BEFORE THE MARLBOROUGH DISTRICT COUNCIL

Application U190438

UNDER	**the Resource Management Act 1991**
IN THE MATTER	**of an application to establish and operate a new salmon farm within a 1,000 ha site located approximately 5 km north of Cape Lambert**
BY	**The New Zealand King Salmon Co. Limited**
	Applicant

STATEMENT OF EVIDENCE OF WENDY MCGUINNESS ON BEHALF OF THE MCGUINNESS INSTITUTE

7 October 2021

McGuinness Institute, P O Box 24222, Wellington, New Zealand
Phone 04 499 8888

INTRODUCTION

1. My name is Wendy McGuinness. I am the Chief Executive of the McGuinness Institute. I am giving this evidence in support of the Institute's submissions opposing the application, and in my capacity as an expert. I have worked in both the public and private sectors specialising in public sector reporting, risk management and futures studies.

2. In 1988, I wrote the report *Implementation of Accrual Accounting in Government Departments* for the New Zealand Treasury. From 1988 to 1990, I founded and operated McGuinness & Associates; a consultancy firm providing services to the public sector during the transition from cash to accrual accounting.

3. In 2002, I was a member of the New Zealand Institute of Chartered Accountants (NZICA) Taskforce, which published the *Report of the Taskforce on Sustainable Development Reporting*. From 2003–2004 I was Chair of the NZICA Sustainable Development Reporting Committee.

4. In 2009 I received a fellowship from the NZICA, becoming a Fellow Chartered Accountant (FCA) for outstanding contribution to the accountancy profession and service to the community. I have a BCom from the University of Auckland, an MBA from Otago University, a number of environmental economic papers from Massey University and I have attended a short Executive Programme on Driving Corporate Performance at Harvard, and two short courses at the London School of Economics on macroeconomics and behavioural economics.

5. In 2004 I established the McGuinness Institute in order to contribute to a more integrated and informed discussion on New Zealand's long-term future.

6. The McGuinness Institute is a non-partisan think tank working towards a sustainable future for New Zealand. Project 2058 is the Institute's flagship project focusing on New Zealand's long-term future. As a result of our observation that foresight drives strategy, strategy requires reporting, and reporting shapes foresight, we developed three interlinking policy projects: *ForesightNZ, StrategyNZ* and *ReportingNZ*. Each of these tools must align if we want New Zealand to develop durable, robust and forwardlooking public policy. The policy projects frame and feed into our research projects, which address a range of significant issues facing New Zealand.

7. For completeness I record that I am part-owner of a holiday cottage on Arapawa Island in Queen Charlotte Sound, and since 2019 I have had a modest shareholding in the Applicant company. I acquired the latter principally to inform my understanding of the Applicant's shareholder reporting practices.

SUMMARY

8. In this statement I offer a general response to the evidence of Dr Kaye-Blake for the Applicant and address what I consider are fundamental issues relating to the funding of the project, and financial reporting.

9. The project is expensive, and if it is consented then the Applicant is likely to fund it through a combination of capital raising and debt financing. Although the applicant may not need to provide evidence that it can fund the project, the Commissioners need to have confidence that the Applicant will be able to meet the additional public costs and contingencies that may be traversed in the short to medium term future, and will not take shortcuts that might compromise the benefits it is promising to deliver.

10. If the Commissioners do not have confidence that the applicant can afford to remedy the public risks and public costs, pay for the independent research it proposes, pay water use charges and/or deliver on the public benefits it promises, I consider consent should not be granted.[1]

11. My view is the company will be financially challenged to undertake such a capital investment at this time, given its current financial position, the potential impact of COVID-19 and the level of the uncertainty in the international marketplace, and that together, this is likely to mean that NZKS will not be able to deliver the level of environmental protection and economic and social benefits it envisages

RESPONSE TO DR KAYE-BLAKE'S EVIDENCE

12. I have read Dr Kaye-Blake's statement of evidence dated 30 September 2021, which raises a number of issues in response to the McGuinness Institute submission (see pages 52 to 54). Many of these relate to the application of economic models and expectations around the types and application of tools used to test and analyse a plethora of different tensions and trade-offs that exist (and will increasingly exist) when navigating resource management and conservation.

13. The RMA sets out a number of principles that set the direction of travel and recent legislation sets out the goal to become a zero-carbon economy by 2050.[2] The obligation

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[1] NZKS has not and does not pay MDC any coastal occupancy charges for the use of water space. Although it is not obliged to do so, it has not advocated for the payment of water usage space. A Stuff article noted: 'Marine farmers had previously indicated they were willing to pay coastal occupancy charges if they were transparent and equitable ... But others argued as it was the marine farming industry that had prompted the need for marine environmental monitoring, they should be levied the bulk of the charging.' Further, MDC suggested that '[a]round $780,000 could be collected from the charges, with $125,000 from moorings, $57,000 from jetties, $86,000 from boatsheds, $494,000 from marine farms and $17,000 from other structures.' See Simpson, H. (26 June 2016). Coastal occupancy charges to be levied in Marlborough. Stuff. Retrieved 27 March 2023 from https://www.stuff.co.nz/environment/81408853/coastal-occupancy-charges-to-be-levied-in-marlborough

[2] The Resource Management Act 1991, s 7 Other matters, state:

sits in our current legislation and is part of the political discourse on the upcoming resource management reform.[3,4]

14. New Zealand businesses will need to pivot towards this goal of zero by 2050, and there is clearly an expectation and an obligation that NZKS is on this journey. I believe business innovation is key to a sustainable future and the McGuinness Institute has been working hard to create a smooth and just transition for business.[5]

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to—
(a)
kaitiakitanga:
(aa)
the ethic of stewardship:
(b)
the efficient use and development of natural and physical resources:
(ba)
the efficiency of the end use of energy:
(c)
the maintenance and enhancement of amenity values:
(d)
intrinsic values of ecosystems:
(e)
[Repealed]
(f)
maintenance and enhancement of the quality of the environment:
(g)
any finite characteristics of natural and physical resources:
(h)
the protection of the habitat of trout and salmon:
(i)
the effects of climate change:
(j)
the benefits to be derived from the use and development of renewable energy.

[3] Section 5Q of the Climate Response Act 2002 sets out the target:
5QTarget for 2050
(1)
The target for emissions reduction (the **2050 target**) requires that—
(a)
net accounting emissions of greenhouse gases in a calendar year, other than biogenic methane, are zero by the calendar year beginning on 1 January 2050 and for each subsequent calendar year; and
(b)
emissions of biogenic methane in a calendar year—
(i)
are 10% less than 2017 emissions by the calendar year beginning on 1 January 2030; and
(ii)
are 24% to 47% less than 2017 emissions by the calendar year beginning on 1 January 2050 and for each subsequent calendar year.

[4] See the McGuinness Institute submission on those reforms, McGuinness Institute. (August 2021). *Natural and Built Environments Bill Parliamentary paper on the exposure draft*. Retrieved 27 March 2023 from https://www.mcguinnessinstitute.org/publications/submissions

[5] See for example, two of the Institute's recent discussion papers focus on helping business pivot for a zero carbon economy: McGuinness Institute. (June 2021). *Discussion Paper 2021/01: Mission Aotearoa: Mapping our*

15. There are three key aspects that I believe are important to mention in response to Dr Kaye-Blake's evidence:

    a. The law and the resulting consents should evolve to take into account the world we live in. This is why the law separates principles from rules. This approach is equally true when reviewing the work of economic experts. Assessments made twenty or even ten years ago should evolve to reflect the needs and values of this time. The public policy agenda is moving from GDP to wellbeing, and environmental concerns initially developed in the late part of last century (such as the Conservation Act 1987) are continuing to drive policy and best practice. It is therefore very appropriate that economics evolves as well.

    b. Decisions that have a long-term impact require decision makers to keep a long-term perspective in mind. I believe we will increasingly see decision makers place themselves into the future, taking into consideration intergenerational inequity (justice between generations). In addition, decisions that have a long-term impact; in this case 35 years, require decision makers to seek out an understanding of impacts over the length of the project. As the applicant seeks a 35 year right of use, the decision maker (and all experts) should seek out and consider the long-term impacts and emerging values and expectations that will exist, in the case, in the year 2057. That is seven years after New Zealand, hopefully, will achieve its goal of being carbon zero by 2050.

    c. As these tensions become more complex, transparency is going to be critically important. Decision-makers and the general public have a right to understand key assumptions and information that sets out clearly what limitations decision-makers need to be aware of.

