| Richmond Bay South | Pelorus Sound (CMZ 1) | 18 | 13.730 | 5000 | Yes |
| Horseshoe Bay | Pelorus Sound (CMZ 2) | 11 | 10.740 | 1500 | Yes |
| Tio Point | Tory Channel (70% in CMZ 2, 30% in CMZ 1) | 23 | 4.180 | 1600 | Yes |
| **Total B: Proposed farm sites included in the MPI proposal** | | | **64.610** | **24,600** | |

**Note:**

* ES5 is referred to in the Benthic Guidelines. It sets the maximum permitted level of enrichment ('bottom lines') for a salmon farm. 'Exceeding ES5 means the seabed receives too much organic matter, and this may reduce the availability of oxygen in the seabed sediments.'[236]

- Cawthron reports refer to a combination of 'Average water current speeds / flows / velocity' in cm/s. MPI figures refer to an 'Average mid-water current' in cm/s. Therefore these figures may not be comparable as Cawthron have not specified where their average was taken whereas MPI refer to mid-water.

## Observation

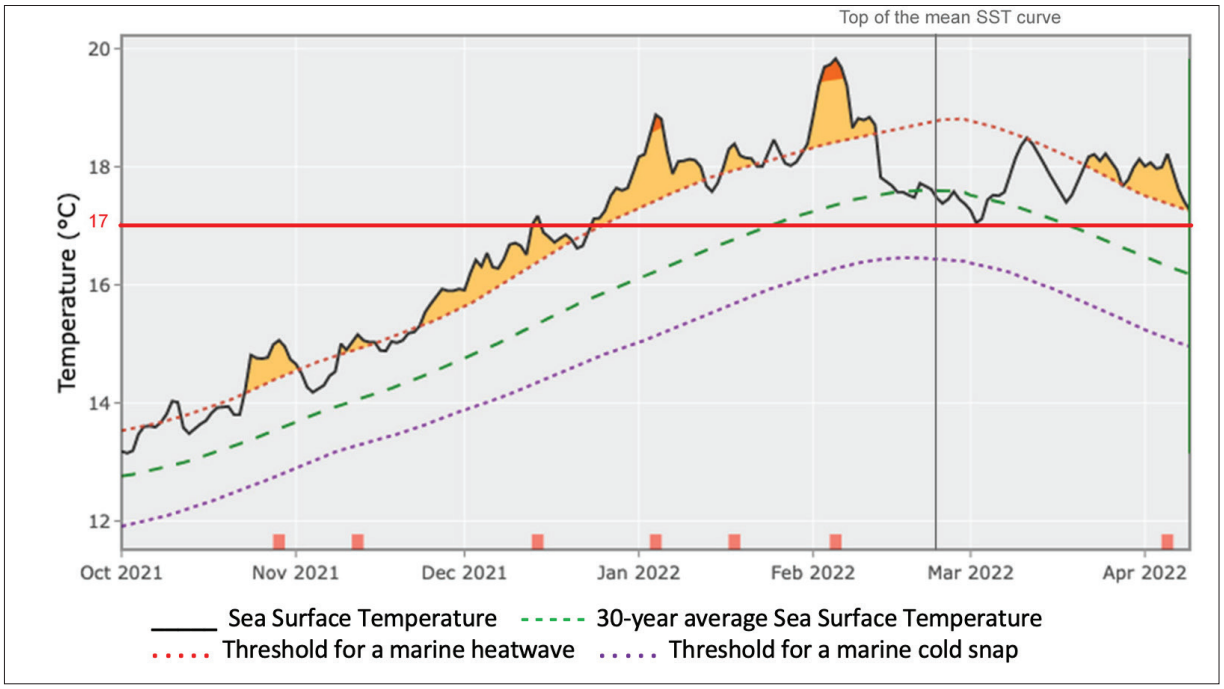
An overarching question with the MPI proposal is what a swap of water space means in practice. Tables 6 and 7 illustrate this issue in terms of what is potentially being swapped. In particular, does this mean a direct swap in terms of coastal permit expiry dates, consented areas, feed discharges and/or farms in operation? For example, comparing Tables 6 and 7, the MPI proposal is asking for a 34% increase in the total consented area and 35% increase in the total feed discharge.

