

Contents Page: Friends of Nelson Haven and Tasman Bay and Kenepuru & Central Sounds Residents Association – Part 1

All written comments received on the MPI salmon relocation proposal, grouped according to surname/business/organisation/Iwi name.

Written Comments Number	Last Name	First Name
598	Friends of Nelson Haven and Tasman Bay and Kenepuru & Central Sounds Residents Association: PART 1	

Chief Executive
Ministry for Primary Industries
Private Bag 14
Port Nelson 7042

27 March 2017

Email; aquaculture.submissions@mpi.govt.nz

MPI Discussion Paper No. 2017/04 – Proposal to amend the Marlborough Sounds Resource Management Plan to enable the relocation of up to six existing salmon farms by regulations made under section 360A of the RMA

1. I act for Friends of Nelson Haven and Tasman Bay Inc. and Kenepuru and Central Sounds Residents Association Inc. in this matter.
2. I attach the following by way of written comment on MPI Discussion Paper No. 2017/04:
 - (i) Statement of evidence of Dr Michael Steven, including report to accompany the Societies' submission on the proposed Marlborough Environment Plan
 - (ii) Statement of evidence of Mr Rob Schuckard
 - (iii) Statement of evidence of Ms Sylvia Allan
 - (iv) Memorandum including opinion dated 21 September 2016.
3. These attachments are in addition to a separate submission by way of written comment lodged by KCSRA on 26 March 2017.
4. The Societies wish to be heard in due course in support of their written comments and will present jointly at the hearing.
5. Please acknowledge receipt of this letter and attachments.

Yours sincerely



JC Ironside
Barrister

BEFORE THE MARLBOROUGH SALMON FARM RELOCATION ADVISORY PANEL

IN THE MATTER: SECTION 360A OF THE RESOURCE MANAGEMENT
ACT 1991

AND

IN THE MATTER: A PROPOSAL TO AMEND THE MARLBOROUGH
SOUNDS RESOURCE MANAGEMENT PLAN TO
ENABLE THE RELOCATION OF UP TO SIX
EXISTING SALMON FARMS

EVIDENCE OF DR MICHAEL LAWRENCE STEVEN

FOR

FRIENDS OF NELSON HAVEN AND TASMAN BAY &
KENEPURU AND CENTRAL SOUNDS RESIDENTS ASSOCIATION

Counsel acting:

JC Ironside

Wakefield

Nelson 7095

Phone:

TABLE OF CONTENTS

QUALIFICATIONS AS AN EXPERT AND SCOPE OF EVIDENCE

.....	4
Qualifications and experience	
.....	4 Scope of
evidence	
.....	6
Data, information, facts and assumptions relied upon to form opinions	
.....	7
Outline of my evidence	
.....	8

THE APPROPRIATE CONTEXTS FOR THE ASSESSMENT OF LANDSCAPE AND SIGNIFICANCE AND NATURAL CHARACTER

.....	9
Definition of landscape	
.....	9
Scale of analysis	
.....	11
NZCPS Policy 15: Landscape includes seascape	
.....	14 Landscapes and Features
.....	15
The Coastal Environment	
.....	17

THE LANDSCAPE SIGNIFICANCE OF THE WAITATA REACH

.....	18 The current status of landscape
significance within the Waitata Reach	
.....	18 The Hudson
assessment of landscape significance	
.....	21
My assessment of landscape significance	
.....	24

THE NATURAL CHARACTER OF THE WAITATA REACH

.....	28
Natural character and its assessment	
.....	28 The BML (2014) and
Hudson assessments of natural character	
.....	30 Is
the Waitata Reach a “working landscape”?	
.....	35

My assessment of the natural character of the Waitata Reach coastal marine environment37

IS DEVELOPMENT WITHIN THE WAITATA REACH AT THE THRESHOLD OF UNACCEPTABLE CUMULATIVE EFFECTS?

.....40 The assessment of effects

.....40 The NZKS Board of Inquiry on Cumulative Effects

.....43 Mr Hudson's assessment of cumulative effects46 My assessment of cumulative effects

.....49 The Proposed MEP, and Significant Adverse Effects54

CAN THE ADVERSE EFFECTS BE REMEDIED OR MITIGATED?55

Mitigation with respect to natural character56

Mitigation with respect to landscape value and amenity57

CONCLUSION: DOES THE PROPOSAL REPRESENT APPROPRIATE DEVELOPMENT?59

THE DRAKEFORD WILLIAMS PEER REVIEW

.....60 APPENDIX A What is a landscape?

.....62 APPENDIX B: The concept of natural character and its assessment63

APPENDIX C: Enlarged section of Landscape Map 74 (MSRMP) showing areas of Outstanding Landscape Value, vicinity of Waitata Reach

.....69 APPENDIX D: Part of AREA 1, Outer Sounds ONL (Boffa Miskell 2015)70

APPENDIX D: Combined parts Map 5 (Boffa Miskell 2015) Port Ligar, Forsyth Island and Kaitira Headland ONF and Map 6: Maud Island, Mt Shewell, Fitzroy Bay, and Eastern Tawhitinui Reach ONF71 APPENDIX E: Proposed MEP Coastal Natural

Character in locality of Waitata Reach.72 APPENDIX F: PROPOSED MEP
ONFL and High Amenity Landscape in locality of Waitata Reach 73 ..
ATTACHMENT: PROPOSED MARLBOROUGH ENVIRONMENT PLAN - Review of
Landscape & Natural
Character Chapters, Landscape and Natural Character Overlays, & Boffa Miskell Ltd
Landscape & Natural
Character Studies
.....74

QUALIFICATIONS AS AN EXPERT AND SCOPE OF EVIDENCE

1. My name is Michael Lawrence Steven. I am a practising landscape planner and Registered Landscape Architect based in Pohara (Golden Bay).
2. Although this hearing is conducted before an advisory panel appointed by the Minister for Primary Industries, I have prepared my evidence as if for presentation to a hearing of the Environment Court. I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note (December 2014). This evidence has been prepared in accordance with it and I agree to comply with it. This evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Qualifications and experience

3. I hold a Doctor of Philosophy in Architecture (Environment-Behaviour Studies) from the Faculty of Architecture, University of Sydney (Australia), a Master of Landscape Architecture by research from the Faculty of the Built Environment, UNSW (Sydney, Australia), a postgraduate Diploma in Landscape Architecture from Lincoln College (University of Canterbury), and a Diploma in Horticulture (Distinction) from Lincoln College.
4. My area of expertise is environment-behaviour studies, particularly environmental perception, and human factors in landscape design, planning and management. My PhD research investigated the dimensions of environmental experience, in particular 'environmental knowing', or the way in which we make sense of the physical environment through our responses to the stimuli we perceive in the environment.
5. I am a member of the NZ Institute of Landscape Architects, the Environmental Design Research Association (EDRA), and the Resource Management Law Association (RMLA).
6. I have more than 25 years of experience in the landscape architecture profession, both in New Zealand and Australia. A large part of my professional career has focused upon landscape assessment theory and

practice. I have taught at tertiary institutions in Australia and New Zealand for 13 years. For the past 10 years I have worked in private practice as a landscape architect and landscape planner in New Zealand. For the last 7 years I have practiced on my own account, specialising in landscape assessment, and landscape and natural character policy analysis. My recent professional work has involved landscape assessments and the presentation of expert evidence to local authority hearings and the Environment Court on landscape issues for a wide range of sites around New Zealand, particularly marine farms and coastal environment policy matters.