NZKS'S FINANCIAL POSITION

High stock levels

16. It is not clear the reason for the high level of stock at the end of 30 July 2021, but the trend is concerning. Figure 1 shows that the stock (in tonnes) has increased over the last three consecutive periods, and that harvest levels have decreased.

17. Figure 2 looks out longer term and finds that the value of stock on the balance sheet (in dollars), in terms of inventories, biological assets and non-biological assets, has increased significantly since 2009.

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future and *Discussion Paper 2021/02 – Need for speed: strategy mapping and adaptive management*. Retrieved 27 March 2023 from https://www.mcguinnessinstitute.org/publications/discussion-papers

18. Often analysts look at stock levels to determine whether the company is indeed able to sell its stock; in particular, is it a going concern. In addition to tying up excess cash, holding too much stock might lead to risks of obsolescence or spoilage, and may indicate that new limitations/obstacles/competitors have entered the market. Although there is clearly a COVID-19 impact, it is the overall trend that is concerning.

Figure 1: Harvest Volumes and Closing Livestock Biomass (6 months)

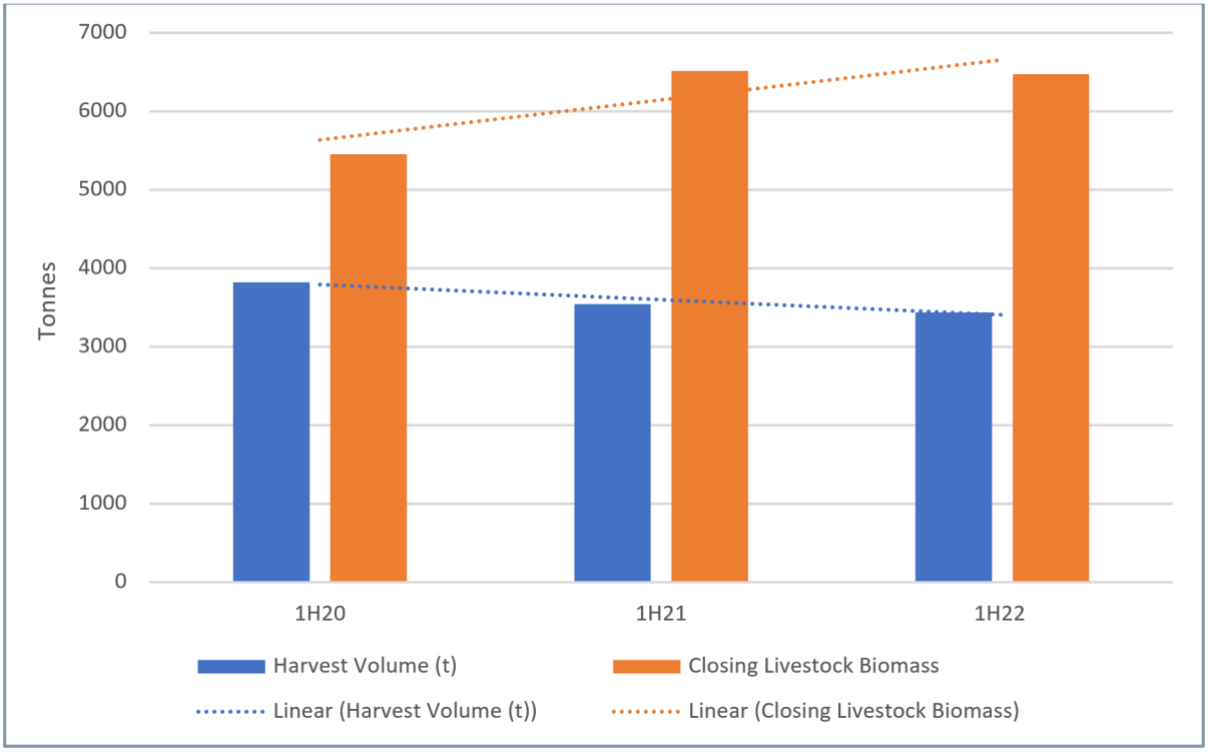
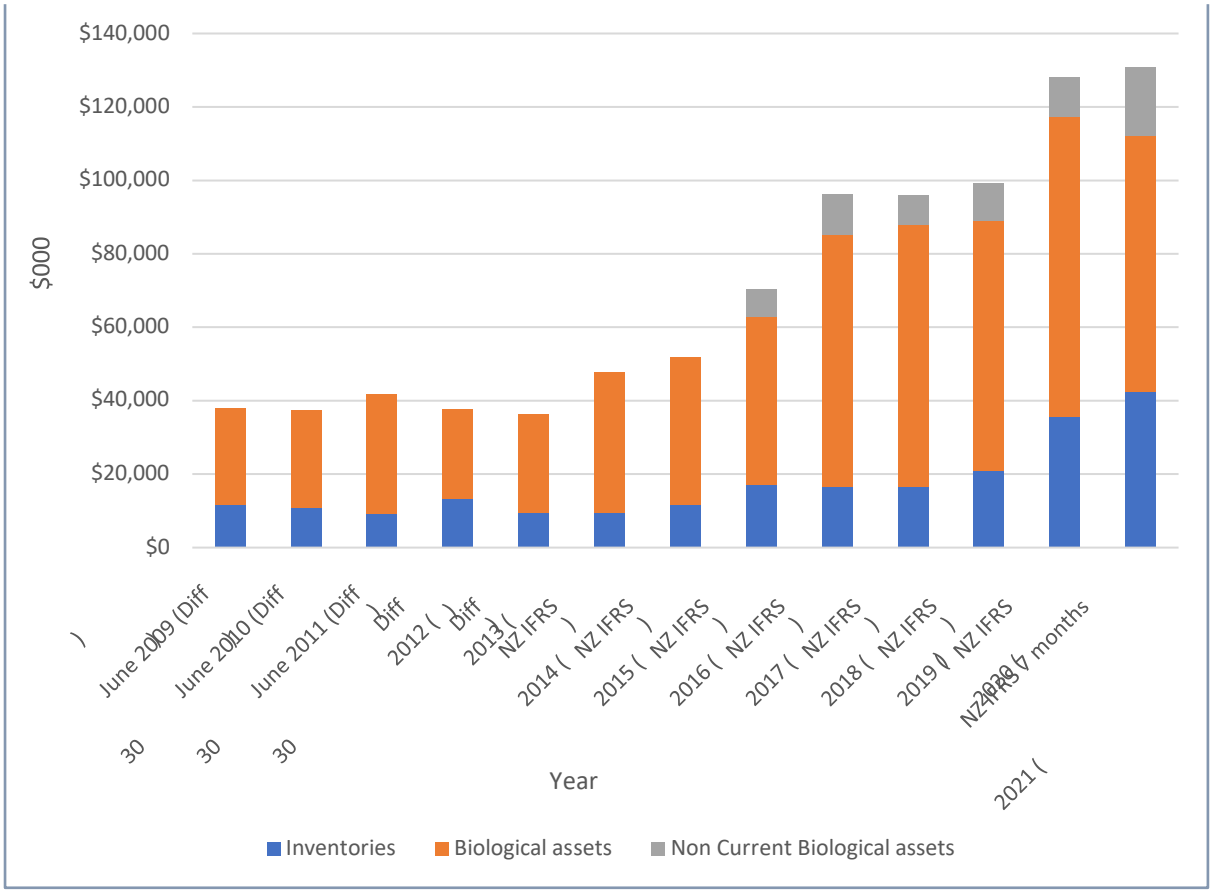


