

**BEFORE THE MARLBOROUGH SALMON FARM RELOCATION ADVISORY PANEL
AT BLENHEIM**

UNDER the Resource Management Act 1991
IN THE MATTER of Regulations under ss 360A and 360B of the Act
BETWEEN **THE MINISTRY FOR PRIMARY INDUSTRIES**
Applicant
AND **THE MARLBOROUGH DISTRICT COUNCIL**

**REPLY TO FOURTH MINUTE OF MARLBOROUGH SALMON FARM RELOCATION
ADVISORY PANEL
Dated this 22nd day of May 2017**

**GASCOIGNE WICKS
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May it please the Panel:

- 1 This reply is given on behalf of New Zealand King Salmon (NZ King Salmon) in response to the four questions set out in the Fourth Minute of the Marlborough Salmon Farm Relocation Advisory Panel dated 12 May 2017.

Question 1: Water column effect modelling

- 2 Question 1 asked:

Criticisms have been levelled in two respects at the accuracy or reliability of the feed input tonnage figures provided for the baseline scenario modelling in the Report entitled NIWA – Modelled water column effects on potential salmon farm relocation sites in Pelorus Sound – HAM Report 12 (18 October 2016 Broekhuizen & Hadfield):

- (a) *The inclusion in Table 1-1 of the report for scenario 1 of 822.8 tonnes of input feed for each of Crail Bay Farm 1 and Crail Bay Farm 2 when those farms are no longer in operation – it being asserted the result is a reduction in differences modelled in each of the other scenarios against the baseline scenario, thus affecting the reliability of the modelled conclusions;*
- (b) *The variance in a range of the other tonnage input figures for many (but not all) of the farms in Table 1-1, which are also asserted to undermine the reliability of the modelled results.*
- 3 NIWA modelled the water column effects of the proposed salmon farms in the Pelorus Sound. The modelling results are contained in the NIWA Report HAM2016-012 dated 18 October 2016.
- 4 The figures used for the baseline are the amount of feed that might be discharged under the consents. They are an attempt to model a real-world maximum production scenario in the context of NZ King Salmon and Ngāi Tahu's existing consents.
- 5 The basis for choosing that baseline is the *Hawthorn* line of authority.¹ The existing environment includes the environment as it might be modified by the implementation of resource consents which have been granted, where it appears likely that those resource consents will be implemented.
- 6 That scenario needs to accord with the real world² and should not be approached as a statute.³

¹ *Queenstown-Lakes District Council v Hawthorn Estate Limited* (2006) 12 ELRNZ 299; [2006] NZRMA 424 (CA).

² *Queenstown Central Limited v Queenstown Lakes District Council* [2013] NZHC 815 at [84].

³ *Royal Forest & Bird Protection Society of New Zealand Incorporated v Buller District Council* [2013] NZHC 1324 at [223]. There is authority for the proposition that partially implemented consents should be

- 7 The leading decision is *Far North District Council v Te Rūnanga-ā-Iwi o Ngāti Kahu* [2013] NZCA 221. In that case the Court stated at [80]:

As this Court noted in *Queenstown Lakes District Council v Hawthron Estate Ltd* the consent authority will frequently be aware that the environment existing on the date a consent is granted is likely to be significantly affected by another event before its implementation. In its plain meaning and in its context, we are satisfied that “the environment” necessarily imports a degree of futurity. The consent authority is required to consider the state of the environment at the time when it may reasonably expect the activity – that is, the subdivision – will be completed.

- 8 The Court of Appeal goes on to state at [94]:

In this respect we note this Court’s statement in *Hawthorn* to the effect that it is permissible and will often be desirable or even necessary for the consent authority to consider the future state of the environment. However, that observation does not affect our conclusion. The Court was simply recognising that a consent authority will not always be required to consider the future state of the environment. But, as the Court expressly recognised, it would be contrary to s 104(1)(a) for the consent authority not to take account of the future state of the environment where it is satisfied that other resource consents will be put into effect. This is such a case.

