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 IN REPLY OF WENDY MCGUINNESS ON BEHALF OF THE MCGUINNESS INSTITUTE

14 October 2021

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

1. My name is Wendy McGuinness.

2. I have provided a statement of evidence dated 7 October 2014 in support of the McGuinness Institute's submissions opposing the application, which sets out my background and expertise.

3. I am giving this evidence in reply to respond specifically to the evidence of Daniel Lees on behalf of MPI regarding the Aquaculture Strategy.

4. The Aquaculture Strategy acknowledges the challenge faced by the Commissioners, that:[1] "The world's **climate is changing**, the global population is growing, and **natural ecosystems are under increasing pressure**. Consumers and regulators are increasingly **demanding sustainability** not just at the farm level, but **across the value chain** – from farm to plate". [Bold added]

5. The Strategy 'acknowledges the **potential** for aquaculture to be a $3 billion industry by 2035, and be a more significant part of a **lower emissions economy**.' [Bold added].

6. In my view, the government set out its expectations in a clear and concise manner, but those expectations are not reflected in NZKS' application.

7. For example, as the above quote discloses, the Strategy is intended to fit with the Government's goals to transition to a "low emissions economy". However, NZKS has provided little evidence that addresses how its proposal will contribute to a lower emissions economy. It could, for example, have provided a detailed emissions analysis by comparing emissions profiles both with and without the open ocean site. (I have provided an overview of the scope 1, 2 and 3 emissions that should be included in such profiling in Figure 6 of my primary evidence.)

8. Further, I disagree with Mr Lees' emphasis on the role of open ocean aquaculture in the achievement of the Strategy's outcomes. Mr Lees states:

> 'Open ocean aquaculture is a **critical** part of the aquaculture growth pathway.'
>
> 'The Aquaculture Strategy identifies a picture of how growth to this goal could be achieved. This has three parts: deriving the most value possible from sustainably farming existing consented space; extending aquaculture into land-based farm systems; and **critically**, enabling sustainable open ocean aquaculture.'

9. However the only use of the term "critical" in the Strategy, is in context of integration, where the strategy states:

[1] Aquaculture Strategy, p 4.

> ‘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.
>
> [Bold added]

10. I consider Mr Lees use of the term “critical” in his evidence goes beyond the intent of the Government’s Aquaculture Strategy.

11. Open ocean farming is only one of the three possible pathways the Strategy identifies, a pathway to be pursued only if a “world leading framework” is developed and implemented to “ensure it integrates with existing uses and values”. This is recorded in the text of the Strategy on page 5, and repeated within the strategy map on page 6, reproduced below:

12. The Strategy is not a plan. It is not even a three-staged strategy. It suggests there are three independent levers or drivers[2] for the industry to pursue, either in isolation or together. It is a good example of a strategy map, in that it provides a trajectory for

[2] The three “key drivers of sustainable growth” from the Strategy are set out in full in Appendix 1 to this statement.

further exploration but does not put in place a fixed way forward, providing principles to be followed rather than rules.[3]

13. To the extent Mr Lees may be suggesting that open ocean farming is "critical" to the achievement of the Government's aquaculture goals, I disagree. The Strategy is equally strong on maximising the productivity of existing farms through innovation (Driver 1), and extending into high-value land-based aquaculture, which might even include the possibility of farming "right through to harvest" (Driver 2). Neither of these drivers is dependent on consenting new marine-based farms. Further, a "world-leading framework" to enable sustainable[4] open ocean farming has not yet been developed.

Wendy McGuinness
14 October 2021

[3] The McGuinness Institute has a work programme to assess and score government department strategies (there are 199 strategies in operation as at 31 December 2020) and assess strategy maps, such as that found on p 6 of the Aquaculture Strategy. For more information on this programme, including the Index and Scorecard see: https://www.mcguinnessinstitute.org/policy-projects/strategy-nz/gds-index.

[4] In relation to sustainability I note also that NZKS has created a 'built fish', using imported feed from Chile and Australia (See https://www.stuff.co.nz/business/farming/aquaculture/64750652/chilean-firm-wins-king-salmon-contract) that are generally exported overseas (58% in 1H22) and whose profits are generally provided to overseas shareholders (See https://companies-register.companiesoffice.govt.nz/ and figure at Appendix 2.)

Appendix 1: “Key drivers of sustainable growth”, reproduced in full from the New Zealand Government Aquaculture Strategy

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.