Figure 2: Inventories, biological and non-biological assets ($000)



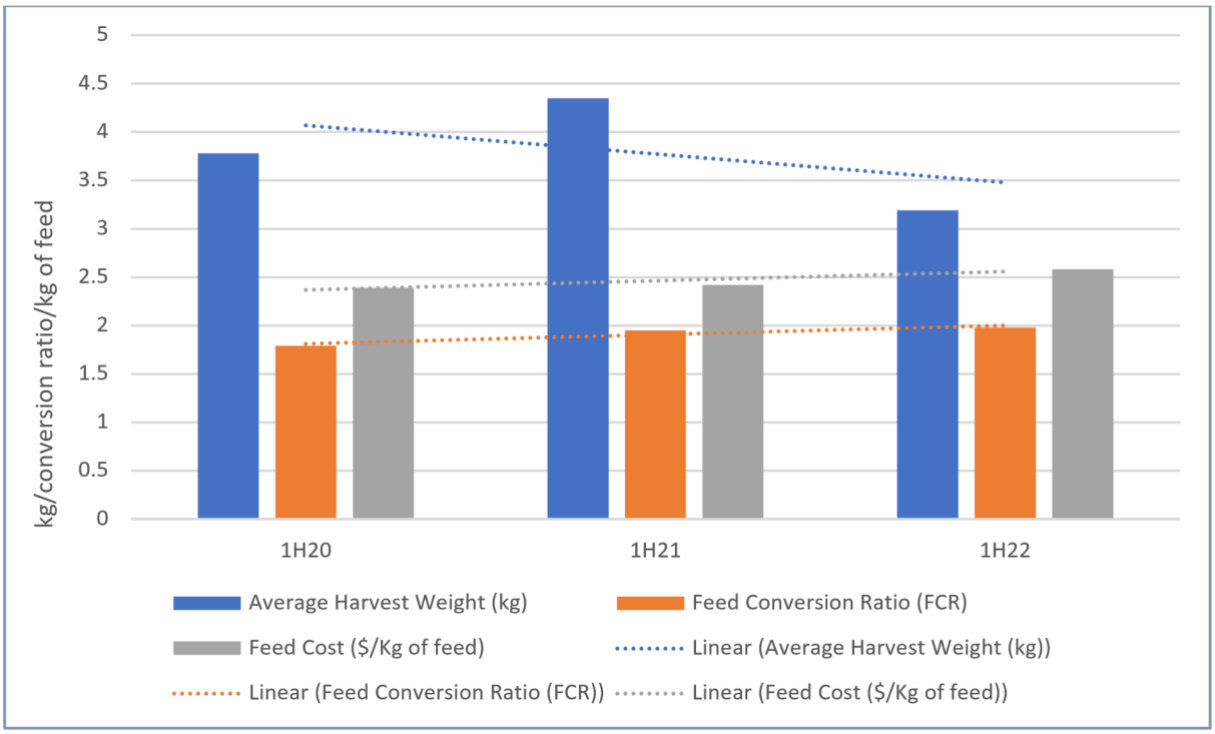
Costs of feed and feed conversion on the increase

19. Figure 3 shows the average harvest weight is down, while feed and feed conversion costs are up. The relationship between feed and volume are clearly interrelated, which is why many of the conditions of the inshore salmon farm focus on feed discharge and surface area. Figure 5 shows the change in biomass generated in the inshore farms over time. In addition to these types of conditions, other more specific types of conditions need to be developed to minimize the environmental impact.

20. Analysts are always looking for changes in the fixed costs, in this case feed is the primary cost of production. This is a cost the company cannot easily change and often indicates the business model either needs to adjust or pivot. For example, in NZKS case, the question then becomes is there cheaper suppliers of feed. Their feed has previously come from Australia or Chile. See the Institute's analysis of NZKS's scope 1, 2 and 3, see Figure 6.

21. NZKS are aware of the problem and have indicated they are looking at reducing their fish cost via *Prescient Aqua Model*.[6]

Figure 3: Harvest Weight and Feed (6 months)



[6] No information was available on what was meant by the *Prescient Aqua Model.*

Figure 4: Biomass (live weight) Fish harvest for the year (kg 000)