The Institute would argue the MPI proposal to relocate low-flow sites was already taken into account as part of the BOI decision and therefore no farms should be swapped.[237]

# Appendix 8: The 2020 Blue Endeavour application

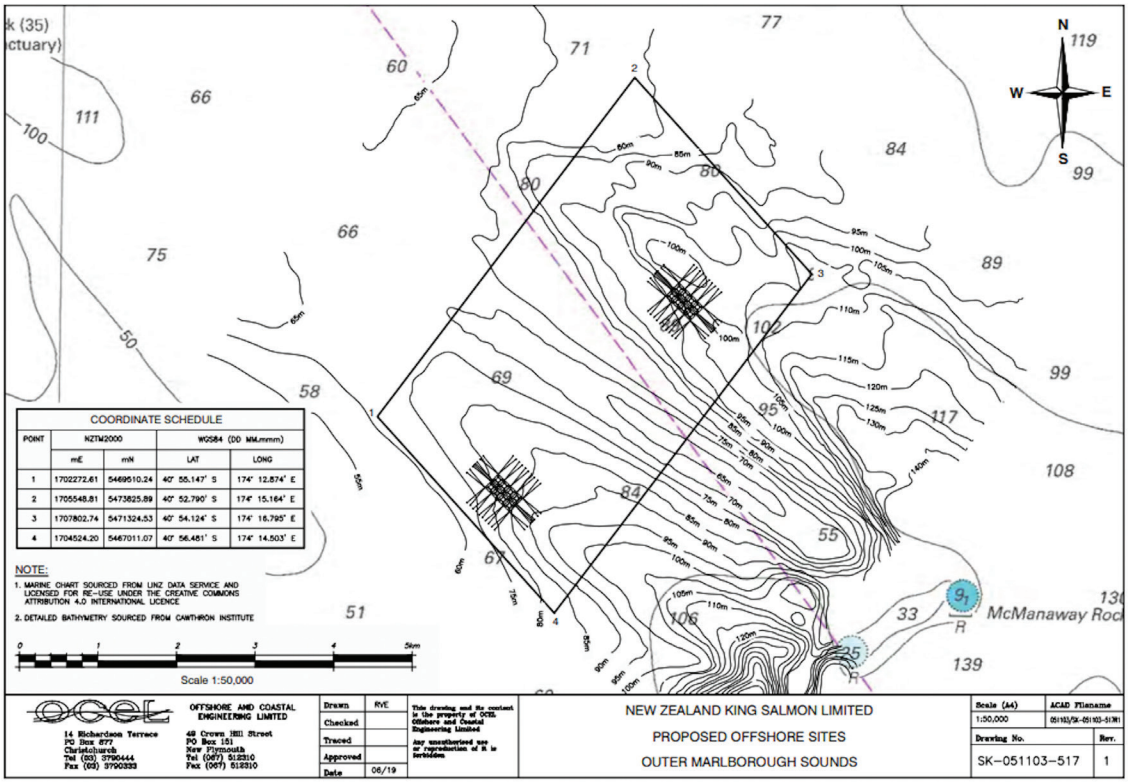
The 2020 *Blue Endeavour* application from NZKS to Marlborough District Council aims to establish and operate two new salmon farms within a 1,791 hectare site located between 5 kilometres and 12 kilometres due north of Cape Lambert.

Figure 50: Surface waters outside Pelorus Sound were in a moderate to strong marine heatwave throughout most of summer (December–February) 2021/22[238]




The Resource consent aims to be granted water space to farm King Salmon (*Onchorynchus tshawystcha*) within an area identified on the attached plan (below), including all activities ancillary to the farm's operations (including monitoring) for a term of 35 years.

Figure 51: The Blue Endeavour site map[239]



# Appendix 9: Compliance results in 2020

Compliance is judged against a farm's resource consent conditions and guidelines laid down by central and local government to encourage 'environmentally responsible' aquaculture.

