IN THE MATTER **of the Resource Management Act 1991**

AND

IN THE MATTER **of a Board of Inquiry appointed under section 149J of the Resource Management Act 1991 to consider The New Zealand King Salmon Co. Limited's private plan change requests to the Marlborough Sounds Resource Management Plan and resource consent applications for marine farming at nine sites located in the Marlborough Sounds**

FINAL STATEMENT OF EVIDENCE PREPARED FOR THE BOARD OF INQUIRY BY WENDY MCGUINNESS ON BEHALF OF THE McGUINNESS INSTITUTE

27 September 2012

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This final statement summarises outstanding issues, which is supported by two appendices.

Appendix 1 outlines my understanding of the assumptions used of Fairgray's macroeconomic input/output model. As this is the only macroeconomic model put forward by NZKS, it demands a comprehensive peer review and a detailed understanding of what assumptions have led to the resulting conclusion. Importantly Fairgray's conclusions are drawn from Tables 3-10 and 3-11, being the final tables generated from Section 3 of his June 2012 evidence. The failure to list the assumptions, means that they cannot be easily tested, meaning his conclusions should not be relied upon by the Board of Inquiry. The tables in question may lead to an incorrect decision and/or the setting of inappropriate conditions.

The second, Appendix 2 makes suggestions to the Board in regard to specific conditions that might be appropriate, if the Board wished to proceed with approving this proposal with conditions.

Summary of Key Economic Issues

1. Can the demand and economic evidence provided by NZKS be relied upon?

There are two parties that initially prepared Statements of Evidence: Ragnar Olay Nystoyl and James Fairgray. There evidence is discussed below.

The Institute agrees that:

- Global supply projections can be relied upon. Nystoyl's projections of international production (supply), as evidenced in his Statements of Evidence, means that in the next 10 years, current 2011 production (just under 2,113,000 tonnes WFE) is likely to increase by 1,000,000 tonnes WFE , to about 3,115,000 tonnes WFE in 2020 [Nystoyl, June 2012, Page 26; August 2012, Page 2]. This looks possible when looking at what other international companies are hoping to produce. It seems that the industry may be difficult to enter, but once in production, it is relatively easy to increase production.

The Institute believes that:

- Demand data and price information/trends are inadequate; therefore conclusions over revenue and profit cannot be relied upon. Nystoyl's projections 'that the general demand for farmed salmon and trout will be strong enough to support the anticipate growth [of the NZKS proposal] if such plans are realized'[1] is not evidenced and from our initial analysis, far too optimistic. The Institute confirmed under cross-examination, the international demand projections (demand) and the evidence to support those projections was not identified or evidenced in Ragnar Olay Nystoyl Statement of Evidence or his Rebuttal Evidence. [Transcript of Proceedings of New Zealand King Salmon Board of Inquiry Hearing, Day 8, 5 September 2012, p 856-858.][2]

[1] See Nystoyl May 2012,Page 3.

[2] Section of Transcript of Proceedings of New Zealand King Salmon Board of Inquiry Hearing, Day 8, 5 September 2012, p 856-858:

- The distinction between fresh and frozen requires more research, as we understand that NZKS do freeze salmon for export when many of the tables used refer to fresh salmon.
- Estimated growth in global consumption of Atlantic salmon is over too short a time frame (2010, 2011 and 2012) to provide useful information over trends and cycles [Nystoyl – May 2012, Page 11].
- Chinook's share of the farmed salmon market has decreased significantly 4.25% in 1992 to 0.8% in 2010; this raises issues as to why progress with Chinook [Nystoyl - June 2012, Page 8].

