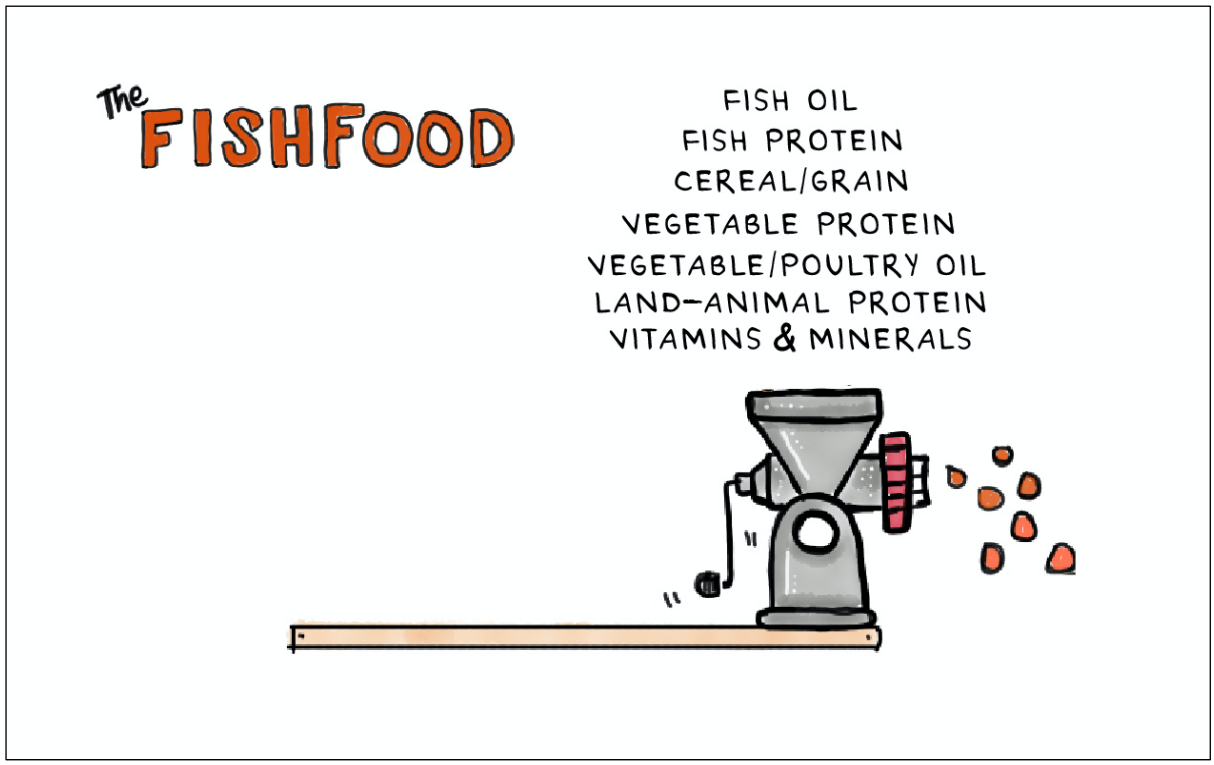

Submission

Marlborough District Council
U160675: The New Zealand King Salmon Co Limited (NZKS) and Te Atiawa o Te Waka-a-Maui Limited

March 2020

A: Form
Resource Management Act 1991
Form 13: Submission on publicly notified application concerning resource consent

To: Marlborough District Council

Name of submitter: McGuinness Institute (Contact: Wendy McGuinness)

Applicant: The New Zealand King Salmon Co Limited (NZKS) and Te Atiawa o Te Waka-a-Maui Limited

Locations: Te Uira-Karapa Point (Clay Point), Tory Channel/Kura Te Au

Description of activity: To increase the maximum annual feed discharge on alternate years at the Clay Point salmon farm, by changing consent condition 25 to allow a maximum discharge of 9,000 tonnes of feed across every two consecutive years.