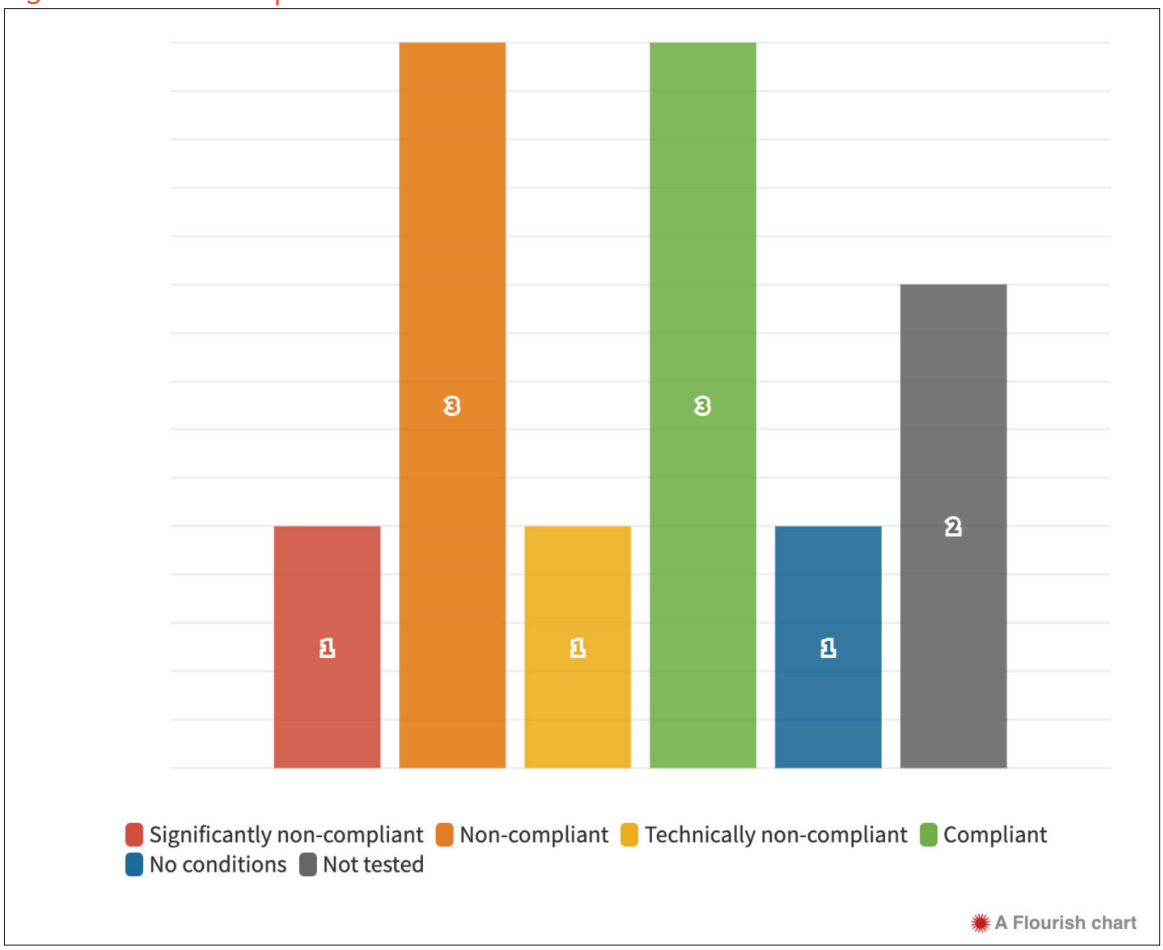
A 2020 Stuff article reported that the Marlborough District Council issued two fines and a warning after Cawthron Institute's inspection of New Zealand King Salmon's farms found five out of nine were non-compliant:

> One farm in Pelorus Sound's Forsyth Bay was even deemed 'significantly non-compliant' due to pollution under its pens, caused by fish waste and uneaten fish food falling to the bed.[240] (See Figure 43.)

A later Stuff article (2021) reported that the main area of non-compliance was pollution under pens:

> Council environmental protection officer Claire Frooms said in a report that excessive levels of fish pen pollution could hurt seabed life by starving it of oxygen. Results also showed five farms exceeded the recommended guidelines for zinc, plus another three for copper, but none of these triggered a breach in their resource consent conditions. Copper was the main ingredient in the paint used to stop organisms from growing on farm structures, while zinc was added to fish feed, so spread by fish waste and uneaten food. Neither of the elements broke down over time, Frooms said.' [241]

Figure 52: NZKS: Compliance results in 2020[242]

