Before Independent Hearing Commissioner appointed by Southland Regional Council
At Invercargill

APP-20181316

under: the Resource Management Act 1991

in the matter of: Applications by Zane Smith and Jim Maass Barrett for resource consents to establish three new marine farms in Big Glory Bay, Stewart Island

by: **Sanford Limited**
Submitter

Submitter response to further information and s42A addendum

Dated: 16 October 2019

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INTRODUCTION

1 The Commissioner's second Minute dated 23 September 2019 directed Sanford to provide written comments on the further information provided by the applicant on 2 October 2019, and the addendum to the s42A Report provided on 9 October 2019.

2 The applicants have provided further evidence of Jim Maass-Barrett dated 2 October 2019 dealing with the phytoplankton carrying capacity of Big Glory Bay, a consideration of the ASC Pelagic Effect Assessment Criterion (*ASC criterion*). Mr Maass-Barrett is not an expert in relation to these matters and it is a remarkable feature of this application that the applicant has proceeded with an application to carry out an activity in the marine environment without any expert evidence at all to support its assessment of effects of the proposal including cumulative effects.

3 The Council has now provided "comments" by NIWA with respect to hydrodynamics and carrying capacity. These "comments" are provided after the hearing and without any explanation as to the author's qualifications and expertise and, in particular, familiarity with Big Glory Bay.

4 This is not a criticism of the Council as it is not the role of a s42A officer to arrange for experts to do anything more than comment on matters on which the Commissioner has requested further information. However a commentary from Council is not a substitute for an applicant producing its own properly qualified expert to give evidence.

5 A statement of evidence from Dr Hartstein which responds to the NIWA comments has been lodged alongside this response. Given the extent of new information provided in the NIWA comments Sanford considered it was most appropriate to provide Dr Hartstein's review of that information by way of a formal brief of evidence.

6 Dr Hartstein, who is the person most familiar with the conditions in Big Glory Bay, is based overseas. Faced with the pre exchange of the applicant's evidence which did not include any evidence from a properly qualified expert Sanford did not consider that Dr Hartstein was required to attend the hearing. However given the situation which has now developed where there is still no expert evidence from the applicant, but there are comments from NIWA, Dr Hartstein's evidence becomes very important and should be given significant weight.

7 A supplementary statement of evidence by Dr Mitchell also accompanies this response.

PROCEDURAL MATTERS

8 Sanford reiterates the procedural concerns raised in its legal submissions and does not consider that the further information provided by the Applicants or the s42A addendum answer those concerns.

Incorrect map of the location

9 Sanford's concerns regarding the incorrect notification of the location of the proposed farms remains despite the further information provided by the applicant, and the s42A addendum.

10 The applicant conceded at the hearing that the notification itself was incorrect and apologised for that error. Mr Engel's evidence circulated prior to the hearing was also incorrect at paragraph 9.

11 The s42A addendum does not address the fact that the public notification was wrong. It just says that there was an amended plan amongst the section 92 material. That does not however cure the error in the notification itself.

12 The s42A officer's statement that "as such, I not consider that it was difficult for submitters to understand the location of the proposal" is quite incredible when the officer himself included the wrong map in his s42A report, and the wrong map was then referenced by the applicant's planner in his own evidence. There is also direct evidence from witnesses from Sanford, and Mr Schofield, that they did not understand the location at the time they were preparing their evidence for hearing to respond to the s42A report, and Mr Engel's evidence.

13 In its legal submissions Sanford asked a question as to which version of the map was sent to the Harbourmaster for the purposes of deciding which parties needed to be directly served. The s42A addendum does not address that point.

Service on affected parties

14 Following on from the point above it is concerning that the decision on who was considered to be affected or not appears to depend partly on the Harbourmaster's assessment at the time of effects on navigation. A decision was made that only the owners marked with a red cross were affected (which excludes for example Peter Schofield and Jeff Walker).

15 There is no explanation provided in the s42A addendum as to why other owners in Big Glory Bay were excluded. We also do not know which map the Harbourmaster was working from.

16 The statement made by the s42A officer is that he considers it "reasonable" to determine that the marine farms directly adjoining the application are directly affected, He gives no explanation as to why only going that far was "reasonable" and why directly serving all the other owners in the Bay would therefore have been "unreasonable".