7. I have previously given landscape and natural character evidence on marine farming matters in connection with:

- 7.1. The NZ King Salmon Board of Inquiry (landscape and natural character evidence on proposed farms within the Waitata Reach of Pelorus Sound, and Queen Charlotte Sound),
- 7.2. *KPF Investments Ltd v Marlborough District Council* [2014] NZEnvC 152,
- 7.3. *Clearwater Mussels Ltd v Marlborough District Council*, [2016] NZEnvC 21,
- 7.4. *RJ Davidson Family Trust v Marlborough District Council* [2016] NZEnvC 81, and
- 7.5. An Application By Pegasus Bay Marine Farm Limited, Ngai Tahu Seafood Resources Limited & Koukourarata Development Company Limited To Extend Marine Farm Crc143394 & Crc143395 Squally Bay, Banks Peninsula (Before The Canterbury Regional Council).

8. I have undertaken a site visit to, and I am familiar with NZ King Salmon farms installed in the Waitata Reach following the decision of the NZKS Board of Inquiry (Waitata and Kopaua).
9. On behalf of Friends of Nelson Haven and Tasman Bay, and the Kenepuru and Central Sounds Residents Association, I have prepared a report on

landscape and natural character issues in support of submissions made by these parties to the proposed Marlborough Environment Plan. An updated copy of this report is attached to this evidence.

10. I have recently been appointed by the NZILA to a peer review panel to assist in the development of best practice guidelines/code of practice for landscape and visual assessment, as part of a project funded and managed by the Ministry for the Environment.

Scope of evidence

11. My evidence is presented on behalf Friends of Nelson Haven and Tasman Bay, and the Kenepuru and Central Sounds Residents Association, who oppose the Ministry of Primary Industries (MPI) proposal for the relocation of salmon farms in its entirety.
12. While the scope of my clients' submissions extends to the proposal in its entirety, my expert evidence relates specifically to the five relocation sites identified within the Waitata Reach of Pelorus Sound. Specifically, these are:
 - Blowhole Point North
 - Blowhole Point South
 - Mid-Channel Waitata
 - Richmond Bay South
 - Horseshoe Bay
13. In supporting my clients' submissions, my evidence addresses the following matters in respect of the proposal as it relates to these five sites, and the Waitata Reach as a whole:
 - 13.1. My opinion that the Waitata Reach of Pelorus Sound has already reached the threshold of unacceptable cumulative adverse effects on landscape and natural character.
 - 13.2. My opinion that the Boffa Miskell Ltd (BML) (2015) landscape study, and Boffa Miskell Ltd (2014) coastal natural character study,

undertaken for Marlborough District Council (MDC) and relied upon by Mr Hudson for the purposes of his own analysis, are unreliable, invalid with respect to key theoretical and methodological principles, and as yet untested through the plan review process that commenced in 2016. The BML (2015) landscape study cannot be relied upon for the purposes of the current proposal, as Mr Hudson has done. As Mr Hudson does not appear to have undertaken his own assessment of landscape/seascape value with reference to NZCPS Policy 15, his opinions on landscape/seascape value are, in my opinion, unreliable.

- 13.3. Similarly, to the extent that Mr Hudson has relied upon the BML (2014) natural character study, rather than undertake his own independent assessment of coastal natural character, his opinions on the natural character of the coastal environment of the Waitata Reach are unreliable.

Data, information, facts and assumptions relied upon to form opinions

14. In preparing this evidence I have drawn upon fieldwork on land and by sea, undertaken in connection with the preparation of expert evidence in connection with other marine farming matters in Pelorus Sound.
15. Having presented evidence to the NZ King Salmon Board of Inquiry (BoI) and before the Environment Court in the matter of *KPF Investments Ltd v Marlborough District Council*, *Clearwater Mussels Ltd v Marlborough District Council*, and *RJ Davidson Family Trust v Marlborough District Council* I have drawn upon my evidence in these matters, and the decisions from these hearings in preparing this evidence. I consider that these decisions provide relevant guidance on evolving understandings of 'landscape' in the context of the Resource Management Act (RMA) and the interpretation of the New Zealand Coastal Policy Statement (2010).
16. I am familiar with the application documentation, and I attended a public drop-in session in Nelson on Wednesday 23 February. To the extent that I agree with material in those reports, in the interests of brevity I refrain from

repeating factual and descriptive information on the proposal and the sites that I agree with.

17. I have reviewed the landscape assessment prepared by Mr Hudson, the peer review of the Hudson report prepared by Ms Julia Williams, and Mr Hudson's response to that peer review.
18. I am familiar with the Boffa Miskell Ltd (2015) *Marlborough Landscape Study*, and the Boffa Miskell Ltd (2014) *Natural Character of the Marlborough Coast*.
19. Other literature or material which I have used or relied upon in support of my opinions is referenced in footnotes.

Outline of my evidence

20. I begin my evidence with comments on the appropriate spatial contexts for the assessment of landscape/seascape significance and the natural character of the coastal environment.
21. I then discuss the landscape significance of the Waitata Reach. I respond to what I regard as flaws in the Hudson assessment, and note relevant decisions of the BoI and the Environment Court. I state my opinions on the landscape significance of the Waitata Reach.
22. Applying a similar analysis, I discuss the natural character of the Waitata Reach.
23. I address the issue of cumulative adverse effects on landscape and natural character and concluded that Waitata Reach is at the threshold of unacceptable cumulative adverse effects.
24. I consider the scope for mitigation and remediation.
25. With regard to New Zealand Coastal Policy Statement (2010) Policies 13 and 15, I conclude that the cumulative adverse effects are significant and as such must be avoided.

26. I consider aspects of the peer review of the Hudson assessment undertaken by Ms Julia Williams of Drakeford Williams Ltd.

THE APPROPRIATE CONTEXTS FOR THE ASSESSMENT OF LANDSCAPE AND SIGNIFICANCE AND NATURAL CHARACTER

27. Some of the differences in opinion between Mr Hudson and me may be explained by what I regard as the inappropriate approach adopted by Mr Hudson to the definition of the spatial contexts within which the proposal is to be considered. I consider Mr Hudson's approach generally to be invalid, and with respect to landscape, unsupported by decisions of the Environment Court.
28. Accordingly, I commence this section with explanatory comments on some of the principles that apply to defining the physical/spatial contexts referred to in NZCPS Policies 13 and 15 (and also the corresponding concepts in RMA s6(a) and s6(b)). I begin with the concept of landscape, as used in s6(b) and NZCPS Policy 15, and then address the concept of natural character.