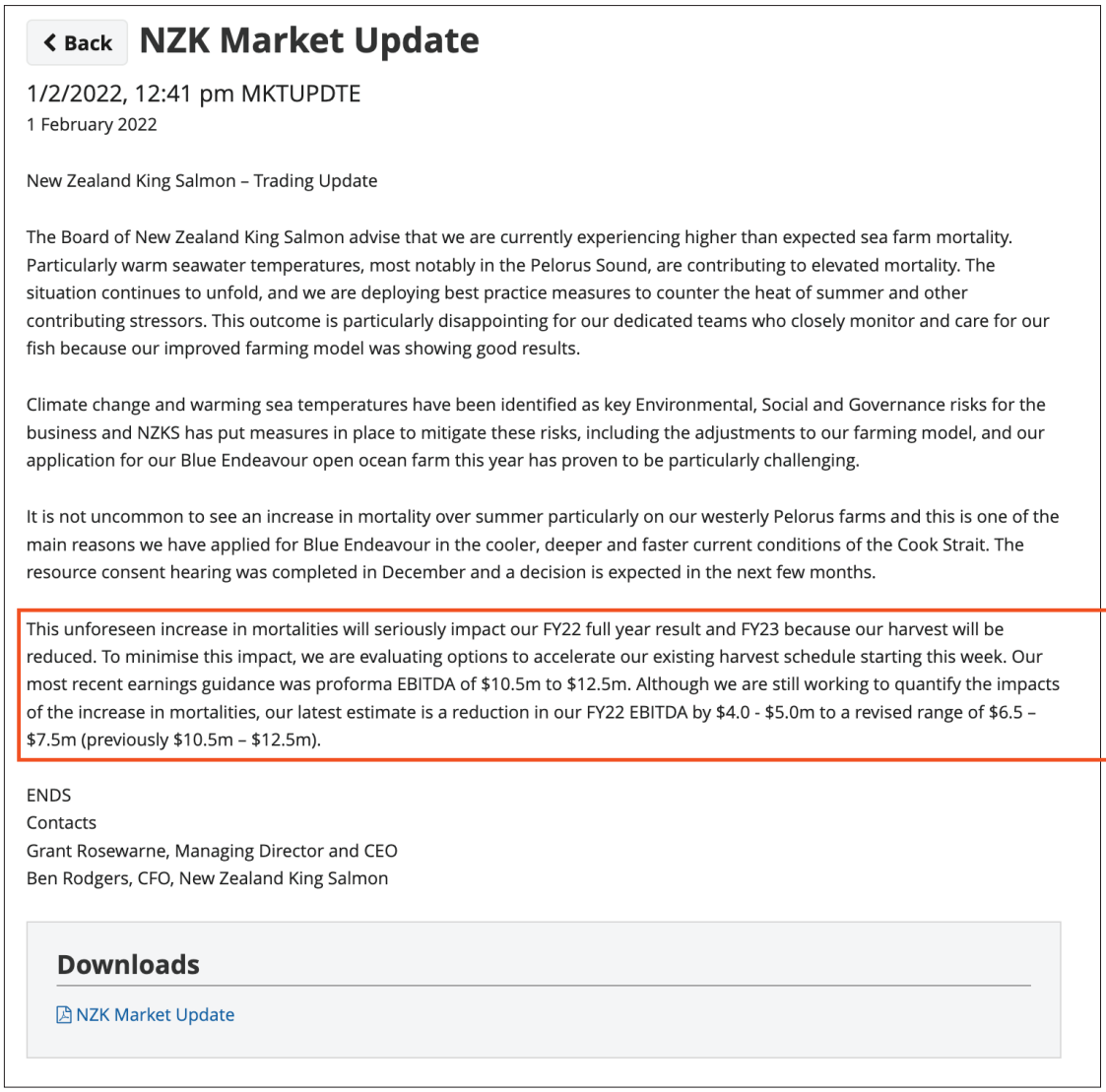


# Appendix 10: NZX: NZKS price history [NZK]

Figure 53: NZX: NZKS price history [NZK]


1. NZK Market Update (12:41 pm, 1 February 2022)[243]
2. New Zealand King Salmon – Results Announcement Date Waiver (8:30am, 31 March 2022)[244]
3. NZ King Salmon Investments Limited ('NZK') – Trading Halt (9:03am, 13 April 2022)[245]
   NZKS FY22 results and NZ$60.1 million equity raising (1:39pm, 13 April 2022)[246]
4. NZKS completes rights offer (8:30am, 10 May 2022)[247]

Figure 54: NZX: Market Update (12:41 pm, 1 February 2022) [NZK][248]



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# NZK Market Update

1/2/2022, 12:41 pm MKTUPDTE

1 February 2022

New Zealand King Salmon – Trading Update

The Board of New Zealand King Salmon advise that we are currently experiencing higher than expected sea farm mortality. Particularly warm seawater temperatures, most notably in the Pelorus Sound, are contributing to elevated mortality. The situation continues to unfold, and we are deploying best practice measures to counter the heat of summer and other contributing stressors. This outcome is particularly disappointing for our dedicated teams who closely monitor and care for our fish because our improved farming model was showing good results.

Climate change and warming sea temperatures have been identified as key Environmental, Social and Governance risks for the business and NZKS has put measures in place to mitigate these risks, including the adjustments to our farming model, and our application for our Blue Endeavour open ocean farm this year has proven to be particularly challenging.

It is not uncommon to see an increase in mortality over summer particularly on our westerly Pelorus farms and this is one of the main reasons we have applied for Blue Endeavour in the cooler, deeper and faster current conditions of the Cook Strait. The resource consent hearing was completed in December and a decision is expected in the next few months.

This unforeseen increase in mortalities will seriously impact our FY22 full year result and FY23 because our harvest will be reduced. To minimise this impact, we are evaluating options to accelerate our existing harvest schedule starting this week. Our most recent earnings guidance was proforma EBITDA of $10.5m to $12.5m. Although we are still working to quantify the impacts of the increase in mortalities, our latest estimate is a reduction in our FY22 EBITDA by $4.0 - $5.0m to a revised range of $6.5 – $7.5m (previously $10.5m – $12.5m).