17 Given Mr Schofield's involvement in this hearing (as a witness for Sanford) a properly articulated document setting out specifically why other owners were not served, and the reason for excluding them, is required.

NAVIGATION

Response to Harbourmaster's comments

18 The Harbourmaster has confirmed his opinion in the report attached to the s42A addendum that the proposed position of marine farm site 1 will create a navigation safety hazard for vessels relocating marine farms north of that site. He has also determined that he does not support the proposed position for site 3.

19 Sanford considers that the Harbourmaster's conclusions support its significant concerns. It maintains the full suite of its concerns regarding navigation including in respect of a "smaller" site 1 (there has been no amendment of the application), and site 2. It relies on the evidence of Mr Eriksson.

20 Sanford considers that, given the errors in notification, in order for all marine farm owners in Big Glory Bay to have a proper understanding of the location of any "smaller" site 1 will require a new application and re-notification and could not be granted by the Commissioner on the material currently provided.

21 The s42A addendum states in response to the Harbourmaster's conclusions that:

> *The evidence from Sandford* [sic] *provided at the hearing appeared to be based on the understanding that their salmon cages have a right to be moved as one large group and that that no other marine farms will be moved to allow an alternative navigation pathway. During questioning Mr Swart suggested that to move the Salmon cages would require a gap between sites of between 180 metres and 200 metres to ensure safe transport of the salmon cages…*
>
> *As no evidence has been provided by Sandford* [sic] *as to whether there are practicable alternative methods for fallowing their salmon farms sites, I consider that it is difficult to understand the potential effects of the application in respect of this navigation and safety issue. In the absence of this information I have reserved my opinion on the extent to which the application will affect Sanford's ability to move its salmon farming operation. However, given the number of marine farm consents held by Sanford within Big Glory Bay it would appear unlikely that a safe method of navigating between sites could not be achieved given this fallowing rotation only requires moving the farm 'every two years, and sometimes more often'*.

22 Sanford has never asserted it has a "right" to move its farms as one large group. This statement implies that there are other practical methods by which Sanford could move its farms that it is simply choosing not to use one of those other methods.

23 Contrary to what the s42A officer implies, Mr Swart provided direct evidence at the hearing that the salmon farms must be moved as a single unit and cannot be 'broken down' and moved separately. That is a matter of practicality, not a matter of choice as the s42A officer implies.

24 Mr Swart and Mr Eriksson also explained that, as well as the farm movements, fish are regularly transported via a transport pen between the farm sites as they reach different stages in their growth cycle. The s42A addendum does not address this navigational requirement at all and appears to have completely ignored this part of Sanford's evidence.

25 Mr Swart has also explained that there are three, soon to be five, salmon farm sites around Big Glory Bay on different marine farm permit areas. These are all consented and therefore form part of the existing environment against which the current applications need to be assessed. These farms are required to be moved around the Bay to mitigate their own effects. The only farm that does not require movement is the brood farm. The statement in the s42A report that there is "one movement every two years" is therefore factually wrong.

26 The s42A officer has no basis to suggest that it is "unlikely" that an alternative safe method of navigation cannot be found. He appears to disagree even with the assessment of the Harbourmaster without explaining why he reaches this view. If the 42A officer has alternative and safe procedures or routes for moving the five consented farms, he should fully articulate those so that Mr Eriksson and the Harbourmaster can assess his suggestions. He should also set out the expertise he has that confirms that his suggested procedures and/or routes are both practical in terms of avoiding damage to the fish and/or the farms and/or vessels, and are safe for persons involved in the movement of the farms.

27 The suggestion by the s42A officer that Sanford can be required to move other mussel farms (either its own or farms belonging to third parties) is very concerning and demonstrates a poor understanding of the legal concepts undermining the existing environment. Sanford requests that the officer identify which of the consented farms he suggests are moved and demonstrates the costs and practicality of doing so.

28 Mr Swart and Mr Eriksson have given evidence that Sanford cannot control or require movement of existing mussel farms in order to allow space to transport farms or the transporter pen. This can involve removal of mussel lines and other structures, which is not something Sanford can require of other consent holders. Consideration of the costs of removing other mussel farmers has not been factored into the s42A addendum.

Response to legal opinion on navigation

29 The s42A addendum includes a legal opinion from Wynn Williams.

30 Wynn Williams was instructed to comment on "*whether the Resource Management Act 1991 (RMA) or any case law allows Sandford* [sic] *Limited*

(Sanford) to have occupation rights over the potential navigation route of their salmon cages which would preclude the Commissioner from granting the Application."