- 9 This is an alteration of a plan under s360A and not a resource consent application. That matters not. The environment in this context is the environment referred to in s 5(2)(c). It is the context in which this Plan Change must be considered, at least to the expiry of the existing consents in 2024 and 2049.

- 10 The reason for NZ King Salmon including the Crail Bay farms in the model is because the Crail Bay farms remain under active consideration as a potential smolt site. Grant Lovell will give supplementary evidence on this point.

- 11 The primary comparison is between scenario 1 and scenario 13. Scenario 13 is a maximum production scenario (which as Mr Lovell will note goes beyond what is contemplated as a restricted discretionary activity under the proposed plan provisions). It is reasonable to compare such a scenario against a comparable scenario under current consent conditions.

assumed to be fully implemented, even where fully implementing them is fanciful: see *Smith v Marlborough District Council* W098/06 and W088/97.

- 12 In any event, Ben Knight estimates the additional difference had the baseline been actual current discharge levels, and considers the difference (30%) does not substantially change the results.

Disclosure of mortalities

- 13 Question 2 asked:

Assertions have been made that there have been major continued mortalities at both the Waihinau and Ruakaka farms, in particular over the years since 2014. It has been asserted that either such continued high mortality rates may not have been reported to the authorities or advised to Dr Diggles when he was preparing his report entitled Updated disease risk assessment report – relocation of salmon farms in Marlborough Sounds (7 September, 2016, Diggles). Alternatively, it has been asserted that that report did not properly record and identify the actual causes of continued high rates of mortalities, or address their significance in terms of sustainability of salmon farming in Pelorus Sound, or in terms of risk to other fauna.

- 14 Those assertions are inaccurate. Mr Mark Preece gave candid evidence to you about fish health issues. Dr Diggles was provided with all relevant information.

- 15 Dr Colin Johnston will address you on this point further.

Light levels

- 16 Question 3 asked:

An issue has been raised in the powerpoint presented by Mr Schuckard in relation to a significant adverse effect on light attenuation which he asserts arises from an increased level of chlorophyll a in the water column caused by the discharges from the proposed new sites in Waitata Reach, (including those adjacent to Blowhole Point in that description). He asserted that a consequence would be a significant adverse effect on the light levels available for foraging King Shags on the seabed, to such an extent as to effectively deny to them in practical terms use of extensive areas of their foraging grounds in and adjacent to the Reach.

- 17 NZ King Salmon has asked Ben Knight to respond to this point. As I understand it Mr Schuckard's analysis suffers from the following difficulties:

- (a) Chlorophyll a is not the main factor affecting light attenuation in the Marlborough Sounds. Suspended sediment is;
- (b) The changes in phytoplankton abundance discussed by Mr Schuckard are significantly greater than those predicted by the modelling work by Dr Broekhuizen. The change in concentration of phytoplankton in Waitata Reach under scenario 13 will be less than 0.04 mg Chl m⁻³. Applying Mr Knight's correction to use a more conservative baseline

would still result in an increase of less than 0.052 mg Chl m⁻³. Mr Schuckard has assumed a change of 1 mg Chl m⁻³;

- (c) Mr Schuckard has used a rate of light attenuation derived from Antarctic waters which have exceptional clarity, and applied those to the Marlborough Sounds. That is inconsistent with light attenuation data collected by the Council and NZ King Salmon, which was not used or referred to by Mr Schuckard. Due to other dominant causes of light attenuation the consequences of any increased phytoplankton will be difficult to measure;
- (d) Mr Schuckard has assumed a lux level of 100, whereas light levels under a summer, overcast sky is around 1000 lux and in bright sunlight can exceed 30,000 lux. It is only summertime which is relevant because in winter the near surface chlorophyll concentrations⁴ increase by up to a mere 0.002 mg Chl m⁻³ (or up to 0.003 mg Chl m⁻³ if Mr Knight's correction to a more conservative baseline is used); and
- (e) The modelling indicates that, close to the seabed, there will be less chlorophyll and less additional chlorophyll caused by the farms⁵. The assumption by Mr Schuckard that chlorophyll concentration will remain constant with depth will overstate the effect that chlorophyll (and farm derived chlorophyll) has on light attenuation near the seabed.