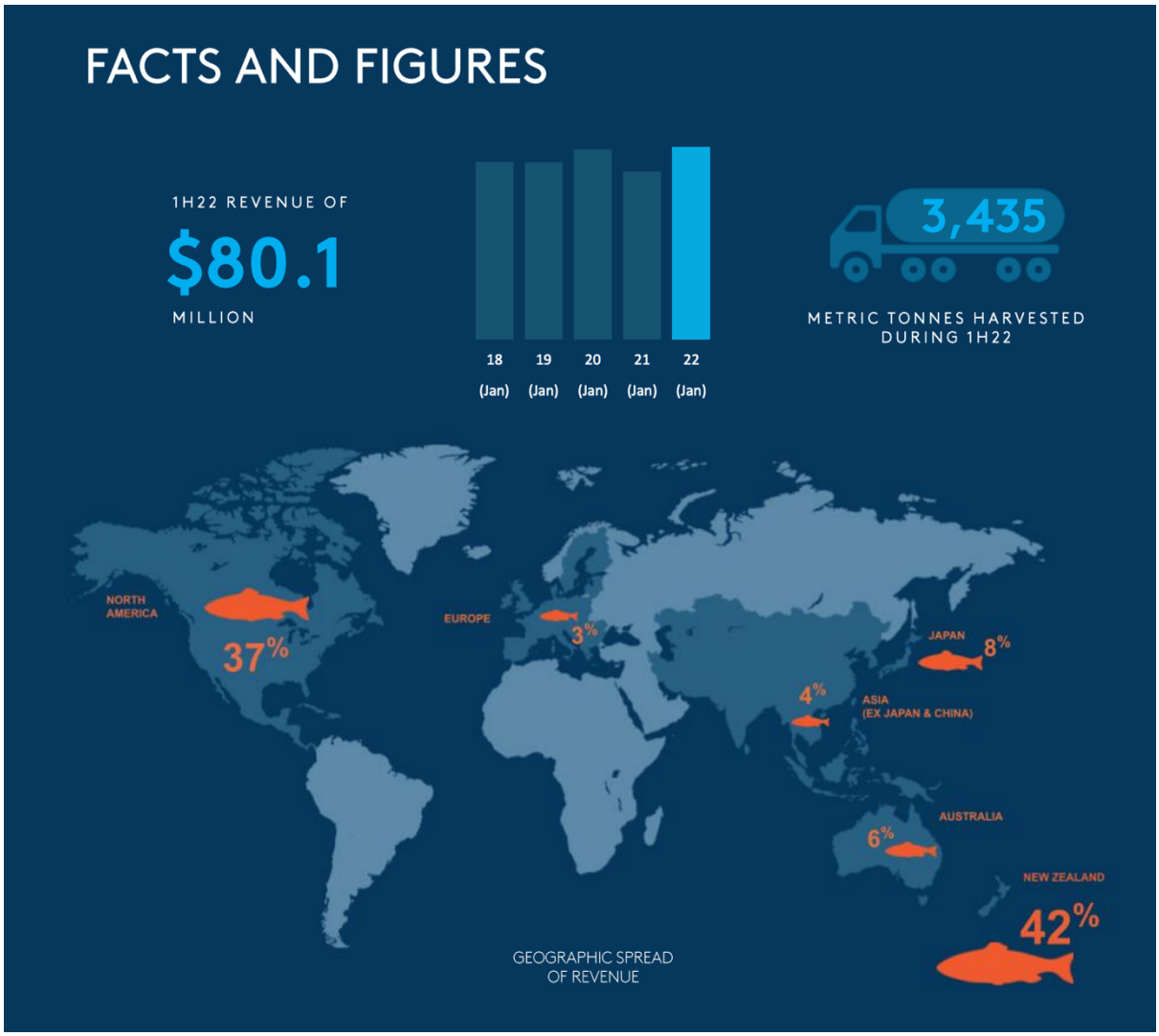
2. Extending into high value land-based aquaculture.

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 value.’

[Bold added]

Appendix 2


FACTS AND FIGURES
1H22 REVENUE OF
$80.1
MILLION
18 (Jan)
19 (Jan)
20 (Jan)
21 (Jan)
22 (Jan)
3,435
METRIC TONNES HARVESTED DURING 1H22
NORTH AMERICA
37%
EUROPE
3%
JAPAN
8%
4%
ASIA (EX JAPAN & CHINA)
AUSTRALIA
6%
NEW ZEALAND
42%
GEOGRAPHIC SPREAD OF REVENUE