Definition of landscape

29. A valid, unambiguous operational definition of landscape is required for the purposes of undertaking landscape assessments in response to section 6(b) and NZCPS Policy 15. The IFLA Asia-Pacific Region Landscape Charter, to which the NZILA is a signatory, provides such a definition. It is the same definition adopted by the European Landscape Convention. Landscape is defined as:

An area, as perceived by people, whose character is the cumulative result of the action and interaction of natural and/or cultural factors.

30. For the purpose of delineating the spatial extent of a landscape, the relevant words in the definition are; "...as perceived by people".
31. This definition is consistent with the general understanding of what constitutes a landscape in a RMA section 6(b) sense, as given by the

Environment Court in *KPF Investments Ltd v Marlborough District Council*, at [52]¹:

*We hold that the word "landscape" is being used in section 6(b) primarily in the picturesque sense of **an area that can be seen at a glance** [emphasis added].*

32. This explanation as to the intended meaning of landscape is consistent with the IFLA definition given above, but is consistent also with a range of other accepted definitions, including:

*Landscape is not synonymous with environment, **it is the environment perceived**, especially visually perceived" (Appleton, J. 1980. *Landscape in the Arts and the Sciences*. University of Hull, Yorkshire)*

*Usually a landscape is that portion of land or territory which **the eye can comprehend in a single view**, including all its natural characteristics. (Steiner, F. 1991. *The Living Landscape: An Ecological Approach to Landscape Planning*. McGraw Hill. New York)*

*Landscape is the assemblage of human and natural phenomena contained **within one's field of view** outdoors (Palka, Eugene J. 1995. *Coming to grips with the concept of landscape*. *Landscape Journal*, 14(1))*

[emphasis added in each quote]

33. As is apparent from the words emphasised in the definitions given above, the notion of landscape as a perceived phenomenon is consistent through all these definitions, and the interpretation given by the court in *KPF Investments*.
34. The implication for landscape assessment for section 6(b) and NZCPS Policy 15 purposes is that the starting point is a landscape as perceived or experienced in the field, experienced in an holistic sense.
35. The landscape approach to assessment(referred to in various decisions of the Environment Court², and the High Court's *Man o'War* decision³) applies the following stages to assessment:

¹ [2014] NZEnvC 152. For a more complete account of the Court's decision on this matter see Appendix A, What is a 'Landscape'?

- 35.1. Identify the relevant landscape/s,
- 35.2. Determine whether a landscape is a natural landscape, and if so, how natural (with reference to a scale of natural character - see next section of my evidence),
- 35.3. Assess whether any landscape, as a natural landscape, is also outstanding at a regional level.

Scale of analysis

36. Landscapes can be defined at a range of scales, and while there are no hard guidelines as to the sufficient extent of a tract of land to constitute a landscape, it is well established in RMA practice that landscape character areas and landscape 'units' do not constitute a landscape. Thus, there is a scale at which a tract of land is too small to be regarded as a landscape.
37. This principle was established in the first Queenstown landscape decision⁴, where at paragraph 105 the Court determined:

When considering the issue of outstanding natural landscapes we must bear in mind that some hillsides, faces and foregrounds are not in themselves outstanding natural natural features or landscapes, but looked at as a whole together with other features that are, they become part of a whole that is greater than the sum of its parts. To individual landowners who look at their house, pasture, shelterbelts and sheds and cannot believe that their land is an outstanding natural landscape we point out that the land is part [emphasis in original] of an outstanding natural landscape, and questions of the wider context and of scale need to be considered.

² e.g.: [2]

C15/2009, Friends of Pelorus Estuary Inc. v Marlborough District Council at [37]²
[2011] NZEnvC 387 High Country Rosehip Orchards Limited v Mackenzie District Council at [74]
[2012] NZEnvC Port Gore
Marine farms v Marlborough District Council at [78]

³ CIV-2014-404-002064 [2015] NZHC 767 Man o'War Station Ltd v Auckland Council, at [10]

⁴ 2000 NZRMA 59

38. The analysis of landscapes within the Marlborough Sounds is confounded by the highly complex nature of the Marlborough Sounds topography. There is no correct analysis of landscapes, as the Marlborough Sounds overall are

open to a multitude of different interpretations, according to the scale of analysis chosen, and individual perceptions. However, it is my opinion that some frames of reference are more valid than others, and there is a scale of analysis at which a tract of land ceases to qualify as a landscape for RMA s6(b) and NZCPS Policy 15 purposes.

39. While at the broadest scale of analysis the Marlborough Sounds overall can be regarded as a landscape in a general sense, the landscape at this scale exceeds that area of land that can be 'seen at a glance', or 'comprehended in a single view', as the definitions presented above require. For RMA s6(b) and NZCPS Policy 15 purposes it is necessary to analyse landscapes within the Marlborough Sounds at a finer grained levels of analysis.
40. In identifying the appropriate scale of analysis for defining the landscape for the purposes of the matter before the Marlborough Salmon Farm Relocation Advisory Panel (Panel), is relevant to note that it was generally accepted in expert witness caucusing for the NZKS Board of Inquiry (BoI), that the appropriate landscape frame of reference for considering the proposed Pelorus Sound salmon farms was the Waitata Reach. The extent of this area was illustrated in the evidence of Mr Frank Boffa, for NZKS. (see Figure 1, below). This map was also included in the agreed expert witness caucusing statement.
41. The identification of the Waitata Reach as the landscape context was recognised by the BoI, who stated at paragraph [643] of their report:

[643] There was general consensus between the landscape architects that the location and general character of the Reach needs to be appreciated in the context of the overall labyrinth of waterways known as Pelorus Sound. There was little or no disagreement as to its setting. The Waitata Reach incorporates the body of water that connects Tawhitinui Reach at Maud Island to the south, to the open waters of Cook Strait to the north. The Reach is approximately 12km long and the width of the passage typically varies between 2km and 4km.
42. The Waitata Reach, as identified in paragraph [643] of the decision, was the context applied in considering the effects of the proposed farms - individually and cumulatively - on natural character, landscape and visual amenity values.

43. At a finer grain of analysis, individual bays off the Waitata Reach - such as Port Ligar, Waihinau Bay, Waitata Bay and Forsyth Bay - may also be regarded as landscapes. However, I consider this level of analysis to be the lower limit of the scale at which a Marlborough Sounds landscape/seascape may be identified for RMA and NZCPS purposes. I do not regard the scale of the individual bay as the appropriate scale for considering the current matter.