18 The 3.5 mg Chl m⁻³ limit for the concentration of chlorophyll is part of a suite of management tools. The purpose of that particular measure is to prevent algae blooms being caused by the salmon farm operation.

19 It is not a target for NZ King Salmon to reach.

20 NZ King Salmon are unlikely to be able discharge the quantities of feed modelled in scenario 13. That would only be achieved after at least 15 years of additional monitoring and staged development. The rule standards and matters of discretion require appropriate monitoring plans to be devised, specifically to address chlorophyll concentrations and water clarity. The eventual conditions of consent will ensure that. There are (in NZ King Salmon's view overly conservative) caps on feed increases which have been ignored by Mr Schuckard.

⁴ NIWA – Modelled water column effects on potential salmon farm relocation sites in Pelorus Sound – HAM Report 12 [PDF, 10 MB] [100 pages, 18 Oct 2016] Figure 3-24 (page 57)

⁵ *Ibid.* Figure 3-25 (page 58) and Figure A-22 (page 96)

- 21 It is safe to conclude in terms of Policy 11 of the NZCPS that adverse effects will be avoided.
- (a) This is a (more than) adequate evidential foundation;
 - (b) We have a good set of baseline information collected by the MDC and NZ King Salmon from July 2012, to which NZ King Salmon will be adding further information;
 - (c) The relationship between nitrogen and chlorophyll is well understood. Properly analysed there is little uncertainty, especially at initial feed levels;
 - (d) This effect (in terms of s3) can only be a “potential effect of low probability which has a high potential impact”. Yet before any high potential impact occurs we will be accurately able to measure and any consent will require an adaptive response to any effect which the farms are having⁶. In that way any adverse effect is avoided before it occurs.
- 22 You will note I have not resorted to the argument that the effect is minor (*“It is improbable that it would be necessary to prohibit an activity that has a minor or transitory adverse effect in order to preserve the natural character of the coastal environment”*⁷). I prefer to make the argument that managed in this way, the change is not an effect (and certainly not adverse). In saying that I rely on the evidence demonstrating that there will be no material impact on the habitat of the King Shag.

Errors in McGuinness Institute report

- 23 Question four asked:

A number of varying figures have been challenged before the Panel in respect of the exchange proposed by way of replacement farm areas. In particular, MPI’s depiction of the exchange being an effective ‘swop’ of like for like of surface areas occupied, is challenged on the basis that while surface structure area may be similar or less for the exchange sites proposed, the total ‘consented’ areas to be actually occupied appear to be significantly larger.

- 24 The MPI figures are, with one exception, correct. The wposition is set out in the table **below**.

⁶ *Sustain Our Sounds Inc v New Zealand King Salmon Company Ltd* [2014] NZSC 40, (2014) 17 ELRNZ 520, [2014] 1 NZLR 673, [2014] NZRMA 421 at [129], [133], [135], [136] and [140]