Application number: U160675

Our submission relates to: The entire application.

Our position: Oppose the application.

B: About the McGuinness Institute
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: *Foresight*NZ, *Strategy*NZ and *Reporting*NZ. Each of these tools must align if we want New Zealand to develop durable, robust and forward-looking public policy. The policy projects frame and feed into our research projects, which address a range of significant issues facing New Zealand. We also operate a *GDS Index*, which reviews all government department strategies in operation.

We have been involved with the New Zealand King Salmon applications since 2011. The McGuinness Institute was a submitter and economics expert at the Board of Inquiry. We understand the complexity and strong public interest regarding the role of NZKS using New Zealand oceans for their private operations. We have worked with a number of other organisations to try help find the best solution for New Zealand on this complicated public issue.

McGuinness Institute Submission

Application U160675 aims to increase the maximum annual feed discharge on alternate years at the Clay Point salmon farm, by changing consent condition 25 to allow a maximum discharge of 9,000 tonnes of feed across every two consecutive years (the Application) instead of 4500 tonnes for each year.

We ask that the application be **refused.**

We consider that the application is missing key information and that on this basis alone, the application should not proceed. The missing information is outlined in the submission below.

Lastly, please be aware we are not working from our offices in Wellington, which is where all our hard copy files are kept.

Section 1: Summary of key points

- The farm is an old farm (it was established in 2008) and we are unsure to what extent the controls have been reviewed and/or updated to meet the recent standards put in place for new farms approved under the BOI decisions. This application may be an opportunity to revisit these.

- U160675 allows for the farm to continue to operate until it expires on 1 December 2036. Therefore careful consideration should be given to this decision, as the impacts will be felt for 16 years.

- We understand a large area was permitted in 2008 and we question whether that would be allowed today particularly given its proximity in the Tory Channel. Our information shows that the site had a total area of 19.6 ha and a farm surface area of 1.15 ha and is only accessible by sea. See source here[1]. This latter point is important given the location of the site in the Tory Channel. More feed, means more fish, which means more boat traffic. This leads us to consider whether the Coastguard has been advised of this application and has had time to consider the impact of any additional traffic (map below).

[1] See https://www.scoop.co.nz/stories/BU0802/S00231/backgrounder-clay-point-salmon-farm.htm

Source: See https://www.stuff.co.nz/business/farming/aquaculture/101031695/hotterthannormal-water-kills-off-salmon-in-the-sounds

- We understand the farm is one of the 'high-flow' sites. This means the flow of faeces and surplus feed will spread more. Have the impacts of this additional feed and increased faecal flow been mapped?

- We understand this farm has had high-mortality rates in previous years due to high-temperatures. This raises issues over whether this is the right place to double the possible number of fish within the same caged areas. This is an ethical issue as well as a production decision.

- This increase is to double the feed discharge of what is currently consented in one year over two; impacts to the environment need to be assessed given the scale of the potential increase in one year. For example, using the analogy of a car accident; two cars hitting a wall at 50 km has a different set of impacts than one car accident hitting a wall at 100km per hour. There needs to be an analysis regarding the scale of environmental impacts that will arise from 9000 tonnes of feed being permitted.

- The current feed limits of 4,500 tonnes have not even been reached at this farm yet NZKS is already seeking to double the consented discharge amount. Our understanding is that about 3500 tonnes of feed was distributed in 2018 and 3000 in 2015.

  Below is an excerpt from the application. We note that their forecast for the 2019 went over the 4500 limit. Secondly, that the year 2021 is the only time they significantly go over the 4500 limit. The application should include more accurate forecasts before the application is considered, that ideally go out to 2036. Otherwise their case for the increase remains unclear.