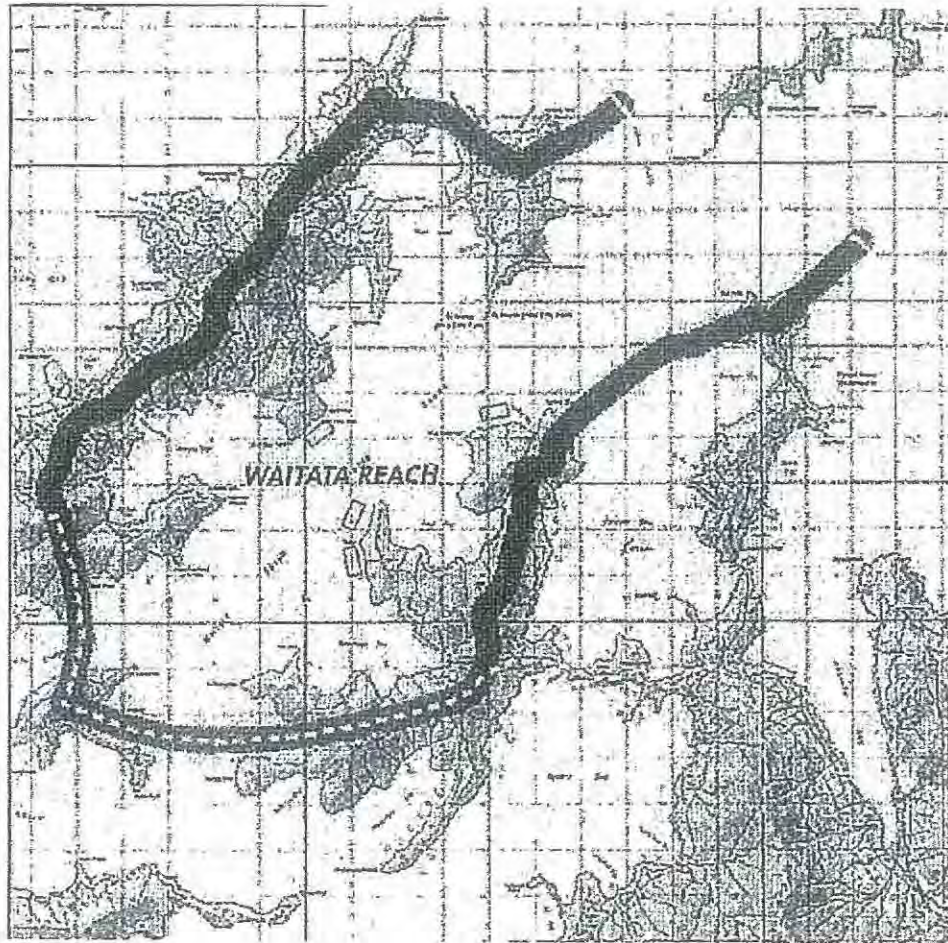


Figure 1: Part of map agreed in NZKS landscape and natural character expert witness caucusing identifying the relevant landscape for the consideration of the proposed Waitata Reach salmon farms.

44. At an even finer grain of analysis, the scale of the site (meaning individual salmon farm sites, in this context), as adopted by Mr Hudson for the purposes of his assessment, is not a legitimate spatial frame of reference for considering the current matter with respect to RMA s6(b) and NZCPS Policy 15. I discuss this further later in my evidence.

NZCPS Policy 15: Landscape includes seascape

45. The definition of landscapes in the Marlborough Sounds is confounded by the role of the sea. The sea, or at least the surface of the marine environment, is unambiguously an integral part of all Marlborough Sounds landscapes, at any scale of analysis. I consider this analysis to be consistent with NZCPS Policy 15, which refers to; "...natural features and natural landscapes (*including seascapes*) [emphasis added] of the coastal environment".
46. However, unlike the terrestrial environment, which compartmentalises on the basis of topography (e.g., hydrological catchments), there is a continuity to the sea, an absence of bounding features, that links areas together and helps create a perceptual continuum. I do not regard any landscape within the Sounds as being wholly terrestrial - all areas that are capable of being defined as a landscape include a terrestrial and marine component. As such they are more correctly regarded as landscape/seascapes. As this analysis applies to the Waitata Reach (see Figure 1), the surface of the waters of the reach and the enclosing, defining landmass together constitute the landscape/seascape for NZCPS Policy 15 purposes.
47. The intricate and at times confusing complexity of the land/sea interface is a significant aspect in terms of defining the character and aesthetic quality of the Sounds generally, and the Waitata Reach. Indeed, it could be regarded as one of the defining characteristics of the Sounds. The land/sea interface is the most sensitive area of each landscape, and the area most likely to be compromised in terms of natural character and aesthetic quality as a consequence of marine farming.

Landscapes and Features

48. The NZCPS Policy 15 provides for the protection of both outstanding natural features (Policy 15(a)) and natural features (Policy 15(b)). Features are distinguished from landscapes largely on the basis of homogeneous geomorphological characteristics. Features are discrete physical elements in the landscape, generally well bounded or defined, and the product of the interaction of geological and geomorphological processes. Features exist as a matter of scientific fact, and their definition is not subject to differing

- perceptual interpretations. Landscapes, by comparison, may be regarded as extensive, heterogeneous tracts of land subject to often widely differing personal interpretation, according to perceptions.
49. The Boffa Miskell landscape study upon which Mr Hudson relies for his analysis of landscape value, fundamentally confuses the two distinct concepts of feature and landscape. I have addressed this issue in a report prepared to accompany my clients' submissions on the proposed Marlborough Environment Plan (see Attachment to this evidence).
50. In the interests of clarity, my own representation of Figure 1, the Waitata Reach landscape/seascape, is presented below as Figure 2. The landscape/seascape as defined in Figure 2 is the appropriate scale and extent of landscape at which to consider the current matter, in my opinion. My Figure 2 is a composite of several graphics showing: (1) the extent of existing marine farm development in the Waitata Reach including existing NZKS farms, (2) the proposed position of the 5 salmon farms identified for relocation to the Waitata Reach, and (3) the spatial extent of the Waitata Reach landscape/seascape. The Marlborough District Council base map also illustrates the coastal marine zones for the Waitata Reach: the pale blue areas are CMZ1, while the lavender areas are CMZ2.