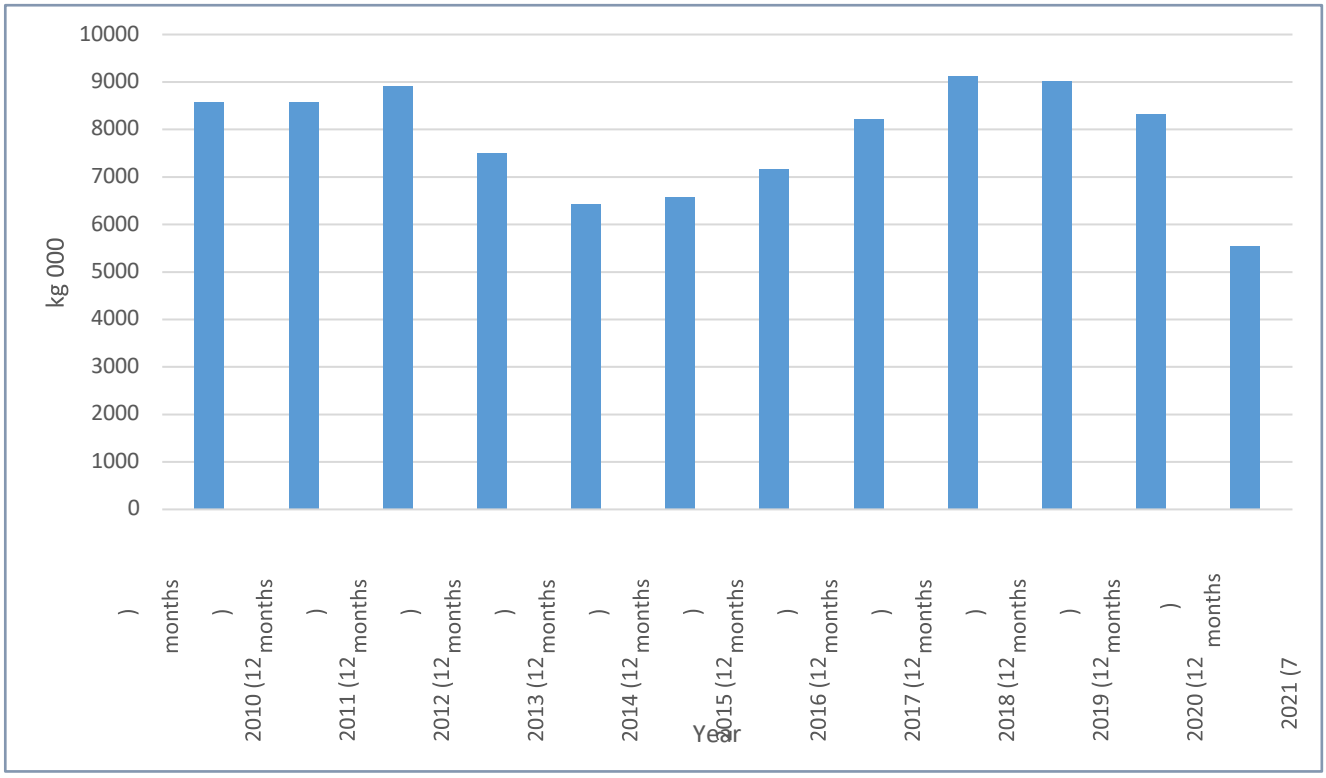
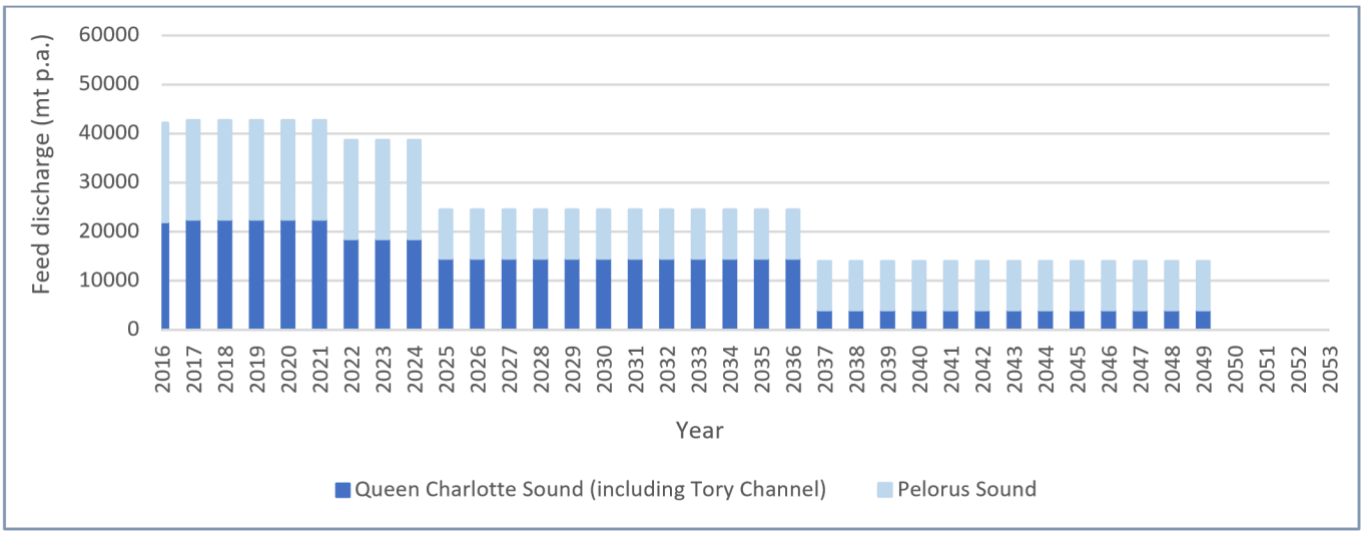
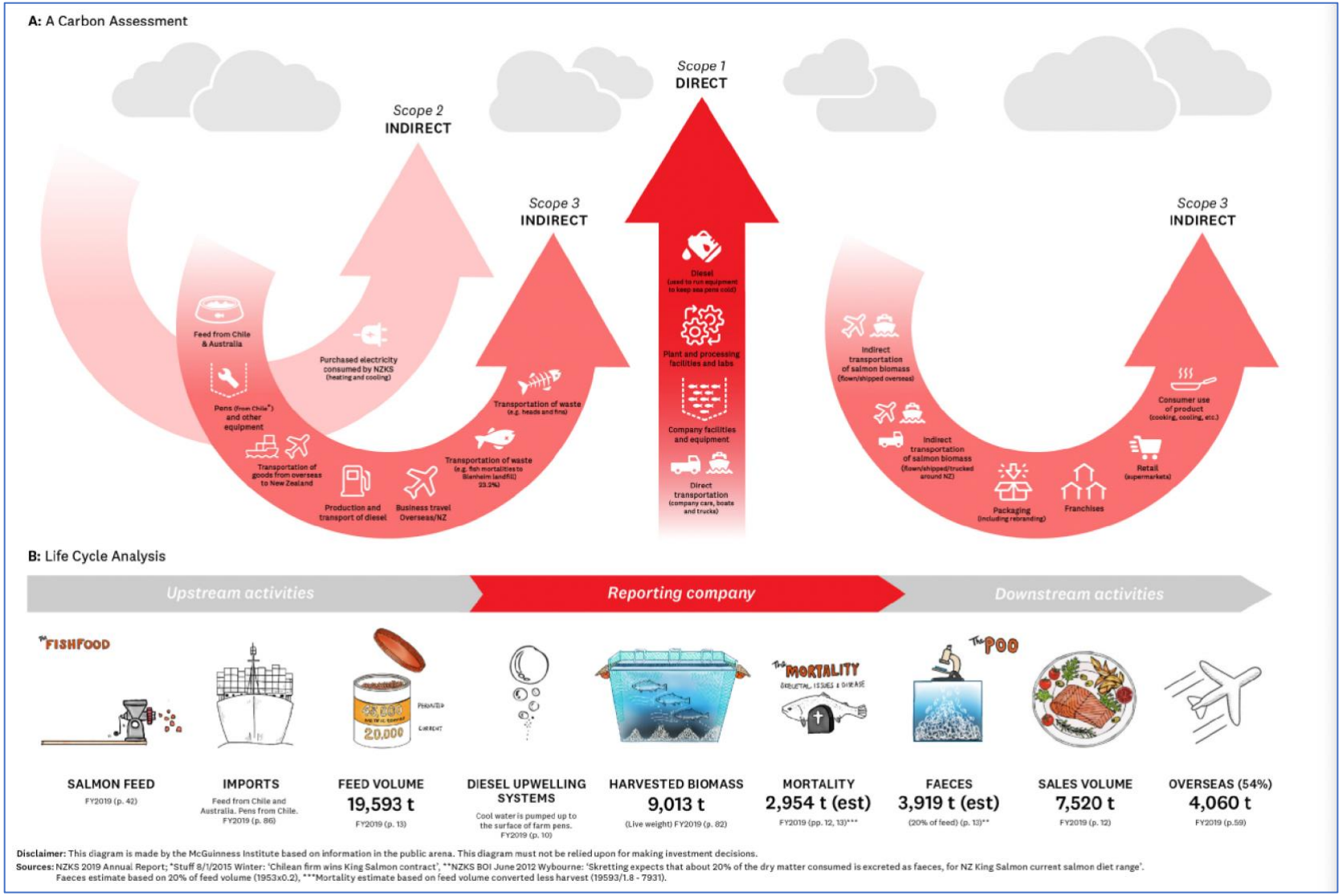


Figure 5: Existing inshore consents (the status quo) Total feed discharge by Sound





Disclaimer: This diagram is made by the McGuinness Institute based on information in the public arena. This diagram must not be relied upon for making investment decisions.

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).

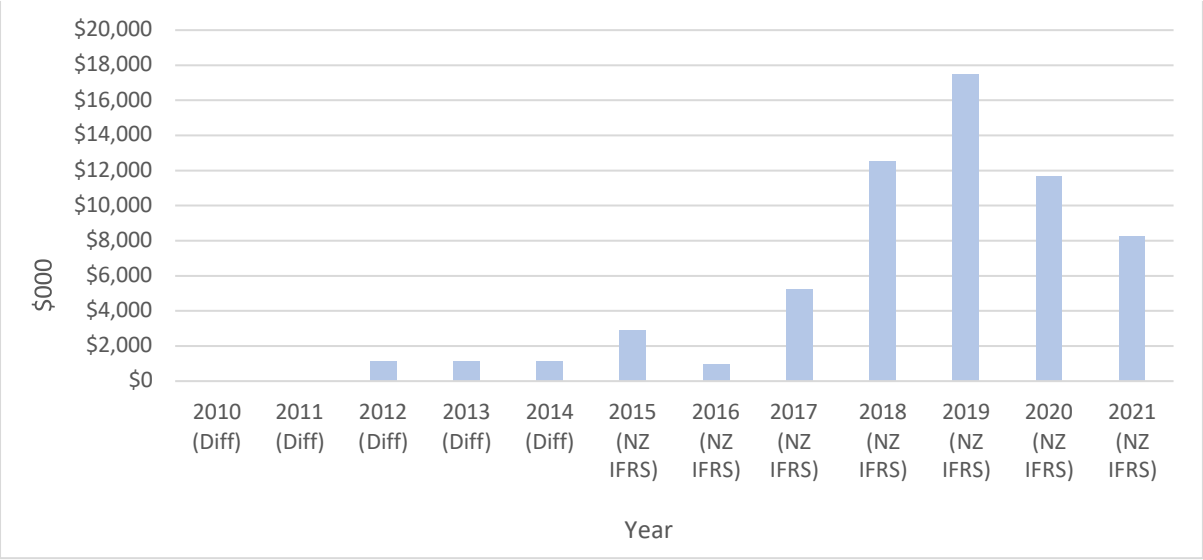
Figure 6: Analysis of NZKSs Scope 1, 2 and 3