"MS McGUINNESS: Yes, thank you. So we've talked about just my own mind, we've talked about the supply side, we've talked about the demand side, what is your evidence – what is the key evidence in your report that shows that the demand is going to be there?
MR NYSTOYL: I think as I have stated in the report, I have stated that it is first of all, our true belief as an institution that has followed the industry for 20-25 years, but having been so close to the industry we are the first to acknowledge that pioneering evidence for demand on our product (INDISTINCT 02.57) that do have say substitutes. As truth, there are product (INDISTINCT 3.03) substitutes. It's just depending on how far away from the core product though. It is difficult for me to say that we have proof of course, but I have in the report tried to show and include the many, the indicators, trends that are apparent, that support the belief that there is a strong increase the demand for salmon and -
MS McGUINNESS: Could you point, oh, sorry.
MR NYSTOYL: Sorry?
MS McGUINNESS: Could you point to that place in the report?
MR NYSTOYL: In the first report it is both a combination of, I said the development that we have seen over time that markets have demanded more salmon and have absorbed and consumed what has been produced. And there is again, the reports and signals that we receive from all the industry players are out and around in the markets and feeling the, both the demand and trends that are seen among consumers.
I have pointed out more specifically to the volume growth and the strong presence and increasing presence of salmon consumption in certain new and emerging markets, and placed – salmon also as a product in certain say, global trends, that are I think, acknowledged widely that these are global trends, or mega trends, that do affect consumers' choice towards eating, both now and going forward.
MS McGUINNESS: I just want to be quite clear, so you think your report provides significant evidence that demand will exceed supply, considering you are betting for such a high level of increase in supply in the next – „till 2020. So in other words, you think your report provides the evidence for increases in demand at the level that you are assuming?
MR …….: Sir, I think to be fair to the witness, he has – I think he answered a previous question that it was his opinion, based on the experience plus the material of the report, and he's already provided that in a previous answer.
MS McGUINNESS: That's fine with me. The point then is, the consumer research, can you direct the Board to the consumer research that would meet that requirement?
MR NYSTOYL: Sorry, if that was a question for me, the microphone was working, yes.
MS McGUINNESS: Oh, sorry, okay. So what I would have expected in a report that had market growth on it, I would have expected market analysis and I would have expected consumer research that supported significant demand for salmon. It's not in the report. Can you provide evidence, or direction to where that evidence could be found?
MR NYSTOYL: Within, say the timeframe, our scope, I have not found it possible to provide this specific evidence arising from consumer surveys, etcetera, that could cover or say, represent a global evidence on salmon demand. There are numerous of interest organisations that have and continues to do, to produce these kinds of service, but they are typically more focused on certain segments, on specific or local markets, of country by country, and are not necessarily providing demand estimates as accurate as, with the same horizon, with the level of details that you wish."

- The type of salmon may not generate a premium i.e. that fresh salmon follows the same pricing cycle whether it is 'farmed or wild' or 'Atlantic or Chinook' (as indicated by the Tables on the *Canadian Export Prices* or the *Average Import Price - Japan* of fresh whole salmon [Nystoyl – May 2012, tables on page 14]). This raises questions over whether salmon is a commodity and if a premium can be generated in the long-term.
- Also questions over what is a substitute good, e.g. is trout a substitute and therefore a competing product [Nystoyl – May 2012, see Tables of combined salmon and trout, pages 25 and 31]. Understanding consumer demands and whether there exist easily substitutable goods in the market can affect price and therefore profit.

- Fairgray's macroeconomic model fails to provide the necessary clarity over facts and assumptions, which leaves the reader with the choice of either accepting a black box figure (i.e. one than cannot be verified) or to attempt to explore the macroeconomic model independently. To explain the level of our concerns over this lack of transparency, we have outlined our understanding of the assumptions Fairgray has used in Appendix 1.

2. Should the Processing Plant be accessed separately?

Considering the level of uncertainty over where the processing plant is to be built and when, and that processing can be a relatively risky business, we believe the processing plant should be assessed separately. Fairgray's Table 3.1 [June 2012] shows this relationship [58% farming:42% processing], in that $59m is for salmon farming while $43m is for salmon processing. Other processing options exist; enlarging the Nelson processing site, adding more technology to the Nelson site, outsourcing processing off shore or selling salmon frozen semi-processed. For all these reasons, the farming and the processing impacts should be assessed separately – as the first (the farming) does not necessarily lead to the second (the processing plant).

3. What model is best to assess the economic impacts of NZKS?

There has not been a comprehensive cost benefit analysis of this proposal, and until this happens we have real concerns about how the public can be sure that all risks, costs and benefits have been identified, analysed and an informed decision be made. Other models do exist, but in my view, you cannot select the best model until a comprehensive list of risks, costs and benefits has been developed.

Only once such a comprehensive list is agreed, can the extent of those risks, costs and benefits be considered, analysed and finally assessed as a group. It is these secondary stages that require expert judgement – such as what model/s are most useful, what assumptions exist, and what facts can be relied upon.

The Institute considers more information is needed on:

- Demand and consumer preferences.
- Risks - and how they might impact on consumer preferences (e.g. disease, animal welfare, concerns over what is being fed to and therefore in the salmon) or profit (e.g. exchange risks, financial risks)
- Prices - Global prices of salmon over a long time frame, particularly in light of increasingly depressing news overseas.[3]

  A deeper understanding of at what point will increases in global supply significantly affect prices (and therefore profits). We can learn from Nystoyl's evidence [Nystoyl, May 2012, table at top of page 19] that a change in global supply does lead to changes in global prices, indicating that the supply of salmon does impact on prices. Unfortunately this table only looks at ten years, so it is difficult to make an assessment of whether the industry tends to follow long cycles and/or what causes changes in price over time.