31 Sanford does not know why Wynn Williams (who were not present at the hearing) were asked to provide an opinion about occupation rights and derogation. Sanford never raised those arguments. As discussed below, Sanford does not claim it has the right to navigate freely between its marine farm sites to the exclusion of all others. Its concerns relate to its ability to exercise existing marine farm consents in accordance with the conditions imposed by those consents. It has provided evidence of how a farm is moved. Effects that interfere with Sanford's practical ability to comply with its own consents are effects of the application.

32 Sanford's submissions relate to:

32.1 the effects on navigation arising from the proposal, including the effects on navigating salmon farms across Big Glory Bay;

32.2 The effects on Sanford's ability to relocate its salmon farms, noting that this is a key condition of Sanford's resource consents which was imposed to avoid, remedy or mitigate effects on the environment.

33 As Wynn Williams note in the opinion attached to the s42A addendum, those matters are relevant effects which the Commissioner should take into account in her assessment of the effects of the proposal under s104(1) Resource Management Act 1991 (*RMA*). Sanford whole heartedly agrees.

34 Sanford's point was that, in order for it to comply with the conditions of its resource consents for salmon farms in Big Glory Bay, it is required to fallow its salmon farm sites. This involves moving each of the farm structures to a different site (with the exception of the brood farm) at least every two years.

35 Separately and additionally, Sanford also needs to move fish between farm sites in transporter pens to carry out its consented salmon farm activities.

36 Impacts on navigation and, correspondingly, Sanford's ability to comply with the conditions of its consents are relevant effects which must be taken into account as part of the s104 RMA analysis. The applicant must consider the effects on the existing environment. That includes Sanford's existing salmon farms and the other mussel farms in the Bay (owned by Sanford and others).

CUMULATIVE EFFECTS

37 Dr Hartstein has concluded that the NIWA "comments" provided by Dr Stenton-Dozey relating to carrying capacity include several fundamental errors. Dr Hartstein's own analysis is that, applying the ASC criterion, the

carrying capacity of Big Glory Bay would be exceeded if the additional 16ha of mussels sought in the Application were established.

38 Sanford notes that the cumulative effects discussed will also impact upon wild mussel populations, not just aquaculture activities. The applicants have not discussed this matter in any detail.

UPDATED PLANNING ANALYSIS

39 Sanford has requested Dr Mitchell provide an updated Statement of Supplementary Evidence having read all of the additional material produced by the applicant, in the s42A addendum, and in Dr Hartstein's evidence.

40 Dr Mitchell is unable to conclude that navigational effects and carrying capacity effects are minor.

41 Because of that his analysis remains as set out in his primary evidence that the outcome sought by the applicant is not supported by the statutory documents and is demonstrably contrary to the objectives of the Coastal Plan.

42 Neither gateway test of s104D is satisfied and consent cannot be granted. In any event a precautionary approach is required by Policy 3 of the NZCPS and applying such an approach leads to the applications being declined.

Date: 16 October 2019

J M Appleyard / A Hill
Counsel for Sanford Limited

Before Independent Hearing Commissioner appointed by Southland Regional Council

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under: the Resource Management Act 1991

in the matter of: Applications by Zane Smith and Jim Maass Barrett for resource consents to establish three new marine farms in Big Glory Bay, Stewart Island

by: **Sanford Limited**
Submitter

Statement of evidence by Neil David Hartstein

16 October 2019

INTRODUCTION

1. My full name is Neil David Hartstein. I reside at Kota Kinabalu, Sabah Malaysia. I am currently a Director and Senior Oceanographer at Aquadynamic Solutions *Sdn. Bhd.* (*ADS*).

QUALIFICATIONS AND EXPERIENCE

2. I hold the degrees of Bachelor of Science (1996) and Master of Science (1999), both from the Earth Sciences Department of Victoria University of Wellington, and Doctor of Philosophy (2003) from Auckland University in the field of hydrodynamic modelling of the marine environment.

3. I am the founder and Managing Director of ADS, a specialist Malaysia-based marine sciences consulting practice that I established in 2012. Our firm specialises in undertaking detailed hydrodynamic computer modelling of coastal processes, with particular expertise and experience in modelling the effects of finfish farms on marine water quality and the benthic environment. We also have extensive experience in monitoring the effects of aquaculture developments, including in Big Glory Bay, on behalf of Sanford.