Excerpts from the Application's Cawthorn Report[2]

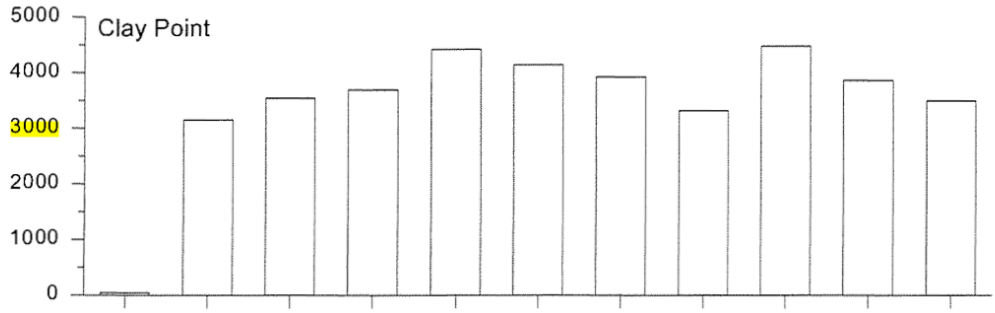

Table 1. Historic and forecasted biennial feed discharge for the Clay Point salmon farm.

	Calendar year/s	Tonnes (annual)	Tonnes (biennial)
Historic	2010	3,545	7,238
	2011	3,693	
	2012	4,420	8,561
	2013	4,141	
	2014	3,923	7,243
	2015	3,320	
	2016	4,477	8,338
	2017	3,860	
	2018	3,493	8,240
	2019	4,747	
Forecasted	2020	2,032	7,884
	2021	5,852	
	2022	3,161	7,666
	2023	4,505	
	2024	3,111	7,615
	2025	4,505	

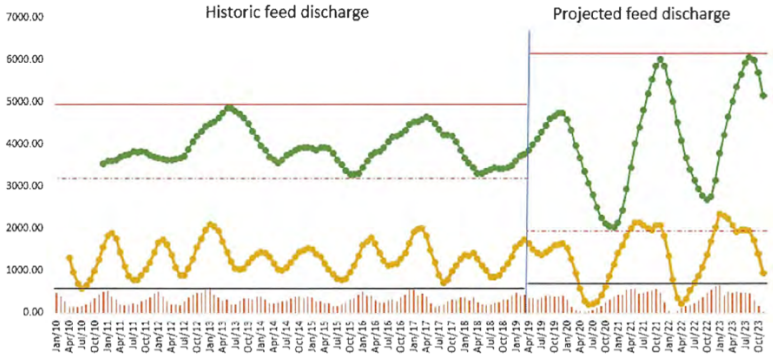

Figure 2. Historical and projected monthly feed projection at the Clay Point salmon farm (as provided by NZKS). The peak feed monthly discharges are represented by the black horizontal line. The maximum and minimum annual feed discharges are represented by the solid and dashed red horizontal lines, respectively. Twelve- and four- month rolling feed discharges are indicated by the green and yellow points, respectively. Monthly feed discharges are shown by orange vertical lines at the bottom.

[2] See http://property.marlborough.govt.nz/trim/api/trim/2035311

- It is evident that the levels of feed discharge have significant effects on the surrounding environment, including the water column and benthos, and we submit that the impact of this significant change to the farming operations at Clay Point be scrutinised by independent experts.

Below we discuss a range of key points in more detail:

1. Sudden and significant increase;
2. Application for a new activity;
3. NZKS history in the Sounds;
4. Inadequate information;
5. Lack of economic benefits;
6. Precautionary principle;
7. Negative impact on marine species, habitat and ecosystems (including increased biosecurity risk);
8. Wider context should be considered, including climate change, the application of s91 of the Resource Management Act (RMA) and the level of public interest;

    (a) New Zealand needs to grow industry that is robust and resilient to environmental change. Climate change issues will seriously impact the potential of salmon farming in the future. Increasing sea temperatures resulting in increased disease and fish mortality rates are negatively impacting the viability of ocean farming. The long term unsustainability of this application must be considered.
    (b) Public interest in this application (in particular that NZKS are a foreign-owned company using a publicly owned asset for their private gain) means that the precautionary principle, rather than adaptive management, should be followed here.
    (c) That as yet, NZKS is not paying for the use of this public resource.