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[3] *Salmon Prices Still Falling* CHILE, Tuesday, September 25, 2012, 23:10 (GMT + 9)
Chilean salmon companies estimate they lost between USD 0.19 and USD 1.59 per kilogram of salmon sold in the second quarter of this year, as a result of higher feed costs, lower prices and increased specimen mortality rate.
And some analysts estimate that this negative balance will be maintained between July and September due to harvest issues.
In the financial reports provided to its investors, the companies of the sector indicated that during the first half of the year, salmon prices fell by 35 per cent, the newspaper El Mercurio reported.
According to Andres Galarce, an EuroAmerica analyst of the salmon industry, another influential factor was the increased mortality rate registered in the salmon industry because of the high temperatures occurring in early 2012: mortality rates ranged between 6 per cent and 35 per cent during the first semester, depending on the species.
In addition, some companies reported lower harvest weights than those which had been planned.
Galarce explains that the effect of the mortality rate on the results of the salmon firms is even greater when the costs are high, since the firms are required to reflect all the historical investment made, such as on the fish feed.
And he forecasts that the losses per sold kilogram will be observed during the third quarter.
So far, the product that had the highest level of mortality rate was the trout, with an average rate of 16 per cent. Atlantic salmon recorded rates were around 10 per cent and Pacific salmon rates were about 6 per cent.
This data comes from the companies that reported their results to Superintendencia de Valores y Seguros (SVS): AquaChile, Blumar, Multiexport, Invertec Pesquera Mar de Chiloé (Invermar), Camanchaca SA and Australis.
An article published by Diario Financiero states that the falls in international placement values have accumulated a decrease of 17 per cent per shipped volume in the first seven months of 2012 and an average of 28.2 per cent in July 2011/2012. And it stresses that these results overshadow the increases in production and in sales of the businesses and sharpen the contrast between this reality and the expectations the industry had after overcoming the crisis caused by the infectious salmon anemia virus (ISA).
Several sources consulted by this newspaper have questioned the projections made when the industry consolidated its post ISA virus recovery.
In this regard, they recall that in 2010 and 2011, "many investors relied on assumptions that were too aggressive, with a significant percentage of the industry estimates relying on indicators such as EBITDA/tonne at USD 1,500 levels, which were similar to the price peak prior to the health crisis."
According to these sources, the forecasts should have followed a conservative projection of around **USD 1,000 per tonne.** See
http://fis.com/fis/worldnews/worldnews.asp?monthyear=92012&day=25&id=55632&l=e&country=0&special=0&ndb=1&df=0

- Costs - Feed. To gain a deeper understanding of why feed costs (which is all imported) have increased and to what extent the feed costs will increase in the future. We understand from Nystoyl the key cost of production is feed (about 50%)[4] and that the cost of feed is increasing significantly.
- Costs - Technology may reduce wage costs internationally but NZKS have indicated that they are not planning any technological changes that will reduce wages. This is surprising considering they are planning to build a new factory and it is unusual that technological advances are not built into 'new builds'. If the plant is going to go ahead, the Board could request the initial building plans for the processing plant to be built in Picton to understand how the 200 proposed workers will be utilised and to clarify whether the land has been purchased. Fairgray suggested the build cost was $4m on construction and $2m for equipment in Picton [Fairgray – June 2012, Page 38, Para 3.20]. See question 2 above.
- Costs - Processing. In reading material around the industry, it appears processing is increasingly be semi processed at source and then further processed in the country that consumes fish and shellfish. This would require further research, but it would question whether NZKS would in practice build a processing plant when exporting the fish direct to a processing plant overseas appears a more attractive and increasingly viable proposition.[5] See question 2 above.

Implications for the Decision

There is clearly a desire globally to increase the supply of salmon (many of the international salmon farming companies are expanding production (e.g. Scotland)). However unless this supply corresponds with a similar increase in consumer demand, prices (and therefore profits) are likely to fall. We also have concerns that other forms of fin-fish are seen as comparable in the market, so the competition for salmon may include trout, other forms of fish or even other forms of protein. Understanding the market is critical in order to feel confident that revenues and profits projected by NZKS are in fact achievable. This will impact directly on the economic benefit model[6] completed by Fairgray. It is therefore difficult to know what effect changes in international prices will have on the quantity of salmon demanded, and further whether alternative forms of fin-fish or even other forms of protein are important in making assumptions about demand.