4. Prior to establishing my own firm, I worked in the field of hydrodynamic modelling at the Danish Hydraulic Institute and prior to that at the National Institute of Water and Atmospheric Research (*NIWA*). I have some 18 years' experience in this field.

5. I have published 12 peer review publications relating to aquaculture environmental impacts.

6. In addition to the peer review papers, I have written more than 75 reports relating to aquaculture environmental interactions and have recently (2017/2018) undertaken several studies on the proposed marine farms in Storm Bay and Okehampton Bay (a multi-trophic farm), both of which are situated in Tasmania. I have also (in 2018) participated in both pelagic and benthic oxygen consumption studies in Macquarie Harbour. I have organized monitoring programmes and have analysed extensive datasets on the hydrodynamic interactions of aquaculture farms, benthic and water quality effects and sedimentation impacts for both government and aquaculture industry funded projects.

7. Over the past 15 years I have undertaken hydrodynamic, productivity, ecological and sediment assessments of more than 50 proposed and existing marine farm sites in New Zealand, Singapore, Canada, Oman, Brunei, Indonesia, Cambodia, Australia and Malaysia.

8. I have also written more than 100 additional reports on a wide range of topics including coastal erosion, sand sourcing, habitat mapping, environmental monitoring programs for oil and gas field developments as well as river and lake environmental related studies. In addition, I have appeared before the Environmental Court six times in relation to aquaculture developments and I

gave evidence before the New Zealand King Salmon Board of Inquiry. I have also provided evidence as an expert witness before an Australian Federal aquaculture enquiry in 2016.

9. I have a detailed knowledge of the hydrodynamic environment in Big Glory Bay, and the ecosystems that are found there. Myself and my colleagues at ADS have undertaken 7 monitoring surveys of the Bay, and I have personally examined the seabed across the bay on 6 occasions.

10. I undertook the detailed modelling of Big Glory Bay that was used to support the application that Sanford made earlier in 2019 for variations to its salmon farm consent (and which was appended to the Assessment of Environmental Effects).

CODE OF CONDUCT

11. Although these proceedings are not before the Environment Court, I have read the Environment Court's Code of Conduct for Expert Witnesses and I agree to comply with it as if these proceedings were before the Court. My qualifications as an expert are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE

12. The purpose of my evidence is to review and comment on the report prepared by Dr. Stenton-Dozey which was supplied as part of the package of additional information provided by the s42A reporting officer relating to the cumulative effects of the application on hydrodynamics and carrying capacity. Dr. Stenton-Dozey undertook the assessment on water column carrying capacity while Dr. Plew provided the hydrodynamic assessment.

13. After reading the sections provided by Dr. Plew, I generally agree with his conclusions in that currents will be reduced in the bay and this reduction will be small in terms of flow speed. I also agree that the proposed farms will have little impact on over all bay circulation and flushing time. However, I think he has understated the potential localised effects in the immediate vicinity of the proposed new farms, that remain unknown and not assessed.

CARRYING CAPACITY

14. As stated above I have carefully read the carrying capacity sections provided by Dr. Stenton-Dozey. I do not agree with her assessment and consider that she has made several fundamental errors, as I will now explain.

15. By way of summary, Dr. Stenton-Dozey's analysis focused on four main areas:

- The applicant's argument on why carrying capacity will not be adversely impacted by the addition of three new mussel farms comprising a total area of 16 hectares.

- The contribution of the proposed farms to the overall mussel filtration rate.

- The impacts of these proposed farms on the Pelagic Effect Assessment Criterion.

- And finally, the salmon and mussel farm interaction.

16. In this evidence I will provide a brief description of the Pelagic Effect Assessment Criterion (Aquaculture Stewardship Council, ASC). I will then go on to highlight that Dr. Stenton-Dozey has incorrectly interpreted the criterion and what the proposed farms will mean regarding the filtration rate of the bay. I also provide, as Appendix 1, my calculation of the mussel farm carrying capacity in Big Glory Bay.