ENDS
Contacts
Grant Rosewarne, Managing Director and CEO
Ben Rodgers, CFO, New Zealand King Salmon

## Downloads

NZK Market Update

Figure 55: NZX: Results Announcement Date Waiver (8:30am, 31 March 2022) [NZK][249]

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# New Zealand King Salmon – Results Announcement Date Waiver

31/3/2022, 8:30 am MKTUPDTE
31 March 2022

New Zealand King Salmon – Results Announcement Date Waiver

The Board of New Zealand King Salmon Investments Limited (NZKS) advises that NZKS has been granted a waiver from NZX Listing Rule 3.5.1, which ordinarily requires NZKS to release a Results Announcement through MAP no later than 60 days after the end of its financial year.

In reliance on this waiver, NZKS expects to release its results for the 12 months ending 31 January 2022 on or around 13 April 2022. The delay is due to the disruption caused by the Omicron variant of COVID-19, which has impacted either directly or indirectly (close contacts) members of the NZKS finance team and our audit provider.

NZKS expects to release its annual report on or before 2 May 2022 (and therefore has not sought, nor been granted, a waiver in relation to the release of its annual report).

In February the Board announced we were experiencing higher than expected sea farm mortality. As noted in our previous announcement, the mortality event will have an impact on our FY23 harvest volumes and our FY22 and FY23 financial results. NZKS is still working through the associated financial impacts of this and will provide a more detailed updated on sea farm mortality and the expected impact on FY23 earnings as part of our results announcement which is now expected to be on or around 13 April 2023. NZKS remains committed to minimising sea farm mortalities and is continually assessing the options available to do this.

Although we are still finalising our financial results, we continue to expect our FY22 Proforma EBITDA to be in the previously indicated range of $6.5m – $7.5m.

ENDS
Authorised by the Board of New Zealand King Salmon Investments Limited
Contacts
Grant Rosewarne, Managing Director and CEO
Ben Rodgers, CFO, New Zealand King Salmon Investments Limited

## Downloads

New Zealand King Salmon – Results Announcement Date Waiver

Endnotes

1 See Gaynor, B. (23 April 2022). NZ King Salmon – swimming against the tide. *BusinessDesk*. Retrieved 22 October 2022 from https://businessdesk.co.nz/article/opinion/nz-king-salmon-swimming-against-the-tide

2 Declaration of interest: The Chief Executive of the McGuinness Institute has a small shareholding and retains interest in a cottage located in Queen Charlotte Sound (there are no salmon farms nearby).

3 See New Zealand King Salmon. (n.d.). *New Zealand King Salmon Annual Report 2020: Stronger Together*. Retrieved 9 December 2022 from https://www.kingsalmon.co.nz/wp-content/uploads/2020/10/26853-NZKS-Annual-Report-2020.pdf

See McGuinness Institute. (2021). *Working Paper 2021/06 – Reviewing TCFD information in 2017–2020 Annual Reports of NZSX-listed companies*, p. 16. Retrieved 22 October 2022 from https://www.mcguinnessinstitute.org/wp-content/uploads/2021/12/20211214-1207pm-WP-2021-06-Interactive.pdf

4 The Animal Welfare Act 1999 defines animals broadly to include mammals, birds, reptiles, amphibians, fish, and other aquatic animals.

See Section 2 (1)(a) of the Animal Welfare Act 1999. Retrieved 22 October 2022 from https://www.legislation.govt.nz/act/public/1999/0142/latest/DLM49664.html?search=ts_act%40bill%40regulation%40deemedreg_Animal+Welfare+Act+1999+_resel_25_a&p=1

See Ministry for Primary Industries (MPI). (May 2013). *Animal welfare matters: New Zealand Animal Welfare Strategy*. Retrieved 22 October 2022 from https://www.mpi.govt.nz/dmsdocument/3963-Animal-Welfare-Matters-New-Zealand-Animal-Welfare-Strategy

5 See McGuinness Institute. (n.d.).*Table of McGuinness Institute Submissions on NZKS applications*. Retrieved 22 October 2022 from https://www.mcguinnessinstitute.org/nzks-submissions

6 The Accounting Standards Framework has two key objectives:

(i) To meet user needs — by developing accounting standards that lead to high quality financial reporting that meets the different user needs in the for-profit and public benefit entity (PBE) sectors; and

(ii) To balance the costs and benefits of reporting – by establishing appropriate accounting requirements based on the nature and size of the entity

See External Reporting Board (XRB). (14 January 2022). *Tier 1 and 2 For-Profit Standards*. Retrieved 22 October 2022 from https://www.xrb.govt.nz/standards/accounting-standards/for-profit-standards/tier-1-and-2

See External Reporting Board (XRB). (15 June 2022). *Accounting Standards Framework*. Retrieved 22 October 2022 from https://www.xrb.govt.nz/standards/accounting-standards/accounting-standards-framework

7 See External Reporting Board (XRB). (15 November 2022). *ISA (NZ) 200*. Retrieved 22 November 2022 from https://www.xrb.govt.nz/standards/assurance-standards/auditing-standards/isa-nz-200/

8 See Work and Income. (n.d.). *COVID-19 wage subsidies – Employer Search*. Retrieved 22 October 2022 from https://services.workandincome.govt.nz/eps/search

9 'In September 2020, the Government announced its intention to implement mandatory reporting on climate risks and tasked the XRB with developing reporting standards to support the new reporting regime. In October 2021, the Financial Sector (Climate-related Disclosures and Other Matters) Amendment Bill was passed and received Royal Assent.