Until more information is available on consumer demand and what the impact of an additional 1,000,000 tonnes of salmon will have on the international price of salmon, the input figures used by Fairgray and others, should, at the very least, be treated with caution.

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4 Transcript of Proceedings of New Zealand King Salmon Board of Inquiry Hearing, Day 8, 5 September 2012, Page 846.

5 Processing is very risky (e.g. North Island Mussel Processors (NIMP) has recently gone into receivership) and NZKS may wish to simply export frozen fish unprocessed. This seems to be the standard practice in NZ to export farmed shellfish, most mussels and oysters are exported frozen. See page 20 of NZAS http://www.salmon.org.nz/Sector_Strategy_final_low_resolution.pdf

6 We have used the distinction here to represent a financial model that is quantitative rather than qualitative. *Economic Impact* tends to refer to a macroeconomic effect on commerce, employment, or incomes produced by a decision, event, or policy whereas an *Economic Benefit* is quantifiable in terms of money, such as revenue, net cash flow, net income. See http://www.businessdictionary.com

In reality this investment decision is a decision shared by all stakeholders, which under 'national significance' is all New Zealanders. Investment managers, if looking at a proposal like this would not rely on the revenue and profit figures provided by NZKS, but instead would spend a great deal of time understanding the global market place; in particular consumer demand and what changes in supply would deliver. Secondly, they would be looking to understand the mix of exports of NZKS and where contracts currently exist – what quantity, over what time frame and at what price. Third, they would be looking at ways not to build the processing plant, creating a large specialised plant is not a useful fixed asset from an investment point of view, especially if other options are available. This is why we consider the processing plant should be assessed separately from the farms.

We have a real concern that this proposal may have looked positive when it was accessed in 2010 terms, but as a result of the global economic crisis, it may no longer be a sustainable economic business enterprise.[7] The proposal, if all nine farms are developed and the processing plant is built, raises significant concerns over NZKS's long-term viability, particular if the economic downturn continues in the medium to long-term.

[7] Please note the actual and budget figures of NZKS have remained confidential throughout this process. [Fairgray – June 2012, page 32, Para 3.5].

Appendix 1: Assumptions that we are aware of in regard to the Fairgray macroeconomic model

The purpose of the macroeconomic analysis, as outlined by Fairgray in the cross examination was to explore 'the implications for the economy [of this proposal] in terms of GDP and employment. Fairgray applies an 'input-output model of regional economies to assess the likely economic impact (over the period to 2036) of the increase in salmon production which the proposed plan change would enable'.[8]

These assumptions were initially discussed in terms of the cross-examination by Wendy McGuinness on 19 September 2012 and are redefined here for the purposes of a more complete summary.

Assumption	Fairgray	McGuinness Institute remarks
1.	All farms are grouped together in order to assess economic impacts.[9]	Each farm should be assessed separately in terms of risks, costs and benefits.
2.	All farms will be developed between 2013 and 2016 [Fairgray - June 2012: Para 3.2, Page 38].	This is not implied in the NZKS evidence; in fact the implication is that farms will only be developed as and when needed to meet market demand.
3.	Salmon farming is a significant pillar to the NZ Aquaculture Strategy (NZAS). [Fairgray – June 2012: Paragraph 4.18, Page 58].	It is a significant pillar but not the only pillar – see page 20 of the NZAS - "The greatest contributor to the growth of aquaculture production in New Zealand has been Greenshell™ Mussels (Total Rev $209, Export $166, NZ domestic market $43) with King salmon (Total Rev $88, Export $32, NZ domestic market $56) and Pacific oysters (Total Rev $28, Export $16, NZ domestic market $12) the other significant species. [2005 figures]" See http://www.salmon.org.nz/Sector_Strategy_final_low_resolution.pdf Further, the NZAS makes clear that '*A Healthy Aquatic Environment*' is a key objective and identifies an indicator of success being when: "*RMA decisions* [are] *informed by a national risk assessment of ecological Effects*" – see top of page 4 of the strategy at http://www.aquaculture.govt.nz/files/nz_aquaculture_strategy/AQUAStrat5yrplan2012.pdf
4.	All production data (supply) was provided by NZKS and accepted	This means that no due diligence was completed to ensure the data was accurate, comprehensive