Health events (mortalities)

22. Figure 7 illustrates the level of mortalities. There have been several events, some of which are thought to be generated by rising water temperatures due to climate change.[7]

23. It is difficult for members of the public to learn about the range and number of such events, but the financial statements do indicate they are still occurring relatively regularly. For example, the recent *1H22 Half Year Financial Results* (page 4) also includes a reference to a mortality event in Pelorus Sounds for the first four months of 1H22.[8]

Figure 7: Fish health events (mortalities) net of insurance proceeds ($000)



Profitability

24. The last 20 months have been a challenge for most businesses.

25. Figure 8 shows the net profit figures since 2010, using GAPP (which means the accountant applied international accounting standards and the auditor will have audited the financial statements against those standards using international auditing standards).[9]

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[7] New Zealand King Salmon. (2019). *Annual Report FY19*. Retrieved 27 March 2023 from https://www.kingsalmon.co.nz/wp-content/uploads/2020/07/FY19-Annual-Report.pdf

[8] New Zealand King Salmon. (2022). *1H22 Half year Financial Results*. Retrieved 27 March 2023 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/380122/355971.pdf

[9] Accounting and auditing standards are issued by the New Zealand External Reporting Board (XRB).

- In the seven months ended 31 January 2021, the *Net loss (after tax)* was ($7,079).[10]
- In the first six months of 1H21, the *Net loss (after tax)* was ($5,596).[11]

26. Naturally, significant losses over the past two years are a concern.

27. What is interesting is that NZKS have taken a view that GAPP is not useful and have provided alternative data, called Pro Forma Financials.[12] This in effect takes the GAAP Net Loss from ($5,596) to a Pro Forma Net Profit of $2,059 – a change of $7,655 in the bottom line.[13]

28. Many companies do this type of pro forma adjustment because they do not believe the standards develop decision-useful data for investors. This is a particular area of interest, and I am currently writing a paper on the topic.

29. The relevance for the Commissioners, is to appreciate the size of the adjustment and to be aware that a *Net Loss* occurred over the two preceding periods (7 months to 31.1.21 and H122).

30. The second point of interest is the COVID-19 wage subsidy grant of $3,772 received to NZKS from the government.[14] If this was not provided NZKS would have made a loss of ($9,368) [being $5,596 + $3,772] over a seven-month period. I am undertaking some research on the size of COVID-19 wage subsidy grant and although the research is ongoing, this appears to be a large grant in comparison with other listed companies.

31. COVID-19 also creates several operational risks for NZKS, largely around the supply chain (e.g., the delivery of the new offshore pens, barges and other equipment and the selling of perishable product overseas).

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[10] New Zealand King Salmon. (2021). *Annual Report FY21*, p. 19. Retrieved 27 March 2023 from https://www.kingsalmon.co.nz/wp-content/uploads/2021/05/27935-NZKS-Annual-Report-FY21-WEB-2.pdf

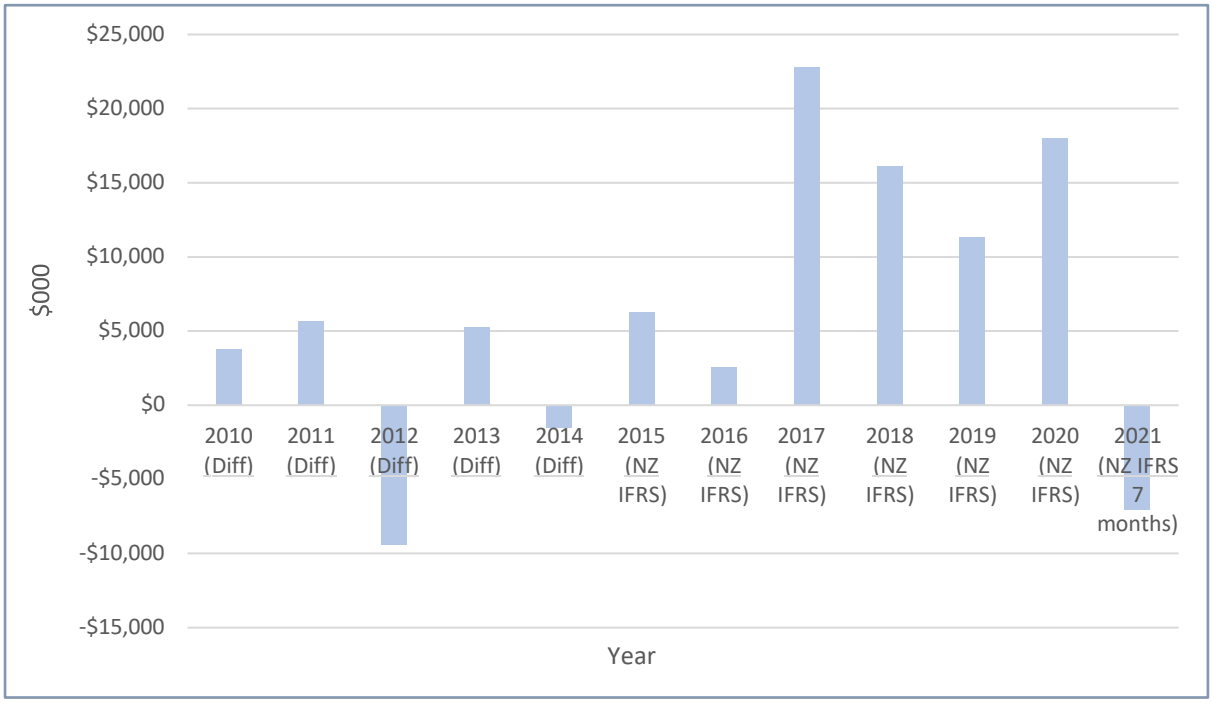
[11] New Zealand King Salmon. (2022). *1H22 Half year Financial Results*, p. 28. Retrieved 27 March 2023 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/380122/355971.pdf

[12] New Zealand King Salmon. (2022). *1H22 Half year Financial Results,* p. 28. Retrieved 27 March 2023 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/380122/355971.pdf

[13] See an explanation of these adjustments set out in, New Zealand King Salmon. (2022). *1H22 Half year Financial Results,* pp. 29–30. Retrieved 27 March 2023 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/380122/355971.pdf

[14] New Zealand King Salmon. (2020). *Annual Report FY20*, p. 20. Retrieved 27 March 2023 from https://www.kingsalmon.co.nz/wp-content/uploads/2020/11/26853-NZKS-Annual-Report-2020-v3.pdf

Figure 8: Net profit/loss for the year ($000)



Financial stability

32. A common measure of financial stability is known as the liquidity ratio; it measures whether current assets without inventory can cover liabilities. When you remove inventories and biological assets from current assets, NZKS's liquidity ratio is on the low side. This means current assets only cover 76% of debt.[15]