17. The Pelagic Effects Criterion from the Aquaculture Stewardship Council (ASC) uses calculations that compare how long it takes bivalves to clear a body of water vs the time it takes tides to flush that body of water. More specifically, this criterion assesses the rate that mussels consume phytoplankton based on the number of mussels per line, line depth, line spacing, and area being farmed. It directly compares the Clearance Time (CT)[1] vs the Retention Time (RT)[2] of an embayment (CT/RT). Embayments or water bodies are deemed sustainable if the retention time is briefer (water exchange faster) than the rate that the mussels consume phytoplankton in the water. Ratios above 1 indicate that the carrying capacity of an embayment has not been breached. If the ratio is 1 or below the ASC suggests that further study should be undertaken to assess the carrying capacity *i.e.* physically sampling of chlorophyll-a concentrations as there is the possibility the carrying capacity may be breached. In a number of previous mussel farm hearings (that I have provided evidence for over the last 18 months), CT/RT values of less than 1 indicate that the embayment in question cannot incorporate additional mussel farms in a sustainable fashion.

18. In the carrying capacity section of the NIWA Executive summary Dr. Stenton-Dozey states the following [my emphasis]:

> The Pelagic Effect Assessment Criterion based on the ratio of clearance time over retention time **did not exceed 1** and thus the criterion was met. Based on this indicator the cumulative effect of adding the three new farms does not adversely impact the ecological carrying capacity of BGB.

19. This statement is not correct, nor does the evidence suggest that the proposed farm does not exceed the carry capacity of Big Glory Bay (see my comments below). As stated in paragraph 17 above, the CT/RT ratio needs

[1] How long it takes a population of bivalves to clear a body of water.

[2] How long it takes for tides to flush that body of water.

to be above 1 (the full ASC guidelines are provided by a link in the NIWA review). Values above 1 are considered desirable while ratios below 1 suggest that the carrying capacity could be breached and further study is required.

20. Based on this conclusion, Dr. Stenton-Dozey demonstrates that the proposed farms will indeed breach the carrying capacity of Big Glory Bay. This contradicts her main findings where she states that the proposed development will not breach the carrying capacity of the embayment or only have a minor impact:

> Simple tools (mussel filtration rates and application of the Pelagic Effect Assessment Criterion) used in this report to ascertain the cumulative impact of adding three new mussel farms to carrying capacity of BGB have indicated that the effects are minor.

21. I do not agree with Dr.Stenton-Dozey s conclusions that the effects are minor", especially when section 3.2 of her report high-lights that the Flushing rate is markedly slower than the filtration rate of the mussels, as I elaborate on further below.

22. Dr Stenton-Dozey's section 3.2 goes into some detail to describe the mussel filtration rate within Big Glory Bay. A summary of this is:

> Since the daily bay water exchange rate with the water outside the bay (7–10%) is less than the daily mussel filtration rate (11–13%), it's likely that mussel production has always depended to some extent on in-bay phytoplankton primary production.

23. In my opinion, this statement confirms that the mussel farm carrying capacity of the bay will be exceeded as Dr. Stenton- Dozey's analysis clearly shows that the bay-wide mussel filtration rate is faster than the water exchange rate. A filtration rate greater than the exchange rate implies that there is not enough seston to ensure mussels within the embayment grow sustainably and that the carrying capacity is breached. In short, her own calculations indicate that the proposed application within Big Glory Bay is breaching the carrying capacity of the bay.

24. In the main body of the text Dr. Stenton-Dozey also states:

> Historically, mussels in BGB have been reliant on 'old' resident in-bay water, processing between 3–4% by volume daily. It's likely therefore that in-bay phytoplankton production is important source of food for the mussels.

25. Again, this confirms to me that the ASC criterion has been breached. To ensure sustainability, and that the carrying capacity of the embayment hasn't been exceeded, the supply of water must be faster than the rate of depletion. Dr. Stenton-Dozey's analysis is clearly showing that this isn't the case

26. Finally, section 3.3 of Dr Stenton-Dozey's review provides her calculations of the CT/RT ratio based on the ASC criterion. I have gone through these calculations and I consider them to be incorrect. In short, her assessment is that the CT/RT ratio is greater than 3 indicating that the flushing rate of the

bay is 3 times faster than the clearance rate (Dr Stenton-Dozey presents calculations where Big Glory Bay has a CT of 16.25 days vs a flushing, RT of only 4.62 days).

27. This contradicts both the executive summary and the findings of her section 3.2 where the mussel farm clearance rate was shown to be faster than the rate of supply *i.e.*

> Since the daily bay water exchange rate with the water outside the bay (7–10%) is less than the daily mussel filtration rate (11–13%).