[8] See Fairgray Evidence in Chief June 2012, paragraph 1.10

[9] Section of Transcript of Proceedings of New Zealand King Salmon Board of Inquiry Hearing, p2094, Day 17, 19 September 2012.
'MS McGUINNESS: So the first one I've got is that all the farms together have been assessed and that all the farms are to be developed between 2013 and 2016.
DR FAIRGRAY: Yes, as a group.'

	at face value.[10]	or within industry norms.
5.	Assumed that all salmon supplied will be sold at current prices – at a rate of $13,000 per tonne.[11]	This figure is important and should be able to be accessed so that it is understood in terms of the current cycle. Current prices are well below this figure of $13,000 per tonne (see footnote 3).
6.	Data used on costs and revenues is based on the financial years of 2007, 2008, 2009 and 2010. [Fairgray June 2011, Page 32, Para 3.5] but in particular 2010 (Fairgray – June 2012, Table 3.1).	2010 does not represent the recent decrease in global price or reflect the on-going economic downturn. Further, as there is no transparency here on how Table 3.1 has been generated, in particular the $59m for salmon farming and the $43m for salmon processing, it is not possible to understand or verify this model. See also assumption 16 below.
7.	A processing plant in Picton would be expected to handle farm output in excess of 15,000 tonnes. [Fairgray, June 2012, Page 38, Para 3.20]	There are a significant number of events that need to happen before the build can occur. Firstly there already exists some doubt if it will be built in Picton or Nelson [Clark, August 2012, page 13, Para 6.2] notes 'potentially Marlborough'. The build of the Picton processing plant was not given a specific year rather around 2016 and 2017.[12] For a processing plant in Picton to go ahead, the land needs to be purchased, the plans need to be drawn up, the resource consent needs to be applied for and funds obtained.
8.	That the processing plant is fundamental to the proposal	It is not fundamental to the proposal but the fact it is included in this model significantly impacts on

[10] See Fairgray Evidence in Chief June 2012, paragraph 3.5.
'Detailed data was provided by NZ King Salmon on a strictly confidential basis, to show costs and revenues for each part of the business, covering the hatchery, salmon farming, processing, sales and corporate activities, for the financial years 2007, 2008, 2009 and 2010. I have taken the information relating to this period as being the most representative of the NZ King Salmon future operations, as it encompasses a period of stable and strong operations and production, and export activity for the company'.

[11] Section of Transcript of Proceedings of New Zealand King Salmon Board of Inquiry Hearing, p2099, Day 17, 19 September 2012
DR FAIRGRAY: Well it was not the last sale the value of output from the, I believe inflation adjusted for the average over those four years, but it is round $13,000.

[12] Section of Transcript of Proceedings of New Zealand King Salmon Board of Inquiry Hearing, p2094, Day 17, 19 September 2012.
"MS McGUINNESS: So I was just trying to clarify, in your model, where have you put the processing? Have you put it in 2013 or 2019 or somewhere in the middle?
DR FAIRGRAY: No, the processing, if you see the first sentence of that paragraph, where it says facility in Picton to handle farm output expected to be in excess of 15,000 tonnes. So once that kicks in, it's assumed that the processing plant in Picton is open.
MS McGUINNESS: But in your model you must have assumed a date, a year?
DR FAIRGRAY: Well, I didn't assume a year, we've got a growth path for the production levels assumed from the plants, and once that exceeds 15,000.
MS McGUINNESS: Could you tell me what year that is?
DR FAIRGRAY: I can't specifically, but I believe it would be around 2016 or 2017.
MS McGUINNESS: Okay.
DR FAIRGRAY: I'd have to check to see."

	being a success as it is included in the model without question. (Fairgray – June 2012, Page 38, Para 3.20)	the value added figure and employment in Tables 3.10 and 3.11. Processing is very risky (as indicated in recent events in Tauranga)[13] and NZKS may wish to simply export frozen unprocessed salmon to overseas processing facilities. This seems to be common practice in NZ (i.e. most mussels and oysters are exported frozen. See page 20 of NZAS http://www.salmon.org.nz/Sector_Strategy_final_low_resolution.pdf)
9.	All profit is to the benefit of New Zealand, no matter who owns it and what their investment policy is.	NZKS is largely owned by overseas interests and Direct Capital (who operate an investment fund which is usually on-sold within ten years). The input-output model does not take into account the ownership of the shares. We would argue that the input/output model is not an effective approach to use as it does not take into account whether those outputs (benefits) are incurred in New Zealand or overseas.
10.	NZKS can sell its salmon at a premium compared to salmon sold internationally.	This is critical – it can only sell Chinook salmon at a premium if it can either have consumers appreciate (i) that Chinook is better than Atlantic or (ii) that New Zealand produces better salmon than Australia, Canada, Norway etc. This is still in question, although we understand NZKS is undertaking a major marketing programme to establish a premium should exist.
11.	Only the first 25 years of economic impact is accessed. [Fairgray – June 2012, Page 41, table 3.5, 3.10 and 3.11]	The proposal is for 35 years.