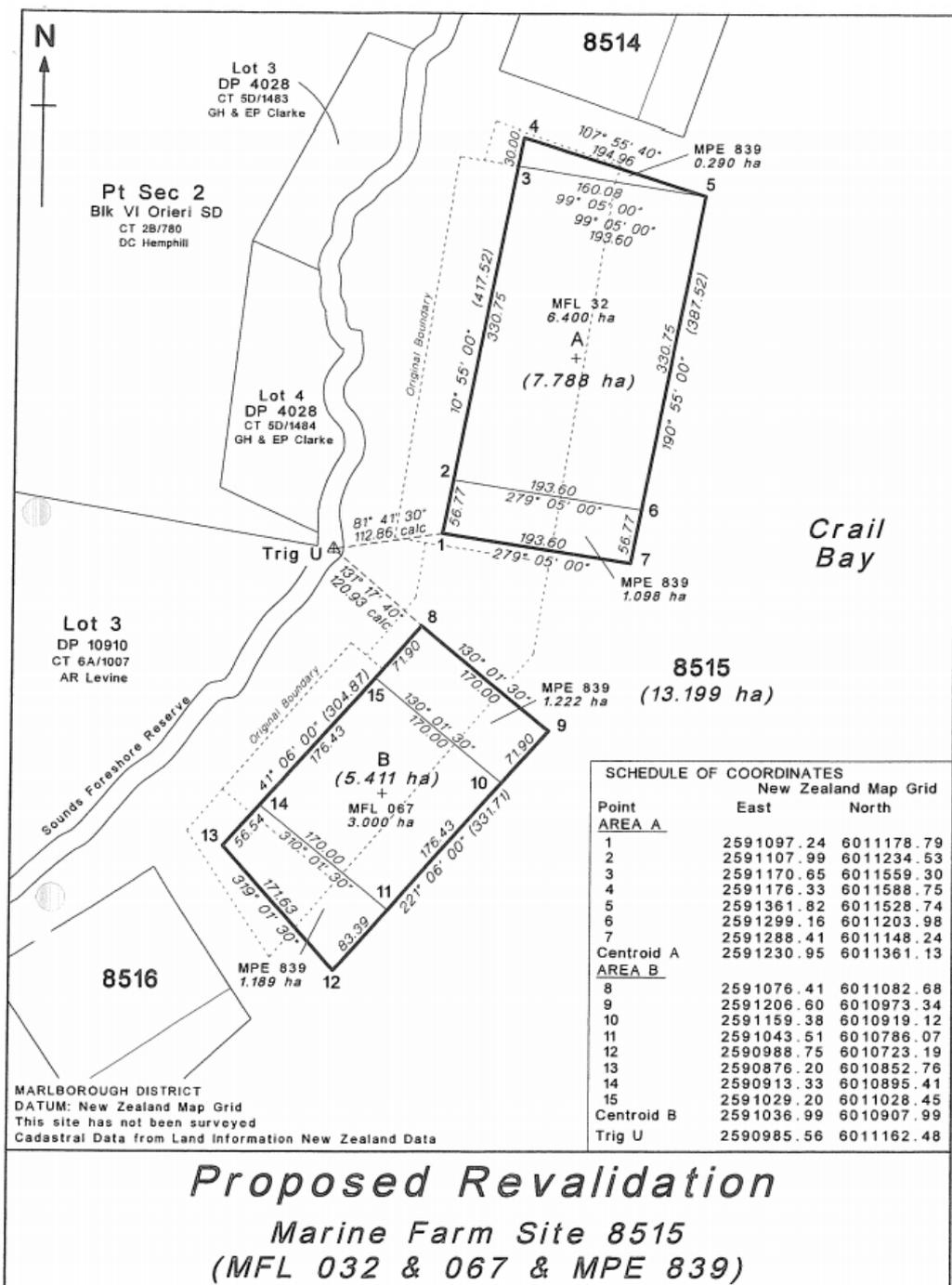
⁷ *Environmental Defence Society Inc v New Zealand King Salmon Company Ltd* [2014] NZSC 38, (2014) 17 ELRNZ 442, [2014] 1 NZLR 593, [2014] NZRMA 195 at [145]

Site and Consents	Total Consented Site Area (hectares)			
	Original MPI Proposal	MPI Corrected in Erratum	NZKS submits as correct	McGuinness Institute
Waihinau Bay	8	-	8	8
Forsyth Bay	6	-	6	6
Crail Bay 48	5.1	5.58	4.5	13.2
Crail Bay 32	7.8	7.79	7.788	5.6
Otanerau	10.8	-	10.8	10.8
Ruakaka	11.3	-	11.3	11.3
Clay Point		-	19.6436	31
Te Pangu		-	21.092	21.1
Total			89.1236	107
Total excl. Clay Point and Te Pangu	49	49.47	48.388	54.9

25 Errors in the McGuinness Institute document appear to be as follows:

- (a) Crail Bay MFL032 and MFL048 have been transposed;