As a result, the XRB now has a mandate to issue climate standards as part of a climate-related disclosures framework, and guidance on environmental, social and governance (ESG) matters. Once the XRB issues its first climate standard, climate-related disclosures are mandatory for large listed companies with a market capitalisation of more than $60 million; large licensed insurers, registered banks, credit unions, building societies and managers of investment schemes with more than $1 billion in assets; and some Crown financial institutions (via letters of expectation). The XRB aims to issue its first climate standard in December 2022, meaning these entities would be required to make disclosures alongside wider year end reporting in 2023 at the earliest.'

See External Reporting Board (XRB). (29 November 2022). *Climate-related Disclosures*. Retrieved 1 December 2022 from https://www.xrb.govt.nz/standards/climate-related-disclosures

10 'NZX is reviewing certain settings within the NZX Corporate Governance Code to assess their effectiveness. This review provides us with an opportunity to consider issuers' reporting practices given that the Code settings were last substantively amended in 2018. The review also enables us to respond to stakeholder feedback in relation to key aspects of the Code, and to consider international developments in the context of New Zealand market conditions, to ensure that the settings in the Code are correctly calibrated to promote good corporate governance for our listed issuers.'

See New Zealand Exchange (NZX). (n.d). *Past Consultations*. Retrieved 1 December 2022 from https://www.nzx.com/regulation/nzx-policy/past-consultations

11 'The New Zealand King Salmon Company Limited has applied to the Marlborough District Council for resource consent to establish and operate two new salmon farms within a 1,000 hectare site located 5 kilometres due north of Cape Lambert, in northern Marlborough. This web portal contains all of the application documents and public submissions received by the Council as of 21 September 2021. As of 24 September 2021 it also contains Council's evidence for the hearing. Please click on the "Documents" columns below to see the list of documents available for each stage of the resource consent process.'

See Marlborough District Council. (n.d). *U190438 - Proposed New Salmon Farms - Blue Endeavour*. Retrieved 22 October 2022 from https://eservices.marlborough.govt.nz/programmes/ListProgrammeEvents?id=3516198

12 'Aotearoa New Zealand is using a system of emissions budgets to meet our 2050 target. The Government intends to publish the first emissions reduction plan setting out policies and strategies for meeting emissions budgets by 31 May 2022.'

See Ministry for the Environment (MfE). (21 November 2022). *Emissions budgets and the emissions reduction plan*. Retrieved 1 December 2022 from https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/emissions-budgets-and-the-emissions-reduction-plan

13 See New Zealand King Salmon. (13 April 2022). *Financial Statements for the year ended 31 January 2022*, p. 6. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/390559/368748.pdf

14 See New Zealand King Salmon. (2 May 2022). *Annual Report 2022*, p. 60. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/391296/369617.pdf

15 See New Zealand King Salmon. (2 May 2022). *Annual Report 2022*, p. 67. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/391296/369617.pdf

16 See New Zealand King Salmon. (2 May 2022). *Annual Report 2022*, p. 48. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/391296/369617.pdf

17 See New Zealand King Salmon. (13 April 2022). *Offer Document: 2.85 for 1 Renounceable Rights Offer*, p. 5. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/390559/368742.pdf

18 See New Zealand King Salmon. (13 April 2022). *Offer Document: 2.85 for 1 Renounceable Rights Offer*, p. 10. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/390559/368742.pdf

19 See New Zealand King Salmon. (2 May 2022). *New Zealand King Salmon Annual Report 2022*. Retrieved 22 October 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/391296/369617.pdf

20 See New Zealand King Salmon. (13 April 2022). *Offer Document: 2.85 for 1 Renounceable Rights Offer*. Retrieved 9 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/390559/368742.pdf

21 See New Zealand King Salmon. (October 2021). *New Zealand King Salmon: Environmental Product Declaration*. Environmental Product Declaration Australasia Retrieved 22 October 2022 from https://epd-australasia.com/wp-content/uploads/2021/10/NZKS-EPD-SP02328_Oct21.pdf

22 See New Zealand King Salmon. (30 September 2019). *Annual Report 2019*, p. 8. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/341857/308819.pdf

23 See New Zealand King Salmon. (30 September 2019). *Annual Report 2019*, p. 13. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/341857/308819.pdf