[13] 06/09/2012 - 'A Tauranga mussel processor part-owned by one of the Coromandel's biggest mussel companies has gone into receivership, putting hundreds of seasonal jobs at risk. Receivers moved in yesterday to North Island Mussel Processors (NIMP), a joint venture owned by Greenshell NZ, Sanford and Sealord. In a statement to the stock exchange, Sanford said Greenshell NZ had failed to pay $1.2 million of processing fees to the joint venture, forcing the receivership. The Coromandel mussel season starts next month. It employs 400 people. Just two years ago NIMP opened a $23m new factory which it said would give it the biggest half-shell production capacity in the world. Greenshell NZ is owned by interests associated with Peter Vitasovich, chairman of Aquaculture New Zealand. He did not return calls. Greenshell mussels represent nearly 80 per cent of the $300m aquaculture industry, which in turn accounts for a fifth of the value of New Zealand's fishery production. At the time of the Tauranga factory opening, the aquaculture industry had plans to become a sustainable, billion-dollar industry by 2025. Sanford managing director Eric Barratt could not comment on the possible impact on Coromandel mussel industry jobs but said if the Tauranga plant was not operating it made things more difficult for everyone. He said the focus now was on how to keep the business operating. It employs 20 fulltime staff and 200 seasonal workers. Asked if Sanford and Sealord could seek another partner, Barratt said that had not yet been considered. "The issue is the mussel processing business needs volume - it's a little sad there was not equality of volume." NIMP charges fees for processing mussels from its owners' farms. Receiver McGrath Nicol last night said it was working with key stakeholders to understand the financial position of NIMP and to "assess the various options and determine the best way forward".' See http://www.stuff.co.nz/waikato-times/business/7623313/Mussel-firm-receivership-puts-seasonal-jobs-at-risk

12.	Non-market values are not included in his model as too difficult to quantify. [Fairgray, June 2012: Para's 5.37 and 5.46, Page 74].[14]	We believe Section 3 of his report should read '*Economic and Employment benefits of Salmon Farming and Processing'* – as the current heading Economic Impacts as this implies a much larger scope. See economic impact[15] v economic benefit.[16]

[14] See also Transcript of Proceedings of New Zealand King Salmon Board of Inquiry Hearing, Day 17, 19 September 2012, p 2102-2104:
'MS McGUINNESS: - - - do you not think that you should have gone further in evidencing those non-market values?
DR FAIRGRAY: No, no I don't, because it's in a whole separate and additional process to examine those non-market values, and normally, you know, it's a fairly common problem, unless the non-market values are identified and examined and attempt to be quantified in a fairly rigorous way, then it's something that you either say, "Yes, we have enough information to go there" or you acknowledge specifically like I've done and say, "No, we don't have enough information to go there in a robust way. This is a matter that needs to be examined from a qualitative perspective, relying on the evidence of other experts for those who are charged with making an evaluation" which is not myself.
MS McGUINNESS: Your evidence and the gentleman from Norway is the only evidence provided by New Zealand King Salmon and the title is called "New Zealand King Salmon Demand and Economic Evidence", so ignoring – sorry, use the word you used – which is "deciding not to go with the non-market value, even identifying what they could look like", do you not think that provides a hole in the evidence that your providing to the Board?
DR FAIRGRAY: No, it's not a – I don't think it's a hole in the evidence that I'm providing to the Board. The Board is provided with a lot of information on those non-market values from the relevant experts in terms of landscape and amenity and those sorts of things, which are outside my area of expertise. And so - - -
MS McGUINNESS: But you don't say that in your statement.
DR FAIRGRAY: I've been fairly specific about it.
MS McGUINNESS: Well you begin by actually saying "that non-market values are considered as part of this assessment".
JUDGE WHITING: Point to the paragraph please so we can all - - -
MS McGUINNESS: Yes, sorry.
40 JUDGE WHITING: - - - understand what you are talking about.
MS McGUINNESS: The easiest way might be to do a find quickly on the document. On page 11, (d) of the June 2012, and I haven't read this, I'm just picking for the bold – "I also consider other costs including reference to the non-market values of the resources utilised or affected by salmon farming - -
JUDGE WHITING: Sorry, which paragraph?
MS McGUINNESS: Page 11 and – sorry, 1.18(d).
JUDGE WHITING: D, yes.
10 MS McGUINNESS: And that's in (d), the last sentence says, "I also consider other costs including reference to the non-market values of the resources utilised or affected by salmon farming, including the potential for a total economic value to assessment."
DR FAIRGRAY: Yes and I – and that's what I have done, I've – I haven't attempted to quantify other costs, I've identified them as being relevant.
MS McGUINNESS: Yes, I think you've identified them as a group. You haven't identified them as specifically.
DR FAIRGRAY: No, but I've also said in section 5.7 on page 72, and I've got a few paragraphs on that saying - - -
JUDGE WHITING: Sorry, paragraph?
DR FAIRGRAY: 5.39 – and identifying there the nature of those non-market values.'