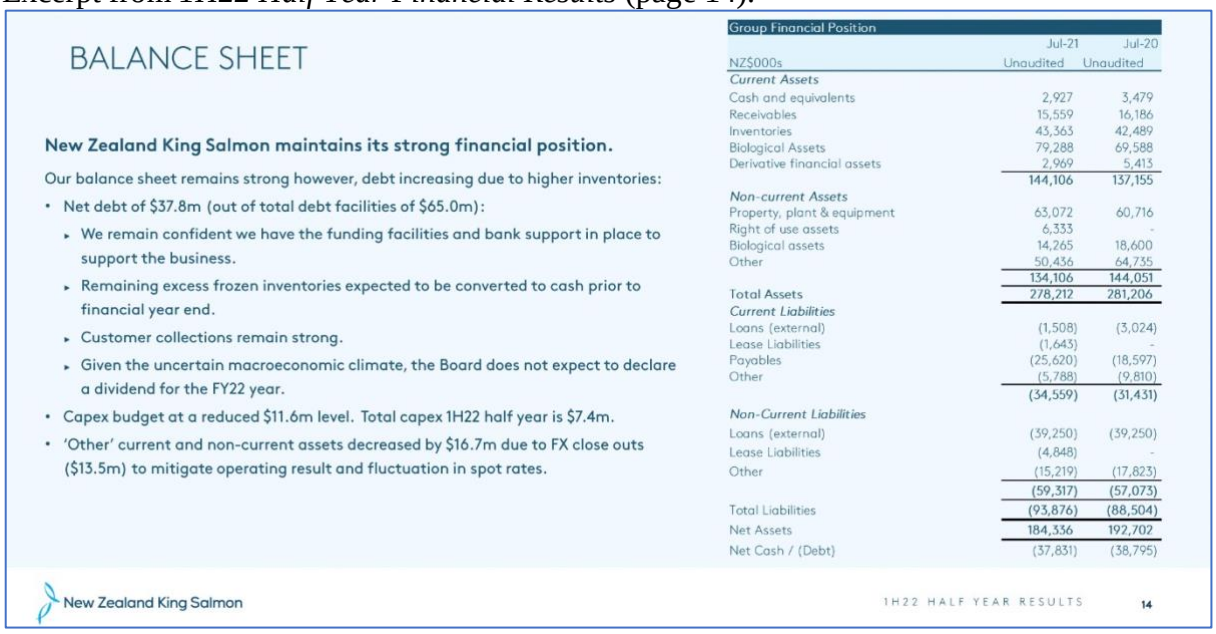
33. NZKS considers it has a strong financial position (see Figure 9 below).

34. This debt to equity ratio indicates how much the company is leveraged (in debt) by comparing what is owed to what is owned. This current ratio sits at about 50 cents for each dollar invested, which is acceptable.[16] If NZKS had to borrow the full NZ$187.5m (without raising capital), this figure would likely increase to about $1.50 for each dollar invested. For this reason, I consider it is more likely NZKS will progress this proposal through some form of capital raising exercise or shareholder loans (as they have done in the past, See Figure 10).

[15] This is based on information as at 31 January 2021. [$137,155 – $42,489 – $69,588 = $25,078/$33,011]
[16] This is based on information as at 31 January 2021. [$95,473/$192,543 (0.49), and with the addition of $187,500 CapEx as debt, that would become $95,473/$380,043 (1.47)]

Figure 9: Balance Sheet

Excerpt from *1H22 Half Year Financial Results* (page 14).



BALANCE SHEET

New Zealand King Salmon maintains its strong financial position.

Our balance sheet remains strong however, debt increasing due to higher inventories:

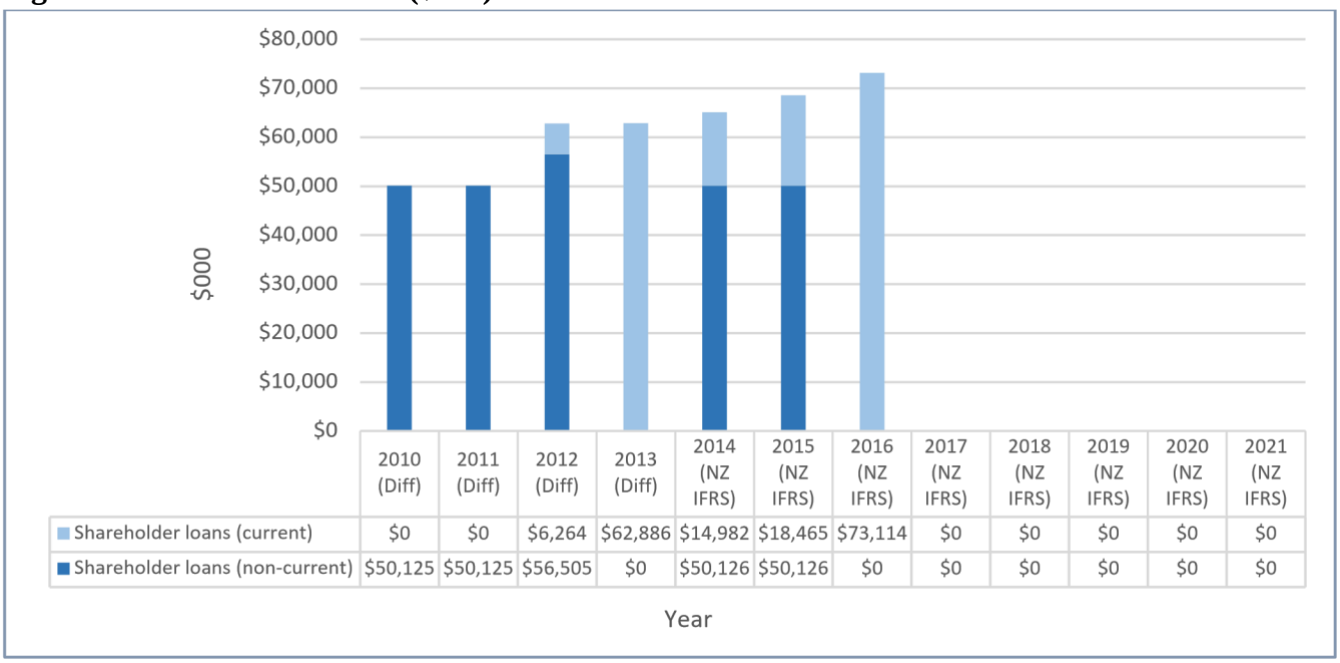
- Net debt of $37.8m (out of total debt facilities of $65.0m):
  - We remain confident we have the funding facilities and bank support in place to support the business.
  - Remaining excess frozen inventories expected to be converted to cash prior to financial year end.
  - Customer collections remain strong.
  - Given the uncertain macroeconomic climate, the Board does not expect to declare a dividend for the FY22 year.
- Capex budget at a reduced $11.6m level. Total capex 1H22 half year is $7.4m.
- 'Other' current and non-current assets decreased by $16.7m due to FX close outs ($13.5m) to mitigate operating result and fluctuation in spot rates.

Group Financial Position

NZ$000s	Jul-21 Unaudited	Jul-20 Unaudited
Current Assets		
Cash and equivalents	2,927	3,479
Receivables	15,559	16,186
Inventories	43,363	42,489
Biological Assets	79,288	69,588
Derivative financial assets	2,969	5,413
	144,106	137,155
Non-current Assets		
Property, plant & equipment	63,072	60,716
Right of use assets	6,333	-
Biological assets	14,265	18,600
Other	50,436	64,735
	134,106	144,051
Total Assets	278,212	281,206
Current Liabilities		
Loans (external)	(1,508)	(3,024)
Lease Liabilities	(1,643)	-
Payables	(25,620)	(18,597)
Other	(5,788)	(9,810)
	(34,559)	(31,431)
Non-Current Liabilities		
Loans (external)	(39,250)	(39,250)
Lease Liabilities	(4,848)	-
Other	(15,219)	(17,823)
	(59,317)	(57,073)
Total Liabilities	(93,876)	(88,504)
Net Assets	184,336	192,702
Net Cash / (Debt)	(37,831)	(38,795)

New Zealand King Salmon 1H22 HALF YEAR RESULTS 14

Figure 10: Shareholder loans ($000)



	2010 (Diff)	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)
Shareholder loans (current)	$0	$0	$6,264	$62,886	$14,982	$18,465	$73,114	$0	$0	$0	$0	$0
Shareholder loans (non-current)	$50,125	$50,125	$56,505	$0	$50,126	$50,126	$0	$0	$0	$0	$0	$0

THE INVESTMENT PROPOSAL

35. The proposal is very expensive. The 2020 Envirostrat report, prepared for New Zealand Trade and Enterprise, found that:

> **2.1.2 Cost of Development**
> For each 10,000t consent application, NZ$187.5m of capex (in real dollars) is required, which includes:
> - $2.5m on consenting;
> - $25m hatchery;
> - $160m open ocean operation (including processing infrastructure) [17]

36. This is exactly the harvest volume being applied for by NZKS. Rather than simply focus on volume, arguably it is the feed component that impacts on both the financials and the environment – it is the common component that delivers the biggest impact.