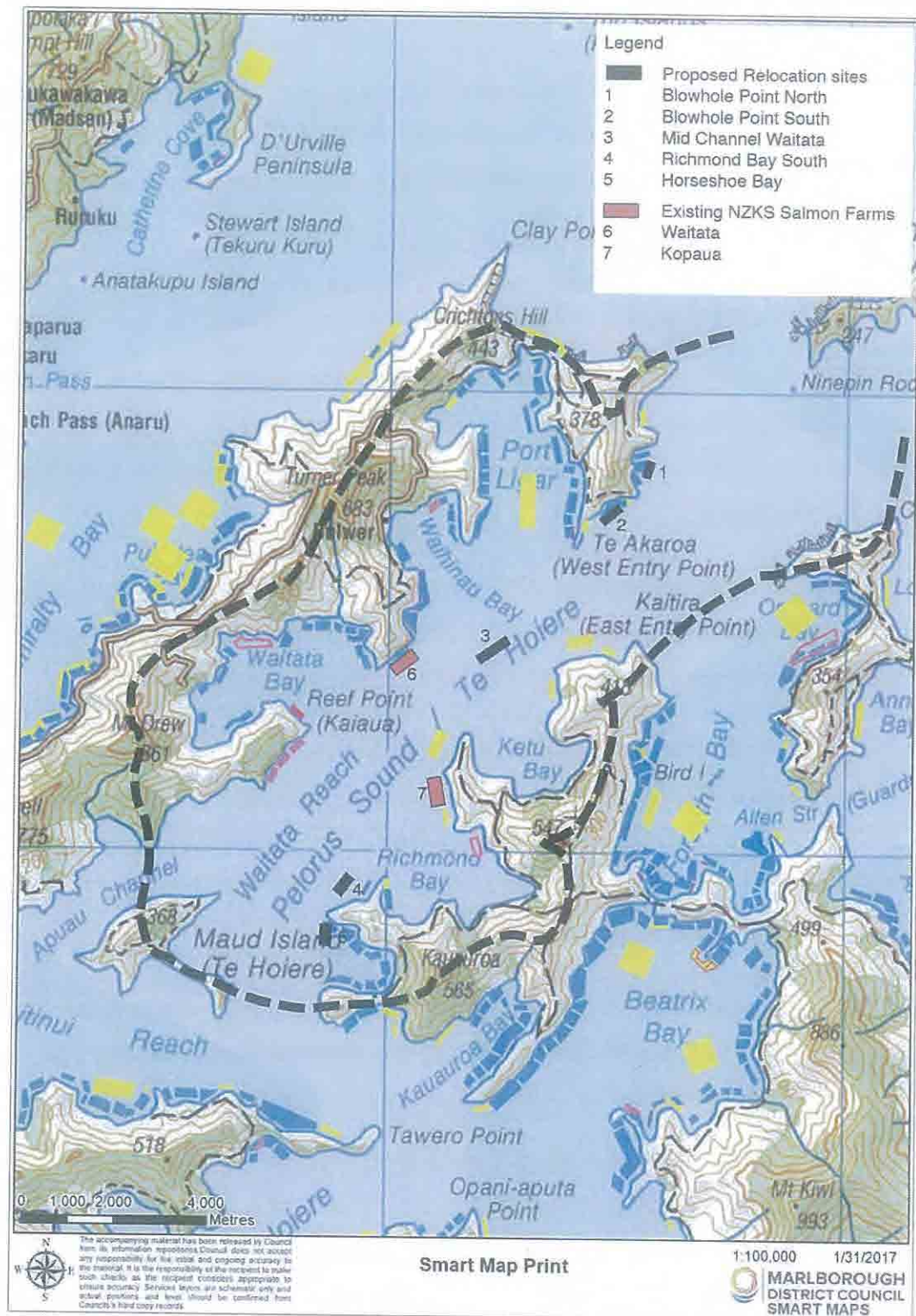


Figure 2: Waitata Reach landscape, as identified on Figure 1 (dashed black line), showing: (1) the extent of existing marine farm development in the Waitata Reach including existing NZKS farms, (2) the proposed position of the 5 salmon farms identified for relocation to the Waitata Reach, and (3) the spatial extent of the Waitata Reach landscape/seascape. The Marlborough District Council base map also illustrates the coastal marine zones for the Waitata Reach: the lavender areas (e.g., Waitata Reach) are CMZ1, while the pale blue areas are CMZ2.

The Coastal Environment

51. Turning from landscape assessment and evaluation to natural character assessments undertaken for the purposes of NZCPS Policy 13; such assessments are undertaken with reference to the coastal environment, not landscapes:

To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development:

52. The coastal environment is not synonymous with the concept of landscape or landscapes/seascapes, as defined for the purposes of Policy 15 assessments. Landscape/seascapes are not the correct spatial frame of reference for Policy 13 assessments.

53. While the same holistic overview is applied to natural character assessment as to landscape assessment, NZCPS Policy 13 introduces the requirement to consider factors not normally relevant to landscape assessment.

53.1. Assessments of the natural character of the coastal environment must factor in consideration of natural character status of the the water column and seabed², whereas a landscape/seascape assessment is confined to the foreshore, inter-tidal zone and the surface of coastal waters that might constitute the seascape.

53.2. Coastal processes, including the natural movement of water and sediment, or changes to tidal flows and currents, and the natural sediment state, are to be considered in natural character assessments.

53.3. Natural character assessment considers an objective state, or condition, rather than a quality or value³, and to that extent, natural character exists regardless of individual experiential constructions, unsupported by objective observation. Experiential responses of an

² In principle, throughout the coastal marine area (CMA), extending to 12 nm off-shore. In practice, the natural character of the CMA need only be considered within the spatial context that might reasonably be impacted by the proposal under consideration.

³ The value of the preservation of the natural character of the coastal environment is given by RMA s6(a), as being a matter of national importance.

aesthetic nature, while relevant to the assessments of landscapes and features, are not relevant to the assessment of natural character.

54. The scale and complexity of the coastal environment calls for a different analytical approach than that which may be applied to landscapes and features. A framework for the assessment of natural character at a range of scales (level 1 - Level 5) is presented in the BML (2014) study. I generally endorse this approach, and to the extent that it has been applied correctly in the Hudson assessment to natural character, it is relevant.
55. However, Hudson mistakenly attributes this approach to the Boffa Miskell Ltd (2015) landscape study (see, the section *Context and Assessment Across the Scales*, p.5, Hudson report). The analysis of natural character according to 5 scales (Level 1- level 5) was not applied to the assessment of Marlborough Sounds landscapes (or Marlborough landscapes generally), as claimed by Hudson. As I have stated above, the appropriate scale for the evaluation of landscapes and the assessment of landscape effects is the landscape/seascape of the Waitata Reach.

THE LANDSCAPE SIGNIFICANCE OF THE WAITATA REACH

The current status of landscape significance within the Waitata Reach

56. Landscape significance within the Waitata Reach is currently determined by the landscape provisions of the Marlborough Sounds Resource Management Plan (MSRMP). The assessments⁴ that informed the MSRMP landscape provisions pre-date the RMA and the conventions of outstanding natural landscapes (ONL) and outstanding natural features (ONF). The terminology applied in the MSRMP is *Areas of Outstanding Landscape Value* (AOLV). Such areas were identified according to a narrower interpretation of

⁴ Department of Conservation 'Marlborough Sounds Draft Landscape Assessment: Selected Sites' Earl H. Bennett, Landscape Architect, July 1989.

Department of Conservation (Nelson) 'Marlborough Sounds Visual Impacts of Coastal Development - Selected Locations' Earl H. Bennett, FNZILA, Landscape Architect, June 1990 (principal report and appendices).

Department of Conservation (Nelson/Marlborough Conservancy)'Draft Regional Landscape Assessment' Sissons and Conway Ltd, June 1993 (a draft unpublished report).

landscape significance than is required by RMA s6(b), and they are not synonymous with either ONL or ONF.

57. At paragraph [46] of its decision in *KPF Investments*, the Environment Court explained the distinction between AOLV and ONL:

The district plan has not identified particular landscapes as outstanding, rather it has gone beyond that and identified the "areas of outstanding landscape value" to guide people dealing with the landscape as to where development might be more or less appropriate.