9. No checks or controls: Inadequate detail in this application means that there are no baseline measurements and models to control the risks of this application.

    (a) There are no conditions for independent measurement and no allowances have been made on how to monitor and control if negative impacts or incidents occur.
    (b) In particular, the conditions do not include any information on how the health of the seabed will be protected. Seabed recovery and resilience is important and there is a lack of a monitoring and adaptive management.

10. Policy Matters (including Part Two Matters and the New Zealand Coastal Policy Statement (NZCPS)).

Section 2: Detailed discussion of key points

1.0 Sudden and significant increase

1.1 This Application seeks for permission to suddenly introduce a significantly increased amount of feed. NZKS are requesting an increase from the 3,493 tonnes of feed in 2018, to the potential for over 9,000 tonnes per annum. This will clearly increase the scale of discharge at the farm by over 50%, which will have adverse environmental effects.

1.2 In the current situation, it is prudent to wait and see what the impacts would be from the existing maximum of 4,500 tonnes per annum. Once a substantial period of time has passed and it can be ensured no issues arise from farming as consented, then a baseline can be established before incremental increases could be considered.

1.3 This Application should be denied as it is reckless to allow for such an extreme increase in scale without first taking time to ensure that the environment is not damaged by the current farming operations at the consented feed levels. NZKS must first establish that operating as at the consented levels does not cause harm to the surrounding delicate benthic environment.

2.0 Application for a new activity

2.1 Following on from the point above regarding to the significant scale of the increase, it is worth considering that this Application is doubling the proposed feed discharge onto the site, which has a materially different scale to the originally consented activity. This increases the scale and the environmental effects of the farming operations onsite by over 50%, which is a significant amount.

2.2 This suggests that the Application could be considered under ss104 and 105 as it would have a materially different character to the original farm consented, as measured by its increased potential effects on the environment.

2.3 We submit that the proposed variation does increase the scale and intensity of the farming operations at the site to a significant extent, (as expanded on in point 2.0 above and 2.6 below), and that in such circumstances precaution is recommended.

3.0 NZKS history in the Sounds

3.1 NZKS have a history of issues in the past which suggest that a precautionary approach is necessary to manage their farming operations and protect the Marlborough Sounds environment.

3.2 High enrichment is an indicator of environmental degradation due to farming operations. An example of this was the test result on this farm in 2010, where it was found there was non-compliance of enrichment levels. There have also been recorded instances of high and very high enrichment at this farm. When these test results arise with an amount of feed discharged at less than half the amount proposed in this Application, it suggests that an instant feed increase to 9,000 would have serious environmental consequences to enrichment levels. It is unclear how this will impact the wider seabed and benthos, and how long, or whether, it will recover.

3.3 NZKS have had previous issues with increased mortality rates and diseases at their currently operating farm locations. Not only does this result in reduced productivity and decreased economic gains, it also raises ethical and animal welfare concerns. This application should demonstrate how it will measure these mortalities and what will happen if they increase over the baseline levels established.

a. There is no clarity on who will cover the costs of biosecurity investigations when issues occur. For instance, in 2013 and 2015 NZKS had major biosecurity issues investigated by MPI (which will have used public funds).[3]
b. The current Application does not identify these risks and the implications of them with sufficient detail, and does not explain how the change in feed methodology will result in decreased mortalities and increased fish health.

3.4 This Application should be looked at in consideration with this and other NZKS other operations in New Zealand. There is a real risk of 'resource consent creep,' in this and other NZKS operations, which degrades the originally consented conditions step by step.