28. Furthermore, there is no direct evidence to indicate how the flushing rate can now be more than 3 times faster than mussel farm clearance as described in section 3.3, when in fact it is three times less.

29. To address the uncertainty provided in Dr. Stenton-Dozey's report I have made my own assessment of the CT/RT ratio of Big Glory Bay using the ASC Pelagic Effect Assessment Criterion. In doing so, I have used information that I had obtained about the site from my previous hydrodynamic modelling and numerous site visits to provide information on the stocking density, bathymetry data, tidal range and surface area of the embayment *etc*.

30. A spread sheet showing my calculations for Big Glory Bay is attached as Appendix 1.

31. I estimate that the CT/RT ratio for Big Glory Bay is approximately 0.7-0.8. Although I accept that calculating an exact figure will always result in some uncertainty, I am convinced that the ratio for Big Glory Bay is significantly less than 1, thus confirming that the proposed mussel farms are beyond the carrying capacity of the bay.

CONCLUSIONS

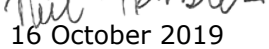
32. Overall, I generally agree with Dr Plew's assessment in regards to the hydrodynamic implications of the proposed mussel farm application, other than in respect of localized effects in the immediate vicinity of the proposed new farms, which have not been assessed

33. However, I do not agree with the assessments and conclusions of Dr Stenton-Dozey regarding carrying capacity.

34. My own calculations of the ASC criterion confirm that the carrying capacity of the embayment has been exceeded.

35. This conclusion is reinforced by the very slow mussel growth rates experienced in Big Glory Bay, as previously addressed in the evidence of Mr Culley and Mr Schofield.

Neil David Hartstein



16 October 2019

Appendix 1

ASC Pelagic Effect Assessment Criterion Calculations

PARAMETER	PARAMETER VALUE
Total Surface Area (ha)	1200.14
Total Surface Area (square metres)	12,001,400
Estimated Average Depth (metres)	15.0
cubic meters water	180,021,000
Litres of water	180,021,000,000
Total Mussel Farm Coverage (Ha)	162.783076
Estimated Spat Catching area	
Reduction for Warp Line Area	12.50%
Cultured Occupational Area (Ha)	145
Surface Structures as Percentage of Bay	12.08%
Length of Backbone per Hectare (meters)	1,300
Depth of Dropper Lines (Metres)	15
Number of Dropper Lines per Metre of Backbone	1.14
Total Metres of Dropper Line per Hectare of Farm	14,500
Number of Mussels per Metre of Dropper Line	120
Total Mussels per Hectare of Farm	1,740,000
Filtration Rate-Litres per day	150
Water Filtered per day per hectare (litres)	261,000,000
Water Filtered per day by all farms (litre) -N x C	37,845,000,000
Clearance Time (CT) - days	**4.76**
Average Tidal change (metres) ***	1.7
Average Water Volume Low Tide -Litres ***	165,352,622,489
Average Water Volume High Tide- Litres	180,021,000,000
Retention Time	**6.37**
CT / RT ratio	**4.76 / 6.37 =0.75**

IN THE MATTER	of the Resource Management Act 1991
AND	
IN THE MATTER	of applications to **ENVIRONMENT SOUTHLAND** by **ZANE SMITH and JIM MAASS-BARRETT** to establish new mussel farms in Big Glory Bay.

STATEMENT OF SUPPLEMENTARY EVIDENCE BY PHILIP HUNTER MITCHELL

16 OCTOBER 2019

Introduction

1 My full name is Philip Hunter Mitchell.

2 I have been engaged by Sanford Limited ("**Sanford**") to provide resource management and planning advice in respect of the applications by Zane Smith and Jim Maass-Barrett to establish three new mussel farms in Big Glory Bay ("**the proposal**").

Qualifications and experience

3 My experience and qualifications are set out in paragraphs 6 – 13 of my primary statement of evidence.

Scope of evidence

4 The purpose of this supplementary statement is to address matters raised in the Addendum to Section 42A Officers' Report, dated 9 October 2019 and authored by Mr Andrew Maclennan ("**Addendum report**").

Expert Witness Code of Conduct

5 I confirm my continued compliance with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014, as set out in paragraph 14 of my primary evidence.