58. Areas of land in the vicinity of the Waitata Reach identified as AOLV are illustrated in the map reproduced in Appendix C.
59. As a consequence of the Environment Court's decision in *KPF Investments Ltd v Marlborough District Council*, the prominent headland identified on topographical maps at the western entrance to Ligar Bay, between Cannon Point and Danger Point, may now be regarded as an ONF within the meaning of section 6(b) and NZCPS Policy 15.
60. An updated assessment of landscape significance within the Marlborough district has been undertaken by Boffa Miskell Ltd (2015) for the purposes of the proposed Marlborough Environment Plan. I have reproduced the relevant sections of the BML maps of ONFL in the vicinity of the Waitata Reach at Appendix D and the consequent MDC proposals for the identification of landscape significance (ONFL and High Amenity Landscapes (HAL)) in the proposed MEP at Appendix E.
61. I am critical of many aspects of the BML assessment, and some of my concerns are discussed in the document prepared in support of my clients' submissions on the proposed MEP, attached to this evidence. Two issues in particular have a bearing on the current matter:
- 61.1. The BML (2015) study is based on a flawed, invalid distinction between features, and landscapes/seascapes as they should be understood in the context of the Marlborough Sounds.
- 61.2. The BML (2015) study has failed to understand landscape and seascape as an integral unity within any part of the Sounds. The

identification of outstanding areas is overwhelmingly biased towards terrestrial environments.

62. In consideration of these issues, the statement at page 106 of the BML (2015) study: "*Within the Inner Sounds Landscape Unit there are no identified Outstanding Natural Landscapes, principally due to the small scale of this character unit*", is neither credible nor methodologically valid.

63. The assessment is based in an invalid conceptual distinction between landscapes/seascapes and features. The Marlborough Sounds has been assessed as a collection of features, and features, by definition, do not include adjacent seascapes. This conceptual error has the effect of excluding seascapes from almost all Marlborough Sounds ONFL, other than the Outer Sounds ONL and Tennyson Inlet/North Nydia Bay. For example, with reference to the sections of maps reproduced at my Appendix D, if the Port Ligar area were to be defined as a landscape/seascape, rather than a feature, there would be no theoretical nor methodological basis for excluding the waters of Port Ligar from identification as outstanding, given the outstanding classification of the entire enclosing land mass. With the exception of Tennyson Inlet and North Nydia Bay (mis-named) ONFs, the failure to attribute outstandingness to any area of seascape within the Marlborough Sounds is not credible, in my opinion. This outcome derives from the failure of the BML (2015) to establish a valid distinction between features and landscapes/seascape.

64. To regard the Sounds as a collection of mainly terrestrial features, precludes the identification of seascapes as outstanding. Within any part of the Marlborough Sounds, landscape and seascape are an integral perceptual unity - any landscape necessarily includes the adjacent seascape. This was recognised in the BoI final decision, where at paragraph [606] the Board affirmed my opinion that the sea was an integral part of Sounds landscapes:

We also consider that it is important in the Sounds setting to consider, as Dr Steven emphasised, the role of the sea, or at least the surface of the marine environment. It is unambiguously an integral part of all Marlborough Sounds landscapes at any scale of analysis.

65. On the basis of these comments, I regard the BML (2015) study of landscape significance to be an invalid and unreliable source for the purposes of Mr Hudson's assessment. The BML (2015) study, and the landscape provisions of the proposed MEP that derive from it, are as yet untested through the process of public hearings and Environment Court decisions.

The Hudson assessment of landscape significance

66. Mr Hudson appears to have adopted - uncritically, and without any apparent additional analysis of his own - the findings of the BML landscape and natural characters studies, as providing the basis for his own work. Thus, to the extent that the Boffa Miskell studies are significantly flawed, these flaws carry through into Mr Hudson's own assessment, and the consequent validity and reliability of his work pertaining to the relocation of 6 NZKS salmon farms.
67. To this issue, my evidence addresses an aspect of Mr Hudson's own assessment that, in my opinion, further diminishes the validity and reliability of his work. At page 5 of his report, Mr Hudson states:

*This study is concerned for the main part with **assessment at the localised site scale**. Values identified for an area or feature at a district-scale or Level 3/4 scale will often be more general than those identified for a specific site, and at the site-scale not all high-level/wider context values might apply.*
[emphasis added]

68. Mr Hudson's focus on assessment at the localised site scale is, with limited exceptions, an invalid approach, and is contrary to principles established in many decisions of the Environment Court, and the NZKS BoI decision. I shall discuss this issue with reference to two sites.
69. With regard to the landscape significance of Proposed Site 34, Blowhole Point North, Mr Hudson states (p.20):

Conclusion: Proposed Site 34 Landscape Assessment

...

The site is part of the wider Sounds, which is an Outstanding Natural Landscape at the National Scale. It also lies inside an area proposed as ONL

(Proposed MEP, but not in Operative MSRMP) at the district scale, and is within a feature proposed as an ONF in the MEP (but not in Operative MSRMP) at the district scale (the waters between Te Akaroa and Kaitira Headland)¹⁸.

The conclusion drawn from this assessment is that this particular bay and its adjacent hill-slopes, when assessed at the site scale (Level 4/5), do not meet the threshold for ONF. This is due to reduced natural science and reduced perceptual/sensory values (including visual amenity), at the site-scale. Associative values in relation to the site's role within the Pelorus gateway are also reduced at the site-scale due to the expansiveness of the gateway. In addition, this assessment considers that terrestrial and marine components should be considered as one for the purpose of ONFL assessment. These factors, along with the degree of modification to land cover (pasture and pine plantation) and the coastal margin (with existing mussel farms and benthic modifications) at this site prevents the site from appropriate qualification as Outstanding at the site scale.

Landscape Baseline Rating: High-Moderate

70. With regard to Proposed Site 122, Blowhole Point South, Mr Hudson states:

Conclusion: Site 122 Landscape Assessment

There is a sense of remoteness and expansiveness at the site, due to the location on the edge of the open sea. Perceived naturalness, coherence and visual amenity is reduced by the presence of a block of exotic forestry, with geometric boundary edges at odds with the landform. The site has high memorability due to associative values relating to its location, and also due to an adjacent unusual landform. Natural science values are reduced by the modified coastal margin and modified vegetative land-cover, but the presence of regenerating native vegetation contributes to a slightly higher rating than the nearby site 34.

Landscape Baseline Rating: High-Moderate

71. At both locations, Mr Hudson rates the landscape significance of the sites as High-Moderate (despite stating that Site 122 has; "...a slightly higher rating than nearby site 34").
72. There is no such concept in resource management practice as 'Outstanding at the site scale'. This was established by a decision of the Environment Court as long ago as the first Queenstown landscape decision in 1999 (see reference at my paragraph 37). The appropriate spatial context for analysis with respect to

NZCPS Policy 15 is either a feature, or a landscape/seascape, and the Blowhole Point sites do not qualify as either.

73. In my opinion it is valid to regard the entire headland on the eastern side of Port Ligar as a feature. By definition, this feature cannot include adjacent waters, for these are part of a landscape/seascape, but one that also includes the adjacent headland. Their spatial context properly defined, the Blowhole Point North and Blowhole Point South sites may be regarded as part of two outstanding natural landscape/seascapes:
- 73.1. At a coarse grained level of analysis, they can be regarded as being within the Outer Sounds ONL, as defined in the BML (2015) study,
- 73.2. At a finer grain of analysis, they may be regarded as being within the Port Ligar, Forsyth Island and Kaitira Headland (mis-named) ONF, as defined in the BML (2015) study and recognised in the proposed MEP.
74. However, the Port Ligar, Forsyth Island and Kaitira Headland ONF is more correctly defined as an ONL (it is part of a landscape/seascape, and not a feature in NZCPS Policy 15 terms), and indeed an ONL that should extend to cover a much greater area than that identified in the BML (2015) study. I address this in the next section of my evidence.
75. I acknowledge that the landscape/seascape within which these sites are located has no formal status as an Area of Outstanding Landscape Value in the MSRMP. However, I note that the concept of AOLV is predominantly applied to the terrestrial environments. The means by which AOLV were assessed predates the RMA and current methods of landscape assessment based on the Pigeon Bay factors.