[15] Economic Impact defined: A macroeconomic effect on commerce, employment, or incomes produced by a decision, event, or policy. Read more: http://www.businessdictionary.com/definition/economic-impact.html#ixzz27TUmcWk2

		Although Fairgray does state that he considers NMV in this Statement of Evidence (Fairgray - June 2012, Page 11, Para 1.18 d], NMVs are not included in his Input/Output model in section 3. Furthermore NMV's are not comprehensively identified or assessed in his Statement of Evidence/s. Instead he takes a broad view that 'These [NMVs] would to a degree offset positive effects …' [Fairgray, June 2012, Page 74, Para 5.46]. The Institute is concerned that all the risks, costs and benefits have not been identified, neverlone assessed.
13.	No comprehensive list of risks were identified	For example key financial risks include the exchange risk, disease risk, market risk. The model implies that no risks will occur.
14.	The discount rate used is 8% (Fairgray, June 2012: Table 3.11, page 48): 'The 8% discount rate is the standard rate identified by NZ Treasury as the "Default rate (for projects that are difficult to categorise including regulatory proposals) http://www.treasury.govt.nz/publications/guidance/planning/costbenefit analysis.' (Fairgray, June 2012, page 48, footnote 14).	The time value of money is only taken into account in Table 3.11. This is a critical concept especially since the proposal covers a period of 35 years.
15.	That NZKS is not and will not be liable for any cost/fee for the use of the marine area in question.	Government policy has already gone some way to flag that fees will be charged in the future, therefore NZKS should include in its projections some costs/allowances for this additional expenditure.
16.	For the wider economy modelling, data was drawn from … StatisticsNZ Inter-industry tables[17][Fairgray – June 2012, Page 32, para 3.7]	We consider that the accuracy of the economic impact modelling is suspect for a number of reasons: The first decision is the choice of the 'direct output' figures. The 2010 figure in Table 3.1 [Fairgray – June 2012, page 34) is therefore the most critical figure to check for accuracy. **A breakdown of how this first figure was calculated has not been provided**. From then on the input/output tables largely take over; hence how the direct output figure is generated is critical to assessing the quality of the

[16] Economic Benefit defined: Benefit quantifiable in terms of money, such as revenue, net cash flow, net income.
Read more: http://www.businessdictionary.com/definition/economic-benefit.html#ixzz27TVHvJod

[17] The link to the SNZ IO framework and tables can be found here: http://www.stats.govt.nz/browse_for_stats/businesses/business_growth_and_innovation/inter-industry-study.aspx

		model (i.e. rubbish in rubbish out). Once the 'direct output' figures are chosen, the next important decision is to assess the choice of the Input Output Table. The Input/Output tables selected are provided by Statistics New Zealand and reflect the shape of the economy as at 1996. In particular: (a) Inter industry relationships and production processes have changed significantly over the last 15 years. This means relationships (the ratio) between construction (capital) and operation costs (labour and feed) are unlikely to reflect changes in production processes. In particular, technological changes over the last fifteen years would expect to be quite significant, as would the changing nature of other industries in that time. (b) In 1996 aquaculture was an emerging industry and therefore very small. This means that inter-industry transactions are likely to be very different now. (c) Industry groupings in the Input/Output Tables are aggregated and so representative of the various sub-industries. The first point to note is that within the fishing industry, aquaculture is quite different than say line trawling. Further, even within the aquaculture sector, salmon fishing is likely to have a very different set of inter-industry relationships than, say, mussel farming. Secondly, we do not know which industry. If it is 'Fishing and fish products', we would imagine there would be very different characteristics between fishing in boats as against farming in large nets. Notwithstanding the fact that the industry groups are unlikely to reflect activity in Salmon Farming, Fairgray does not provide information on which industries were used to calculate these

		GDP and employment impacts and multipliers. Finally, it is unclear where regional calculations were derived from as you would expect the multipliers to be different depending upon the composition of industries in that region.