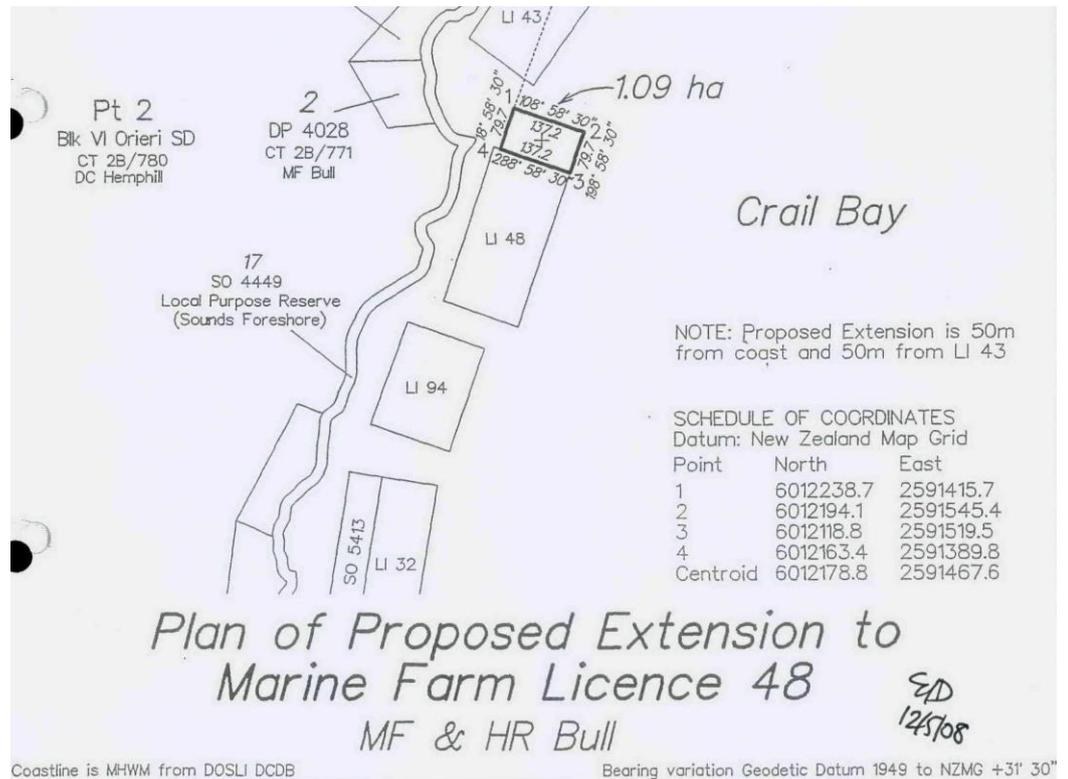
- (b) The 13.2 hectare figure relates to MFL032, MFL067, and MPE 839. These sites are shown on the **attached** plan sourced from the Marlborough District Council's files.



NZ King Salmon may farm MFL032 and its extensions MPE839 (area A) as shown on that plan, but not MFL067 and its extensions (area B).