My assessment of landscape significance

76. As noted elsewhere in my evidence, I consider the appropriate spatial context for the consideration of this matter is the Waitata Reach, extending from Maud Island to the Chetwode Islands. I also include adjacent bays in the definition of this area. As defined, I consider the Waitata Reach the

appropriate context for each of the following aspects of resource management:

- 76.1. It is an appropriately scaled part of the coastal environment within which to consider levels of natural character with reference to NZCPS Policy 13⁵. Waitata Reach corresponds to Level 3, as applied to the analysis of the natural character of terrestrial areas of the coastal environment in the BML (2014) natural character study. More detailed, finer grained analysis at Levels 4 & 5 is also appropriate, down to the scale of an individual bay. In the context of the Waitata Reach, I regard Port Ligar as Level 4, and, say Horseshoe Bay and the locality of Blowhole Point (but not the individual proposed sites) as Level 5.
- 76.2. It is the appropriate landscape/seascape context for the purposes of identifying significance (outstandingness) with reference to NZCPS Policy 15.
- 76.3. It is the appropriate context in which to consider adverse effects of development on landscape significance and natural character. This is particularly the case with respect to cumulative adverse effects.
- 77. In evidence before the NZKS BoI, I stated my opinion that the Waitata Reach is an outstanding natural landscape (ONL). In the context I used the term ONL, I was referring to landscape and adjacent seascape as an integral, inseparable entity. As such, I consider this landscape/seascape to be subject to NZCPS Policy 15a:
 - (a) *avoid adverse effects of activities on outstanding natural features and outstanding natural landscapes in the coastal environment;*
- 78. This opinion was re-stated in *Pelorus Wildlife Sanctuaries Ltd v*

⁵ I have noted elsewhere in my evidence that landscape and the coastal environment are not synonymous concepts. However, in the circumstances of the Marlborough Sounds, where the entire Marlborough Sounds is accepted as being within the coastal environment for the purposes of the NZCPS, there will be many areas where a landscape, defined for the purposes of Policy 15, is substantially the same as the coastal environment, defined for the purposes of Policy 13.

Marlborough District Council. Following an extensive analysis of the Waitata Reach according to natural science, aesthetic and social/community held values, I concluded at paragraphs 101 of my evidence:

Conclusion on landscape significance

On the basis of the aesthetic, natural science and sense of place values attributable to the Waitata Reach/Port Ligar landscape, I am unequivocal in regarding the area as an outstanding natural landscape. In reaching this conclusion I make no differentiation between the terrestrial and marine environments. Particularly insofar as aesthetic value is concerned, the marine and terrestrial environments are an integral and inseparable unity.

79. In my opinion, sensory qualities, or more accurately aesthetic value constitutes the primary basis for the recognition of the Waitata Reach, and the Marlborough Sounds generally, as having significant value - in my opinion at the level of outstanding. The aspects of aesthetic appreciation and aesthetic value that I have drawn upon include:

79.1. Factors identified in the MSRMP (section 5.1.1, p.5-1):

- *The curving coastline with a range of tidal estuaries and sandy and rocky beaches;*
- *Island landforms set with a skyline backdrop;*
- *Highly weathered coastal cliffs;*
- *Rolling ridgelines along the skyline;*
- *A complex mosaic of vegetation patterns which gives rise to a range of textures and colours in the landscape; and*
- *Uninterrupted sequence from hilltop to seafloor.*

79.2. The grand scale, labyrinthine waterways and “tortuous paths” recorded by Jerningham Wakefield⁶. These, to my mind are the defining characteristics of the Sounds landscapes - the complex interplay of land and water, and the sense that around every headland there is more to be revealed and discovered makes the Sounds New

Zealand’s most accessible, yet intriguing landscape. The fact of the landscape being dominated by water creates a situation of unrestricted access to explore and experience the complexity of the Sounds and the

⁶ Edward Jerningham Wakefield, *Adventure in New Zealand*, abridged edition by Joan Stevens. Auckland, Golden Press, 1975, cited in Ponder, Frank 1986. *A labyrinth of waterways: the forgotten story of New Zealand’s Marlborough Sounds*. Wenlock House.

almost infinite range of vistas and views available. This aspect is clearly evident in the Waitata Reach.

- 79.3. The landforms, vegetative cover and water surface of the Reach can be appreciated in the more abstract sense of forms, lines, textures, patterns and colours. This is the approach adopted in the Department of Conservation's VAMPLAN study (1989) which was the basis for the identification of Areas of Outstanding Landscape Value in the MSRMP. It is an analytical and less intuitive approach to aesthetic appreciation but one that may still reward with considerable aesthetic pleasure. Landforms and topography are the principle basis of formal appreciation, but the textures and patterns of bush and pasture are also pleasing and highly valued.
- 79.4. Aesthetic appreciation and aesthetic value also derives from the perception of the natural character of the biophysical aspects of the landscape. The intrusion of structural elements, particularly those of an incongruous nature, into a landscape otherwise perceived as highly natural, diminishes the aesthetic appreciation of natural environments.
- 79.5. The land sea interface is particularly intriguing, as an opportunity to experience the effects of coastal erosion of landforms, the weathering of exposed rock, and the various plants and life-forms that colonise shallow waters, the intertidal zones, and coastal cliffs.
- 79.6. The natural history of the Sounds is a source of considerable aesthetic pleasure. Seabirds - particularly those that flock together to scavenge or dive for fish, provide an endless source of wonder and pleasure. The prospect of seeing marine mammals, such as dolphins and fur seals is always present. Seals loafing in haul out areas around the shoreline are particularly accessible for viewing from the sea, and add to the pleasure associated with cruising the coastal margins of the Sounds. Seals and dolphins are also encountered in deeper waters, where

sometimes seals can be observed feeding upon a catch of octopus or other fish.