37. The economic and environmental impacts of the hatchery, and any additional use of the inshore farms, should also be considered under this proposal.

38. Regarding the estimated rate of return, the Envirostrat report notes:

> The base case assumptions suggest an Internal Rate of Return of 12% and a payback period of 17 years (17 years to recover the capital outlay). This assumes all operational equipment needs to be purchased (including the hatchery) and no economies of scale. Given the concentrated aquaculture industry in New Zealand, it is likely that an investor would have existing operations and would benefit from economies of scale. Scenario analysis suggests that the IRR could increase to 19% however this is perceived as an aggressive scenario.

39. The Envirostrat report notes that the current hatchery is at capacity[18] and given that NZKS is not planning to reduce inshore farming significantly (see Figures 11 and 12), there is unlikely to be any significant economies of scale. In other words, NZKS will need to build a new or expand the existing hatchery.

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[17] Envirostrat Ltd. (February 2020). *Open Ocean Finfish Aquaculture: Business Case.* New Zealand Trade and Enterprise. Retrieved 27 March 2023 from https://www.mpi.govt.nz/dmsdocument/40778-Open-Ocean-Finfish-Aquaculture-Business-Case-2020

[18] See table on page 41. It shows that NZKS current hatchery has capacity for 3.5 million smolts (130150g each), but it is 'at, or near, maximum' capacity. See Envirostrat Ltd. (February 2020). *Open Ocean Finfish Aquaculture: Business Case.* New Zealand Trade and Enterprise. Retrieved 27 March 2023 from https://www.mpi.govt.nz/dmsdocument/40778-Open-Ocean-Finfish-Aquaculture-Business-Case-2020

Figure 11: Forecast Volumes FY22-FY28
Source: Excerpt from *1H22 Half Year Financial Results* (page 26).

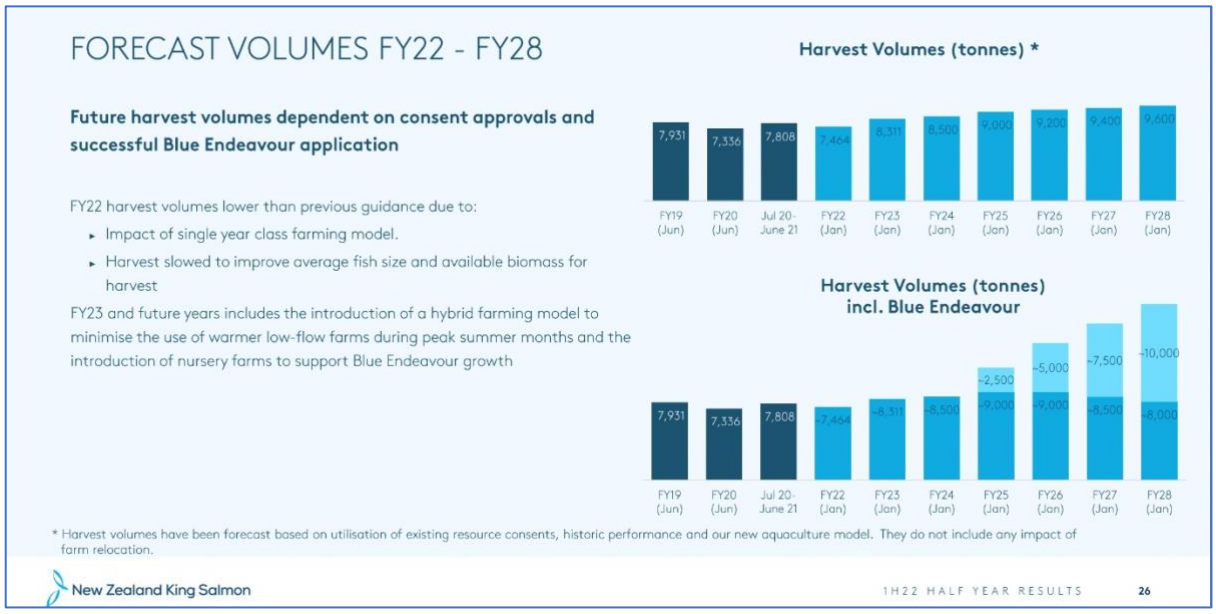
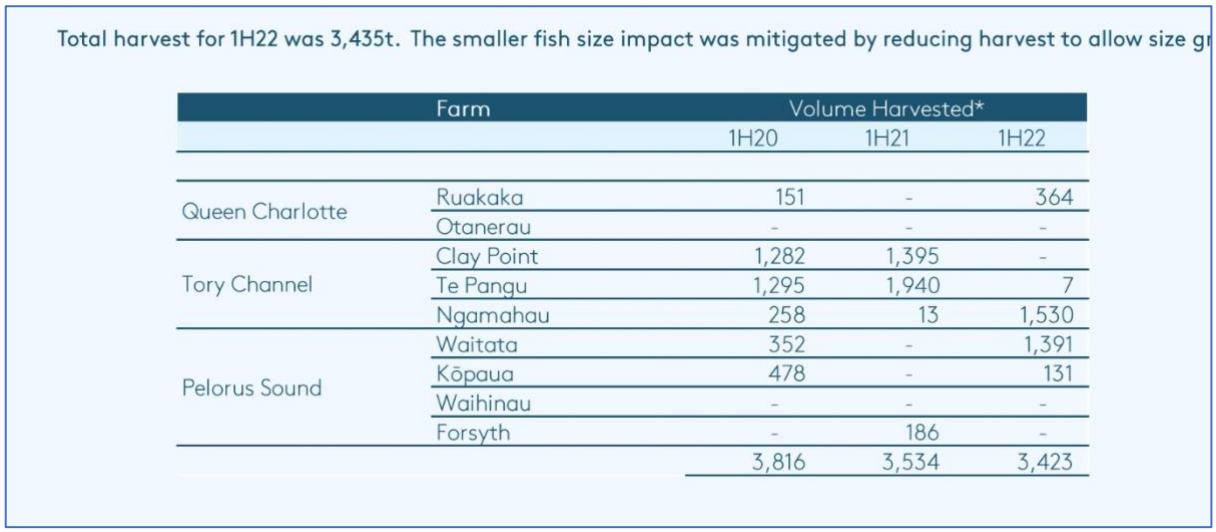


Figure 12: Harvest by Farm
Source: Excerpt from *1H22 Half Year Financial Results* (page 13).


Total harvest for 1H22 was 3,435t. The smaller fish size impact was mitigated by reducing harvest to allow size gr

Farm		Volume Harvested*		
		1H20	1H21	1H22
Queen Charlotte	Ruakaka	151	-	364
	Otanerau	-	-	-
Tory Channel	Clay Point	1,282	1,395	-
	Te Pangu	1,295	1,940	7
	Ngamahau	258	13	1,530
Pelorus Sound	Waitata	352	-	1,391
	Kōpaua	478	-	131
	Waihinau	-	-	-
	Forsyth	-	186	-
		3,816	3,534	3,423

40. The authors of the Envirostrat report identify an obvious risk; cashflow:

> The most apparent commercial risk is the time delay between applying for a consent and receiving a return. Based on the assumptions applied, it would take 9 years before any revenue would be generated and 11 years before breaking even, which could be delayed further if there were unforeseen setbacks.