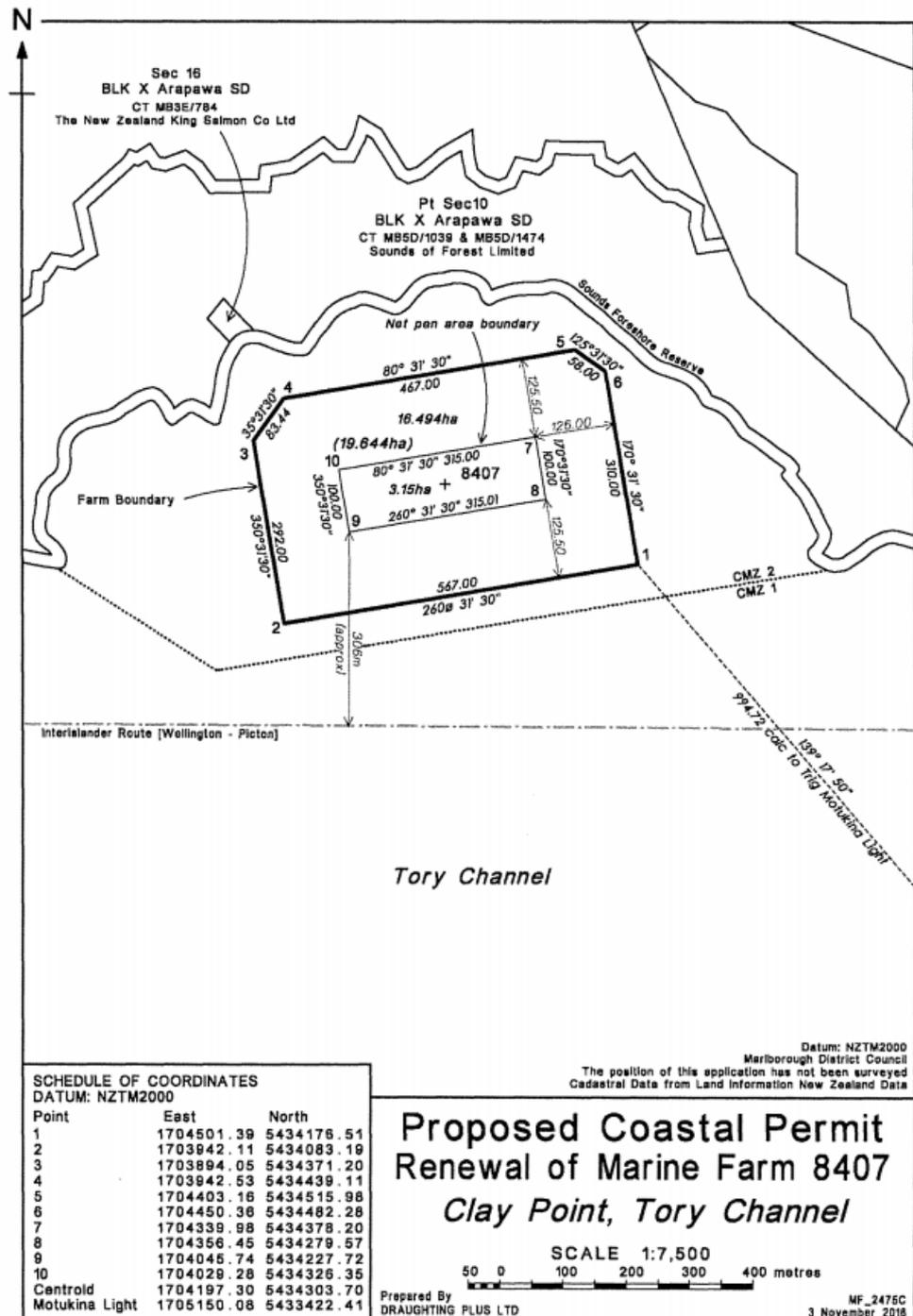
- (c) On site MFL048 the extension (first consented under U960385 and now consented under U060533) is not consented for the growing of salmon

(refer Pacifica's consent U090660 and NZ King Salmon's variation and consent U130743). Consequently the relevant area for these purposes is MLF048 and not the 1.09ha extension, shown below



- 26 This accounts for the difference in the total area excluding Clay Point and Te Pangu.

27 There is a further error in respect of the Clay Point site. The area of Clay Point is only 19.644 hectares and not 31 hectares used by the McGuinness Institute. This is shown on the **attached** plan sourced from the Marlborough District Council's files.



28 The focus of this exercise has been on not increasing the amount of surface hectares allocated to salmon farming in the Marlborough Sounds. The shift to deeper water and to sites with higher current flow will inevitably result in a

greater area being required for mooring. However, it is the surface structures and not the moorings which create the principal adverse effects. Moorings have little impact on landscape. In terms of natural character, moorings do not affect natural elements or processes, but protect the benthos beneath them from other activities. The effects relating to the discharge do not arise from the moorings. In terms of navigation, all farms have a requirement that moorings be more than four metres below the surface of the water, 20 metres from the surface structures. In a practical sense, for anything other than submarines, navigation is possible in all locations apart from a matter of metres from the surface structures.

29 The focus on consented surface structures is appropriate.

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