3.5 NZKS currently have a number of other applications for more space in the Marlborough Sounds, such as the recent application at Waitata Reach. NZKS are currently pursuing new space through extending and expanding existing coastal permits as well as completely new applications.

3.6 The public interest factor in this application should be considered. This application does not provide for any payment to New Zealand for its use of water space for private gain. This is an issue of public concern which means that local and central government have no opportunity to recover costs for the time and expense spent on this application (and others), while the shareholders of NZKS (the majority of which are based overseas) benefit financially. The costs are sitting with the public whilst the benefits are sitting with private owners.

3.7 This Application proposes to allow NZKS to use and pollute a substantial amount of water space, and creates a situation where NZKS are incentivised to constantly seek expansion of farming operations in order to increase profit. The free use of water space (with no punishment for pollution or breach of conditions) means that there are minimal limits on consumption of this public asset. Local and central government need financial support to assist with all the work created by application and operations of farms such as what is being proposed, especially in terms of the environmental measuring, monitoring and modelling of areas. These financial costs should be considered as part of the Application, and there should be checks and controls to ensure the economic benefits promised by NZKS actualise.

3.8 NZKS is a listed company and thus is legally operationally required to make maximum profit for shareholders. This gives a legal incentive for NZKS to work purely for maximum production above and beyond any negative environmental impacts. In order to place checks on this incentive, far more detailed conditions, monitoring and controls are required as part of this application. NZKS need to be incentivised to act long term and protect the delicate ecosystem upon which they rely, rather than just measuring success in material dollar amounts.

4.0 Inadequate information

4.1 There is a serious lack of information and clarity on what the effects of the proposed drastic increase in the scale of feed will be. "No research to date has measured the seabed recovery processes of a high-flow site that has experienced multiple year class farming,

[3] See https://www.mpi.govt.nz/dmsdocument/4094/direct

such as the Clay Point farm; for instance, the degree of recovery expected to occur during a short-term fallow period (4-6 weeks) after sustained multiple-year-class farming is unknown."[4]

(a) It is clear there is insufficient information on how long it will take the seabed to recover, which points towards taking an incremental or precautionary approach rather than allowing such a significant increase. A long term view is the responsible approach here.
(b) There is also no investigation into the adverse effects of the cumulative impacts of the feed discharge increases here year upon year.

5.0 Lack of economic benefits

5.1 This Application fails to establish any clear economic and productivity benefits of this feed increase. For a shift in conditions of this scale we suggest it is important that benefits are significant and can be clearly quantified, whether they are economic, or in terms of employment.

5.2 It is requested that clearer economic information is provided so that a more thorough cost-benefit analysis of this application can be made.

6.0 Precautionary principle

6.1 The current feed limits of 4,500 tonnes have not yet been reached at this farm and NZKS is already seeking to double the consented discharge amount. It is accepted that the levels of discharge have clear effects on the surrounding environment, including the water column and benthos, and it is irresponsible to allow such a substantial increase without first seeing the impact of the farming operations as consented.

6.2 In terms of environmental impacts, it is clear "…there are some unknowns regarding the actual effects from the farm operating under the new discharge methodology proposed, as against effects from the existing farm operation…"[5] These unknowns present a risk that these increased levels of enrichment may seriously and irreversibly damage the seabed.

6.3 We submit that the feed limits have not been operating at their current levels and this is a concern. A precautionary approach is required because this is a significant proposal with an increase in the scale of feed in a high flow site far higher than has been operating at this farm. There are risks that an increase in the scale of feeding operations would irreversibly harm the local habitat and ecosystem.

7.0 Negative impact on marine species, habitat and ecosystems (including increased biosecurity risk)

7.1 New feed regime will have negative effects on the benthic environment, the water quality and marine ecology of reef communities, and it is unclear how long or if the seabed will

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4 The Cawthron Report, at pp 8.