41. Given the capital expenditure of NZ$187.5m (mentioned in the Envirostrat report), NZKS payback period is unlikely to be in the vicinity of 17 years. In practical terms, this implies that NZKS could generate $11m *Net Cash Flows* per year.[19] This seems highly improbable given the current business model generated a decrease in cash flow of ($3,280) over a seven-month period from 1 Jun 2020 to 31 Jan 2021 (FY21).[20]

42. Although I agree with the issue they are raising; in my view it is not the delay between applying for a consent and generating a return that creates the commercial risk, but the time taken between buying the equipment and generating a return.

43. Although NZKS believe the turnaround time between buying the equipment and harvesting the fish to be in the vicinity of 2 to 3 years (as evidenced in Figure 7), they are advocating a staged process, meaning they are expecting to take four years to reach full production.[21] This means from 2021, they will not reach full production until 2027/28 (being 1 Feb 2027 to 31 Jan 2028). This is a gap of six or seven years between purchase and harvest.

44. To get a profitable return a lot of issues need to work in their favour; such as the cost of feed, minimal mortality events, engineering issues, extreme rogue waves,

45. Take, for example, the impact of climate change. The Envirostrat discusses climate change, but only in terms of how it will be more productive to move inshore production offshore. See for example:

> The movement of fish farming offshore is seen as a realistic, proactive and practical measure for the industry to address the challenges associated with climate change, alongside other responses such as a single year class production model to enhance stock resilience during the summer period, and improved biosecurity management. Although the open ocean environment is generally considered more stable, and therefore at lower risk to climate change effects, close monitoring of the sea conditions around future OOA operations will be crucial in order to better understand how changes in the oceans will impact the future of fish production future of fish production.[22]

In contrast, there are risks of extreme and often rogue waves under climate change scenarios. The April 2021 extract from *Nature*, below, mentions the level of uncertainty and the need for more information about how extreme waves are likely to disrupt shipping (and therefore

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[19] The payback period is the time required to earn back the amount invested in an asset from its net cash flows.
[20] New Zealand King Salmon. (2021). *Annual Report FY21*, p. 22. Retrieved 27 March 2023 from https://www.kingsalmon.co.nz/wp-content/uploads/2021/05/27935-NZKS-Annual-Report-FY21-WEB-2.pdf
[21] For example, the applicant illustrates in their forecast volumes (as at 31 July 2021) that the volumes are harvested in stages: FY25 $2,500 (3 years' time); FY26 $5,000 (4 years' time); FY27 $7,500 (5 years' time) and FY28 $10,000 (6 years' time).
[22] Envirostrat Ltd. (February 2020). *Open Ocean Finfish Aquaculture: Business Case*. New Zealand Trade and Enterprise, p. 69. Retrieved 27 March 2023 from https://www.mpi.govt.nz/dmsdocument/40778-Open-Ocean-Finfish-Aquaculture-Business-Case-2020

disrupt the barges and pens). This is a key point given the proposal places the offshore farm in the middle of a narrow channel between two major oceans.

> Future changes in the behavior of wave extremes may have severe implications on maritime shipping and the offshore industry (e.g. gas and oil fields). Although this analysis is out of the scope of the present study, the projected changes obtained here could help to unravel the impact that these variations may have on the said economic activities. In order to contribute to further research in this matter, the global projected changes at one-degree spatial resolution for the two emission scenarios and all the analyzed return periods will be openly shared online. Similarly, the changes in extreme wave height due to climate change may have an important impact in coastal processes due for instance to its direct implication in composing extreme sea levels or in sediment transport. Nevertheless, it is important to highlight that the main goal of this study is to describe how the behavior of events with a very low probability of occurrence will change across the ocean basins, not addressing how to transfer those changes to the coast. Therefore, a downscaling procedure would be required to develop an accurate analysis on the projected changes in wave extremes nearshore.[23]

46. To illustrate the degree of uncertainty that currently exists in terms of farming salmon, it is interesting to note that the impact of changing existing inshore farms to a 'single class farming model' had an unexpected negative impact on fish costs through mortality and lack of growth.[24] This is an example of how an unexpected result from a relatively stable and proven salmon farming model negatively impacted the bottom line.

47. Given the current share price is on the low side (see Figure 13), and the latest COVID19 surge is creating a great deal of uncertainty, I consider it would be extremely difficult to raise capital at this time, and if they were unable to do so this would impact their ability to fund the public benefits, public costs, and pay/make good any environment risks that might occur.[25]

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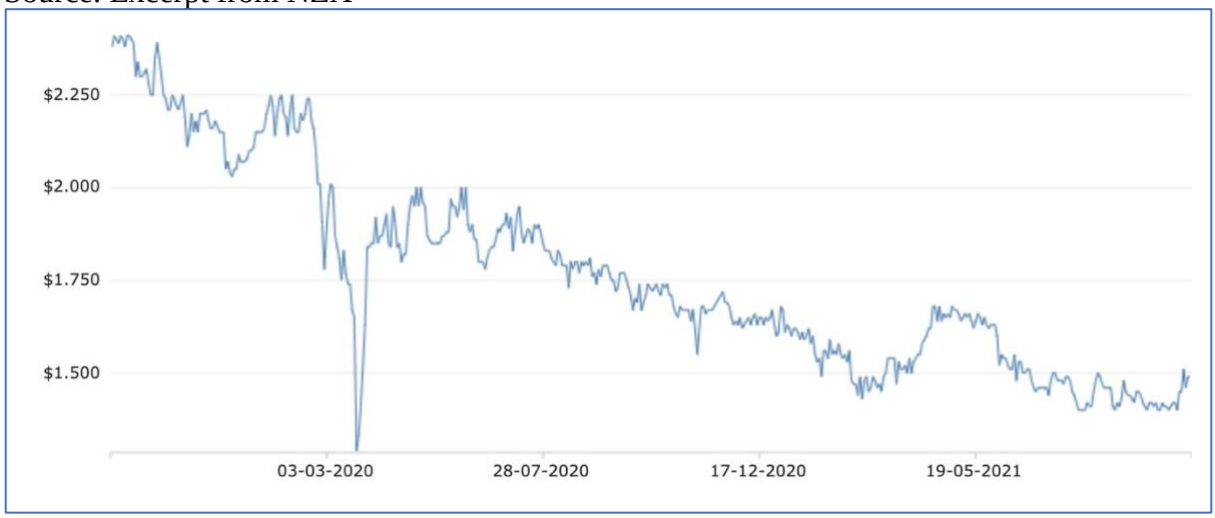
[23] Lobeto, H., Menendez, M., & Losada, I. J. (12 April 2021). Future behavior of wind wave extremes due to climate change. *Sci Rep*, *11*(7869). Retroevd 27 March 2023 from https://www.nature.com/articles/s41598-021-86524-4

[24] New Zealand King Salmon. (2022). *1H22 Half year Financial Results,* p. 22. Retrieved 27 March 2023 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/380122/355971.pdf

[25] The initial public offer (IPO) was fully subscribed at NZD $1.12. It now sells at about NZ$1.50. It is likely the current share price takes into account the possibility of the consent being approved. See the promotion of this proposal in this document, New Zealand King Salmon. (2022). *1H22 Half year Financial Results,* pp. 25–26. Retrieved 27 March 2023 from http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/NZK/380122/355971.pdf

Figure 13: NZKS [NZK] Price History[26]

Source: Excerpt from NZX



49. In my view, if NZKS manages to raise the funds through capital and debt, they are unlikely to be in a position to have the reserves to deliver on environmental, economic and social benefits that will form an inherent part of the licence to operate that NZKS is currently espousing as part of this proposal.

[26] NZX. (n.d). NZK Price History. Retrieved 27 March 2023 from https://www.nzx.com/instruments/NZK