24 See New Zealand King Salmon. (30 September 2019). *Annual Report 2019*, p. 37. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/341857/308819.pdf

25 See New Zealand King Salmon. (13 April 2022). *FY22 Results and Equity Raising Presentation*, p. 18. Retrieved 9 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/390559/368743.pdf

26 See McGuinness Institute. (May 2022). *Working Paper 2022/10 – New Zealand King Salmon key documents 2012–2022*. Retrieved 21 December 2022 from https://www.mcguinnessinstitute.org/publications/working-papers/

27 See Task Force on Climate-related Financial Disclosures (TCFD). (October 2020). *Guidance on Scenario Analysis for Non-Financial Companies*, p. 113. Retrieved 24 August 2021 from https://assets.bbhub.io/company/sites/60/2020/09/2020-TCFD_Guidance-Scenario-Analysis-Guidance.pdf

28 See New Zealand King Salmon. (2 May 2022). *Annual Report 2022*. Retrieved 22 October 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/391296/369617.pdf

29 See Fischer, J. and Appleby, J. (May 2017). *Intelligence Report: NZ-RLO& T. maritimum 2015 response*. Ministry for Primary Industries (MPI), p. 7. Retrieved 22 October 2022 from https://www.mpi.govt.nz/dmsdocument/18253-NZ-RLO-T.-maritimum-2015-Intelligence-Report

30 See New Zealand King Salmon. (October 2021). *Environmental Product Declaration*. Environmental Product Declaration Australasia. Retrieved 22 October 2022 from https://epd-australasia.com/wp-content/uploads/2021/10/NZKS-EPD-SP02328_Oct21.pdf

31 See New Zealand Exchange (NZX). (31 March 2022). *New Zealand King Salmon – Results Announcement Date Waiver*. Retrieved 22 October 2022 from https://www.nzx.com/announcements/389786

32 See New Zealand Exchange (NZX). (31 March 2022). *New Zealand King Salmon – Results Announcement Date Waiver*. Retrieved 22 October 2022 from https://www.nzx.com/announcements/389786

33 See New Zealand Exchange (NZX). (13 April 2022). *NZ King Salmon Investments Limited ("NZK") – Trading Halt*. Retrieved 22 October 2022 from https://www.nzx.com/announcements/390520

34 See New Zealand Exchange (NZX). (13 April 2022). *NZKS FY22 results and NZ$60.1 million equity raising*. Retrieved 22 October 2022 from https://www.nzx.com/announcements/390559

35 See External Reporting Board (XRB). (15 June 2022). *Accounting Standards Framework*. Retrieved 22 October 2022 from https://www.xrb.govt.nz/standards/accounting-standards/accounting-standards-framework

36 See New Zealand King Salmon. (2 May 2022). *Annual Report 2022*, p. 103. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/391296/369617.pdf

37 Note: This could also be different because of a production timing issue given the balance date is different. Please also see the auditor's report on the matter, in Figure 10.

38 See New Zealand King Salmon. (2 May 2022). *Annual Report 2022*, p. 60. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/391296/369617.pdf

39 See New Zealand King Salmon. (30 April 2021). *Annual Report 2021*, p. 38. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/371421/345096.pdf.

40 See New Zealand King Salmon.(2 May 2022). *Annual Report 2022*, p. 25. Retrieved 22 October 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/391296/369617.pdf

41 See New Zealand King Salmon. (2 May 2022). *Annual Report 2022*, p. 36. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/391296/369617.pdf

42 See New Zealand King Salmon. (2 May 2022). *Annual Report 2022*, pp. 54–55. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/391296/369617.pdf.

43 See New Zealand King Salmon. (2 May 2022). *Annual Report 2022*, p. 55. Retrieved 22 October 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/391296/369617.pdf

44 See New Zealand King Salmon. (13 April 2022). *Financial Statements for the year ended 31 January 2022*, pp. 31–32. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/390559/368748.pdf.

45 See New Zealand King Salmon. (13 April 2022). *Offer Document: 2.85 for 1 Renounceable Rights Offer*, p. 5. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/390559/368742.pdf.

46 See New Zealand King Salmon. (13 April 2022). *Offer Document: 2.85 for 1 Renounceable Rights Offer*, p. 10. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/390559/368742.pdf

47 See External Reporting Board (XRB). (26 August 2022). *Governance and Risk Management Consultation*. Retrieved 22 October 2022 from https://www.xrb.govt.nz/standards/climate-related-disclosures/governance-and-risk-management-consultation-document

48 See Task Force on Climate-related Financial Disclosures (TCFD). (2017). *Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures*, p. 14. Retrieved 22 October 2022 from https://assets.bbhub.io/company/sites/60/2021/10/FINAL-2017-TCFD-Report.pdf

49 See New Zealand King Salmon. (2 May 2022). *Annual Report 2022*, p. 64. Retrieved 22 October 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/391296/369617.pdf.