5 At paragraph 26 of the U160675 Notification Package for Web – Part1 of 2. Accessed via https://www.marlborough.govt.nz/property-search/files?url=https%3A%2F%2Fdata.marlborough.govt.nz%2Ftrim%2Fapi%2Ftrim%2Fget%3Fid%3D2035311&name=U160675%20Notification%20Package%20for%20web%20-%20Part%201%20of%202.pdf

recover from the increased discharge benthic (seabed) community composition and water quality. The proximity to and likely effect of feed increases on areas of ecological value should be considered under this Application.

7.2 Feed input is *"considered important when looking at enrichment of the soft-sediment habitats at this site."*[6] As such, it is critical that this application be taken seriously with sufficient research on the impacts of such an extension.

7.3 The Report shows that it is clear that seabed enrichment will reach higher levels than anticipated under the currently consented limits. "For the first two production cycles under the proposed regime, there would be higher-than-historical peak monthly feed discharges projected sustained at relatively high levels for 6-8 months."**7** This presents a risk of increased seabed enrichment, and the high flow nature of the site means this negative impact will be spread over a wide area.

7.4 Such a significant feed increase will therefore have significant negative impacts on the water quality, benthos and delicate ecosystem of the unique natural Marlborough Sounds area, potentially irreversibly.

7.5 The Application will lead to increased irreversible biosecurity risk, noting that the Application should be considered in light of the mortality and disease issues NZKS have had at existing farms.

7.6 There is a lack of consideration of the Application's cumulative impacts. The application does not look at the interconnected relationship between the marine environment and the impact that each element will have on one another, particularly in regards to threatened marine and bird life and habitats. There is an increasing and irreversible loss of biodiversity in our oceans, and thus applications such as this require an evidence-based and integrated approach to decision making.

7.7 The discharge produced by the increased feed proposed is at a far more significant scale than what has previously been produced at this farm, and the Application fails to assess the effects of this increase on the ocean sphere.

8.0 Wider context should be considered, including climate change, the application of s91 of the Resource Management Act (RMA) and the level of public interest

8.1 In a decision of such scale and with such nationally significant implications, the wider context, in particular climate change issues and the level of public interest, should be considered when looking at the impacts of this decision.

8.2 This Application should be considered in terms of the wider social and environmental context. There is clear evidence that increased ocean temperatures are causing issues in regards to decreased ocean biodiversity and increased disease and mortality rates.

8.3 The impacts of this increase will flow beyond the seabed floor directly under the farm and thus it is critical to consider the effects on the surrounding ocean. As said by Cawthron

6 Annual Monitoring Report 2019, at pp 9.

7 Cawthorn Institute Report, September 2019, at pp 3.

"*Farming in high-flow environments such as Tory Channel results in the far-field dispersal of organic waste. Accumulation of farm waste in the far-field may lead to enrichment effects outside of the primary depositional footprint."*[8]

8.4 New Zealand needs to grow industry that is robust and resilient to environmental change. Climate change issues will seriously impact the potential of salmon farming in the future. Increasing sea temperatures resulting in increased disease and fish mortality rates are negatively impacting the viability of ocean farming. The long term unsustainability of this application must be considered.

8.5 Public interest in this application (in particular that NZKS are a foreign-owned company using a publicly owned asset for their private gain) means that the precautionary principle, rather than adaptive management, should be followed here.

8.6 Climate impacts are decreasing productivity and increasing the waste and pollution formed by the salmon farming industry. New Zealand oceans are warming quickly, with NIWA predicting that climate change will result in frequent and more intense marine heatwaves. These dramatic increases in sea surface temperatures means there is more 'fuel' for incoming storms, changing marine ecosystem habitats and making salmon farming less sustainable over the long term.[9]