Background

6 The areas where my analysis and conclusions regarding the applicable planning framework differ from Mr Maclennan's amended assessment, as set out in the Addendum report, arise due to:

- The additional information available to me since the preparation of the Addendum report; and
- The legal advice Mr Maclennan has cited.

7 I confine my supplementary evidence to assessing the planning implications of the available expert evidence.

8 For ease of reference, I refer to Figure 1 below[1], in terms of the locations and names of the three proposed mussel farms.

[1] As presented on page 4 of the Addendum report

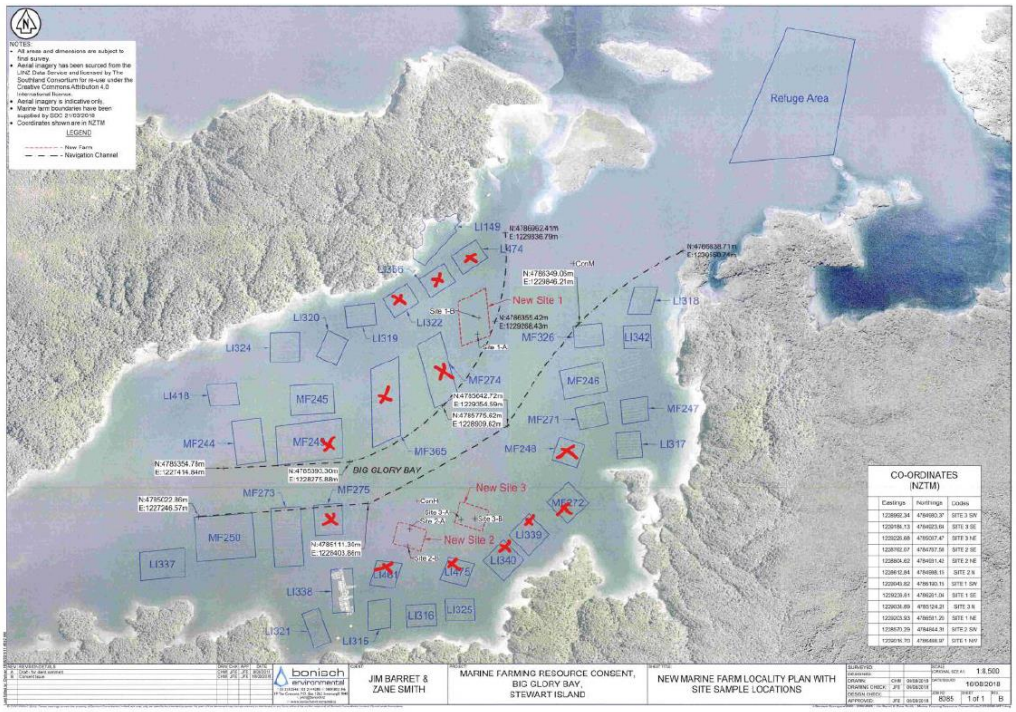


Figure 1:Location map[2]

Overview of the Addendum Report

9 Based on the information provided to him by NIWA (Dr Plew and Dr Stenton-Dozey) and the Harbourmaster, Mr Cleaver, Mr Maclennan's key conclusions in respect of the matters of concern to Sanford are as follows:

- Regarding navigation[3], (as reported by Mr Cleaver) [**my emphasis**]:

  Marine farm site no.1 – the proposed position **will create a navigation safety hazard for vessels relocating marine farms north of this site.** Changing the shape of the farm will allow vessels to safely transit.

  Marine farm site no.2 – I have no navigation safety concerns with this proposed site.

  Marine farm site no.3 – **Of the three proposed sites, this site creates the most risk to navigation safety for consented users relocating marine farms. The proposed position for this site is not supported.**

- As regards the moving of salmon pens, Mr Maclennan has reserved his final recommendation on navigational issues pending information from Sanford about alternative methods for fallowing their salmon farm sites[4]

[2] The red crosses serve no purpose for this supplementary statement

[3] Addendum report – page 7

[4] Addendum report – pages 7 - 8

(and which I have understood to mean the method of moving the salmon pens from one location to another).

- Based on the assessments by Dr Plew and Dr Stenton-Dozey, the cumulative effects on the carrying capacity and hydrodynamics within Big Glory Bay will be minor.[5]

10 Mr Maclennan goes on to reassess the objectives and policies of the relevant planning documents in light of the new information now available to him[6]. I will comment on specifics later, but I interpret Mr Maclennan's key planning conclusions to be:

- Regarding Objective 6 and Policies 6 and 8 of the New Zealand Coastal Policy Statement ("**NZCPS**") (as set out in paragraph 41 of my primary evidence and which all direct activities to occur "in appropriate places") he considers the application will be consistent with them[7].