Appendix 2: Suggested conditions of the resource consent as at 27 September 2012

Please note these are not provided to argue for the consent to be approved, but to provide the Board with a list of possible conditions that they might like to consider.

1. **The application is approved for 15 years (until 2027) of x farms, with the right to a ten year extension** if the Minister of Conservation approves this extension. It is to base its decision on advice from the local authority and the advisory board (see 2 below). We believe twenty-five years is the maximum allowed for this proposal as it is the timeframe used consistently in forecasting.

2. **An Advisory Board is established**. This should be made up of seven people; two representatives from community groups that focus on conservation (e.g. Sustain our Sounds), three commercial enterprises that operate within the sounds (e.g. such as the Cougar line, fishing and Dolphin watching) and two NZKS staff (provided NZKS staff are not able to be Chair). The purpose of this group is to consult and report to the Minister of Conservation annually on how the proposal is evolving, identifying outstanding issues and suggesting improvements. This Advisory Board should be funded $200,000 pa (paid for by NZKS) so that the Sounds community can have confidence in independent research, public consultation, deal with complaints, make good and improve the environment, and prepare public annual reports that are included in NZKS's annual report.

3. **Any changes to conditions** require the unanimous signing off of the Council, the Advisory Board and the Minister for Conservation.

4. **The resource consent cannot be separated or divided from NZKS; nor can the consent be sold or transferred, licensed, rented or exchanged, either individually or together with a related contract, asset or liability**.

5. **The resource consent for all farms is cancelled if it is triggered by one of the following events:**
    a. The New Zealand ownership (as in owned by New Zealand citizens) drops to below 51%.[This means Evergreen Holdings Limited would need to sell 2% to a NZ citizen in order for the consent to be approved]
    b. Employment drops to below 80% planned for each of the nine new farms or the processing plant in the next 15 years.
    c. Two or more farms have been closed down by authorities – see below.
    d. GM salmon eggs, which are currently in a frozen state, are thawed without approval by the EPA under the HSNO legislation.
    e. If no farms are developed by 2015
    f. By 2015, NZKS can only develop the same number they developed between 2012 to 2015 (with a maximum of the nine farms). For example, if they only develop three farms by 2015, they can only develop another three farms from 2015 to 2022. (i.e. use it or lose it).
    g. Any other legislation that calls into disrepute the management of NZKS.

h. Processing takes place on the farms. NB: If NZKS want to do any processing on the farms, they must reapply for the consent.

6. **Each specific farm must be closed down if:**
    a. Quarterly Audits are not passed, three times in a row
    b. Health and Safety standards are not met for three months is a row
    c. Environmental standards are not met twice in a row
    d. A disease is found in the farm and it makes the farm uninhabitable for salmon for a period of three months or more.
    e. Noise from the farm creates complaints and the council, after three warnings, has the right to close the farm.
    f. The site is not kept clean and tidy, and after three warnings over a three month period.

7. **That a set of specific principles and standards of practice are applied to each farm** to meet the locations specific characteristics (e.g. cultural, heritage etc).

8. **Any financial loss potentially incurred by a person living or working or running a business in the Sounds,** that possibly can be attributed to the management of the NZKS farms will have their legal costs paid by the government (or NZKS) accordingly – enabling them to go to court for retribution and/or making good.

9. **Three farms only are given initial consent, with the other six dependent on the processing plant**. The remaining six are not given consent the processing plant resource consent is approved and construction is started. (The length of time to construct the building appears to be about the same time to develop a farm and for it to come on stream). NB: This will mean that the benefits of the processing plant that have been included in the assessment only come on stream when the processing plant is also on stream. (In other words the benefits promised are actually delivered).

10. **Any system to charging fees for marine area use must also apply to NZKS**. In other words, NZKS cannot use the fact that this potential approval occurs before the legislation is passed in the House to avoid a fee. NZKS must be charged like everyone else will be in coming years.

11. **At the end of the resource consent, by the year 2027 (or if an extension is allowed the year 2037)**, all plant and equipment is removed from the site so that for all intense and purposes, the site is returned in the pristine condition it was found in.