50 See New Zealand King Salmon. (2 May 2022). *Annual Report 2022*, p. 19. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/391296/369617.pdf.

51 See Morton, J. (4 April 2022). Scorching seas: Scientists tracking East Coast 'marine heatwave'. *New Zealand Herald*. Retrieved 22 October 2022 from https://www.nzherald.co.nz/nz/scorching-seas-scientists-tracking-east-coast-marine-heatwave/LMXFBQXXRZGHOFAFLXQNP7WTAI/

52 Note: The Crail Bay Sites are situated in Pelorus Sound, but are not operational (the report states 'water temperature ranging from 11–20°C'). See Ministry of Primary Industries (MPI). (n.d.). *New Zealand King Salmon Operations Report*, p. 25. Retrieved 22 October 2022 from https://www.mpi.govt.nz/dmsdocument/16102-New-Zealand-King-Salmon-Operations-report

53 See Ministry of Primary Industries (MPI). (n.d.). *New Zealand King Salmon Operations Report*, pp. 25–26. Retrieved 22 October 2022 from https://www.mpi.govt.nz/dmsdocument/16102-New-Zealand-King-Salmon-Operations-report

54 For example, the NZKS Operations Report notes: 'Of all the salmon species King salmon are the most difficult to grow. In their native range in the northern hemisphere they suffer from a range of serious diseases such as bacterial kidney disease (BKD). King salmon can be difficult to handle without causing damage to the fish and subsequent fish losses, in addition they tend to panic easily, especially if crowded, scales are easily lost and secondary infection can set in ... Salmon feeding behaviour is complex, and the appetite of the fish varies over time, in addition they feed to a depth of at least 7–10m making feeding behaviour difficult to monitor from the surface.'

See Ministry of Primary Industries (MPI). (n.d.). *New Zealand King Salmon Operations Report*, pp. 14, 41. Retrieved 22 October 2022 from https://www.mpi.govt.nz/dmsdocument/16102-New-Zealand-King-Salmon-Operations-report

55 See Shepheard, N. (19 April 2022). NZ King Salmon CEO: 'We tried everything but it didn't work'. *NBR*. Retrieved 22 October 2022 from https://www.nbr.co.nz/investment/nz-king-salmon-ceo-we-tried-everything-but-it-didnt-work/

56 See Pinkerton, M., Gall, M., Steinmetz, T. & Wood, S. (2022). *NIWA Seas, Coasts and Estuaries New Zealand (NIWA-SCENZ)*: Image services of satellite water quality products for coastal New Zealand. NIWA, Wellington. Retrieved 22 October 2022 from https://gis.niwa.co.nz/portal/apps/experiencebuilder/template/?id=9794f29cd417493894df99d422c30ec2

57 See Pinkerton, M., Gall, M., Steinmetz, T. & Wood, S. (2022). *NIWA Seas, Coasts and Estuaries New Zealand (NIWA-SCENZ):* Image services of satellite water quality products for coastal New Zealand. NIWA, Wellington. Retrieved 22 October 2022 from https://gis.niwa.co.nz/portal/apps/experiencebuilder/template/?id=9794f29cd417493894df99d422c30ec2

58 See Moana Project. (n.d.). *New Zealand marine heatwave forecast*. Retrieved 22 October 2022 from https://www.moanaproject.org/marine-heatwave-forecast

59 See Nilsson, J., Moltumyr, L., Madaro, A., Kristiansen, T. S., Gåsnes, S. K., Mejdell, M., Gismervik, K. and Stien, L. H. (2019). Sudden exposure to warm water causes instant behavioural responses indicative of nociception or pain in Atlantic salmon. *Veterinary and Animal Science*, 8. Retrieved 22 October 2022 from https://www.sciencedirect.com/science/article/pii/S2451943X19301279

60 See Shepheard, N. (19 April 2022). NZ King Salmon: smaller harvest, big plans. *NBR*. Retrieved 22 October 2022 from https://www.nbr.co.nz/story/nz-king-salmon-smaller-harvest-big-plans

61 See New Zealand King Salmon. (13 April 2022). *FY22 Results and Equity Raising Presentation*, p. 5. Retrieved 9 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/390559/368743.pdf

62 See New Zealand King Salmon. (2 May 2022). *Annual Report 2022*, p. 4. Retrieved 22 October 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/391296/369617.pdf

63 See New Zealand King Salmon. (2 May 2022). *Annual Report 2022*, p. 4. Retrieved 21 December 2022 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/391296/369617.pdf.

64 See McGuinness Institute. (August 2021). *Submission – Natural and Built Environments Bill Parliamentary paper on the exposure draft*. Retrieved 22 October 2022 from https://www.mcguinnessinstitute.org/publications/submissions

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