- He disagrees with me[8] that a precautionary approach is required, by virtue of Policy 3 of the NZCPS[9].

- Regarding the Southland Regional Policy Statement ("**RPS**"), he maintains the view that the proposal is consistent with its direction[10].

- Regarding the Southland Regional Coastal Plan ("**Coastal Plan**"), based on the information provided by NIWA, he is considers that there is sufficient information to conclude that with appropriate conditions of consent, the proposal will avoid, remedy of mitigate the adverse effects associated with the application[11].

- He maintains the view that the application satisfies both gateway tests of section 104D and that granting the applications is not precluded[12].

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[5] Ibid – page 9

[6] Starting at page 10 of the Addendum report

[7] Addendum report – page 10

[8] P Mitchell Primary evidence – paragraphs 44 - 48

[9] Addendum report- page 11

[10] Ibid

[11] Ibid – para 12

[12] Ibid

My Analysis

Navigational effects

11 I acknowledge that there is a difference of opinion between Mr Eriksson and Mr Cleaver regarding navigational matters. That said, Mr Cleaver's conclusions (reproduced in the first bullet point of paragraph 9 above) are that proposed Site1 will create a navigational hazard, necessitating a change in its shape and that Site 3 creates the most risks to navigational safety and is not supported.

12 On that basis, I cannot conclude, as Mr Maclennan does, that the navigational effects of farms at sites 1 and 3 will be no more than minor, and note that there is a difference of opinion regarding site 2 that the Commissioner will need to resolve. Both Mr Eriksson and Mr Swart confirmed at the hearing that it is not feasible to move a salmon farm pen by pen.

Carrying capacity effects

13 In respect of carrying capacity, Dr Hartstein's supplementary evidence is that he strongly disagrees with Dr Stenton-Dozey's assessment, the planning implications of which I address later in this statement of evidence. The thrust of that evidence is that:

- There are some significant discrepancies in Dr Stenton-Dozey's analysis of the carrying capacity of Big Glory Bay;
- Dr Stenton-Dozey's own figures indicate that the carrying capacity is in fact exceeded; and
- This is confirmed by Dr Hartstein's own assessment and the very slow mussel growth rates cited in the primary evidence of Mr Culley and Mr Schofield.

14 On that basis, I am unable to reach the same conclusion as Mr Maclennan does regarding effects on carrying capacity, and consider that they cannot be said to be minor.

Planning Implications

15 As a non-complying activity, it is undisputed that the proposal must first satisfy at least one of the "gateway tests" of section 104D.

16 As I have stated above, and in my primary evidence, I am not able to conclude that the adverse effects on navigation and carrying capacity are minor.

17 Because of that, my analysis of the objectives and policies of the Coastal Plan are unchanged from that set out in paragraphs 54 to 58 of my primary evidence.

18 My conclusion also remains unchanged, that being that the proposal is at odds with a number of key planning provisions and, if implemented, would result in an outcome that is not supported by the statutory planning documents. It is also demonstrably contrary to the objectives of the Coastal Plan.

19 On that basis I remain of the opinion that neither gateway test of section 104D is satisfied and therefore consent cannot be granted.

20 I further note that irrespective of what conclusion is reached regarding section 104D, I also remain of the opinion, as set out in paragraph 44 of my primary evidence, that a precautionary approach to these applications is required by virtue of Policy 3 of the NZCPS, My conclusion in that regard remains unchanged from my primary evidence, where I stated[13]:

> 46 … [M]y assessment is that the cumulative effects of this proposal on coastal processes and carrying capacity are both "uncertain" and "potentially significantly adverse". Thus, a precautionary approach is required.
>
> 47 Application of the precautionary approach in the coastal environment generally invokes one of two responses, either not undertaking the proposed activity or applying adaptive management techniques. No adaptive management measures are proposed by the applicant here. Nor is any alternative precautionary approach proffered. As such, applying a precautionary approach would, in my opinion, lead to these applications being declined.

Philip Mitchell

16 October 2019

[13] P Mitchell Primary evidence – paras 46 - 47