8.7 As the ocean temperature increases, disease rates and mortalities correspondingly increase, which suggests the ocean-based salmon farming industry is not robust and resilient to environmental changes. The wider climate crisis and its environmental impacts call into question the long term viability and sustainability of this Application. This risk has not been identified in the application, but the impacts of rising sea temperatures can be seen by analysing the mortality rates of previous years at other NZKS farms:

a) Decreased productivity from increased mortalities can be seen in data by looking at NZKS mortality increases over the last year, increasing from $7,254,000 (a change from 2017 figures [$5,244,000] to 2018 figures [$12,498,000]). The increase is equivalent to half of the reported comprehensive income $14,658,000 in the 2018 financial year (see Note 15, p. 79 of the 2018 Annual Report).

b) This increase in mortality has a number of serious implications, especially in terms of ethics, disease, waste management and legal and financial decision making. NZKS has announced that the figures this year will be worse again. The 1 May 2019 NZKS Post-Summer Fish Performance Update on the NZX states: *"The 2019 summer season has again been challenging for overall fish performance, due to sustained warm water temperatures which continued into April. The full year mortality cost for the year ended 30 June 2019 (FY19) will now be materially higher than in FY18."*[10]

8.8 A longer term view on the benefits, risks and sustainability of salmon farming in these current conditions should be part of this Application. Alternative options, such as land-based farming, may be superior over the long term. This alternative will also not have the same negative environmental and biosecurity impacts as offshore farming and will also be more robust to environmental changes.

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8 H. Bennett, Cawthron Institute, "Drivers of Enrichment at the Tory Channel Control 4 Reference Station", ID: 1942, 7 August 2019, at pp 1.

9 Morton, J. (15 Dec 2019). 'Another marine heatwave? NZ's seas are warming fast'. *NZ Herald*. Retrieved 16 December 2019 from https://www.nzherald.co.nz/index.cfm?objectid=12293986&ref=twitter.

10 See update at https://www.nzx.com/announcements/333854.

8.9 The coastal habitats of endangered and at risk marine species should be protected, especially at a time when climate change is already causing irreversible damage to the livelihoods of these species.

9.0 No checks or controls

9.1 This Application has a lack of detail on the proposed monitoring conditions and the effects these will have in controlling the impacts of the increased feed.

9.2 Inadequate detail in this Application means that there are no baseline measurements or models to control the risks of the substantial increase in feed quantity. There are no conditions for independent measurement and no allowances have been made monitor and control if negative impacts or incidents occur.

9.3 In particular, the Application conditions do not include any information on how the health of the seabed will be protected. The ecosystems in our oceans are deeply interconnected which means this application will disrupt and have negative impacts on the wider ocean sphere. Seabed recovery and resilience is important for ocean health.

9.4 Shifts in our oceans health are difficult to measure, so significant investment in research is required to ensure the biodiversity of our oceans survives development. An increase in feed of the scale proposed in this application will decrease the diversity, health and density of benthic communities, which will have a corresponding impact on all the species that habitat this area. This Application includes no assessment or consideration of the cumulative effects of these effects on the marine ecosystem. It also includes no action plan for the situation where negative impacts on the biodiversity occurs as a result of farming operations.

10.0 Policy matters

10.1 **10.1 Pt 2 Matters -** Disagree that Section 5 is satisfied. In this Application. As confirmed in the discussion above, this proposal is inconsistent with the principles of sustainable management for a number of reasons.

10.2 **NZ Coastal Policy Statement Policy 3 -** It is clear there is uncertainty regarding the effects of the current application variation, as evidenced in the Cawthorn Report.[11] This suggests that the precautionary rather than adaptive management principles should be used here in order to protect the New Zealand oceans. An increase of discharge to the levels proposed in this location is untested, and it is unclear how long it would take to reverse these negative effects (if they can be reversed).

Section 3: Conclusion

I seek that the application is **declined**.

Please note I also seek to be heard at any hearing and in support of this submission as an **expert witness.**

11 The Cawthron Report, at pp 8, 9-11.

Kind regards,

Wendy McGuinness
Chief Executive
McGuinness Institute