- 79.7. Other sensory experiences contribute also: the smells associated with the bush, shoreline and water; the sounds of water lapping the shoreline or waves breaking; the varying atmospheric conditions, and patterns on the water caused by sun, shadow and the sudden, swirling, erratic winds (williwaws) that characterise the Sounds.
80. Collectively these aspects, and no doubt many others, such as a sense of remoteness and wildness, according to the characteristics of individual aesthetic experiences, combine to provide a rich range of experiences for aesthetic appreciation that I regard as highly valued and widely shared among all who have experienced the Sounds.
81. That the Waitata Reach is an outstanding natural landscape/seascape remains my opinion, notwithstanding the development of two further salmon farms within the reach (Waitata and Kopaua) as a consequence of the NZKS BoI decision. However, as I shall state in a later section of this evidence I consider that with the addition of these two salmon farms, the Waitata Reach to be developed to the point of the threshold for unacceptable cumulative adverse effects on natural character and landscape significance.
82. Parts of the area I have defined as the Waitata Reach landscape/seascape are identified in the proposed MEP as an outstanding natural landscape and an outstanding natural feature (Appendix G). I agree with the outstanding status identified in the MEP for the area of proposed sites 34 and 122. However, I take issue with the terminology applied to its identification (ONF, as distinct from ONL). These areas are limited in their extent largely due to flawed and invalid distinctions between the concepts of landscape/seascape and feature.
83. In my opinion, each of the 5 proposed sites located in the Waitata Reach may be regarded as being within an outstanding landscape/seascape within the meaning of NZCPS Policy 15.

84. I accept that the status of landscape/seascapes within the locality of the Waitata Reach will not be finalised until such time as hearings, and subsequent appeals on the proposed MEP are resolved. Until then, I accept that the areas identified in the proposed MEP must stand as the only regional classification of the outstanding landscape/seascapes and features of Marlborough - notwithstanding the invalid and unreliable aspects of the assessment that identified such areas.
85. Irrespective of the outstandingness (or otherwise) of the Waitata Reach landscape/seascape, it is an area that is in my opinion, a *natural* landscape/seascape, and as such is subject to Policy 15(b) of the NZCPS:

(b) avoid significant adverse effects and avoid, remedy, or mitigate other adverse effects of activities on other natural features and natural landscapes in the coastal environment;

86. I regard the failure to reference explicitly, Policy 15(b) of the NZCPS as a significant omission in the Hudson assessment report. I discuss the basis for regarding the Waitata Reach as a natural landscape/seascape in the next section of my evidence. I then address the issue of cumulative effects for the purpose of establishing that the proposed relocation of 5 salmon farms to the Waitata Reach would constitute a significant adverse effect within the meaning of of NZCPS 15(b), and as such, these significant adverse effects must be avoided.

THE NATURAL CHARACTER OF THE WAITATA REACH

Natural character and its assessment

87. The following paragraphs present key concepts relating to natural character and its assessment. For a further discussion refer to my Appendix B.
88. The concept of the natural character of the coastal environment and the means by which it is to be assessed for resource management purposes is a vexed issue. For the purposes of valid and reliable assessments, much rests upon a valid definition of the core concept - natural character. A valid definition that I propose, and an approach to its assessment and rating, is

presented in Appendix B to this evidence. For convenience, I repeat my definition and my 7-range scale of natural character below:

Definition

Natural character is the expression of natural elements, natural patterns and natural processes in the landscape or coastal environment, rated according to the perceived degree of modification through human agency⁷

VERY HIGH	HIGH	MODERATEHIGH	MODERATE	MODERATELOW	LOW	VERY LOW
--------------	------	--------------	----------	-------------	-----	-------------

Figure 3: A scale of natural character: 7-range scale of natural character for the assessment of the degree of natural character exhibited by a landscape/seascape or the coastal environment. The shaded part of the scale is the range within which natural processes become dominant over cultural processes. Landscape/seascapes assessed as being within the Moderate range of the scale will generally display natural and cultural influences in equal measure. A landscape/seascape or feature rating Moderate-High, High or Very High may be regarded as a natural landscape/seascape or natural feature within the meaning of NZCPS Policy 15(b)

89. The developing practice in the assessment of the natural character of the coastal environment is to rate levels of natural character separately for each of the terrestrial and the marine components of the coastal environment. This was the approach adopted in the BML (2014) Marlborough coastal natural character study, and it is an approach I endorse. Given the very different land-use and management circumstances, and differing biophysical conditions that generally prevail within terrestrial and marine components of the coastal environment, I regard it as methodologically unreliable (and probably impossible) to rate the natural character of the coastal environment with a single rating of natural character. The use of a single rating of natural character implies that the natural character of the coastal environment can be expressed in terms of averages. Such an approach is methodologically unsound and does not give effect to NZCPS Policy 13, in my opinion.
90. In the interests of clarity, it is a matter of fact that the entire area of the Waitata Reach identified as a landscape in my Figure 2, is also within the

⁷ 'modification' or 'intervention' could be used as an alternative to 'agency'.

coastal environment, i.e., no part of the Waitata Reach may be regarded as beyond the scope of NZCPS Policy 13.

The BML (2014) and Hudson assessments of natural character

91. The BML (2014) natural character report is particularly difficult to interpret, in my opinion. Different spatial contexts are applied to assessing the natural character of the coastal marine component and the terrestrial component of the coastal environment. Coastal Marine Area C is the entire Pelorus Sound from Havelock estuary to Cook Strait, while the corresponding tract of the coastal terrestrial area is defined as Coastal Terrestrial Area 3 Bulwer, which covers only the outer Pelorus Sound, but extends to the terrestrial environment adjacent to Admiralty Bay and French Pass.
92. In addition to different spatial contexts for the assessment of marine and terrestrial components, the assessment rates natural character at a range of scales.
93. To the extent that any coherent understanding of the natural character of the coastal environment of Waitata Reach is possible, it is represented somewhat coarsely and imprecisely in Map 10 (Specific Coastal Natural Character Values of the Marlborough Sounds (levels 4 & 5) of Section D of the BML (2014) study. There is insufficient clarity in this map to warrant its reproduction in this evidence.
94. However, I note that the BML (2014) study gives an overall rating of Moderate-High to the coastal marine area of Pelorus Sound, with specific parts of the coastal marine area (Pelorus Heads and Maud Island) rating High. Somewhat perversely in my opinion, while rating the Maud Island coastal marine area as High, the Boffa Miskell (2014) report also rates the Maud Island area as also having outstanding natural character⁸. At the north-east end of the Reach, the Boffa Miskell (2014) report also identifies the

⁸ The proposition that an area of High natural character can also be regarded as Outstanding natural character (ONC) derives from the BML (2014) definition of ONC. This is a definition that, to the best of my knowledge, has yet to be endorsed by the Environment Court. An alternative understanding of ONC would place it on the 7-range scale, at the upper end of the Very High range of natural character (see Figure 2, my Appendix B).

Chetwode Islands and the waters around them as an area of outstanding natural character.

95. Mr Hudson in his report, appears not to give a specific account of his assessment of the natural character of the Waitata Reach as a whole, other than to state at page 7;

[t]he reach appears as highly natural and feels remote, due to the expansive scale and largely unmodified landform, the large areas of regenerating native vegetation and the sparsely scattered structures.

96. In the context in which the words “appears as highly natural” appear, it may not be correct to take this as Mr Hudson’s formal rating of the natural character of the Waitata Reach, according to a 7-range scale. However, on the basis of this comment it appears that Mr Hudson may also be of the view that the Waitata Reach can be regarded as a natural landscape/seascape for NZCPS Policy 15 purposes, although he does not explicitly address this matter.
97. Rather than deal with the natural character of the Reach as a whole, the approach to the assessment of natural character adopted by Mr Hudson is to address natural character at the level of the site - what he refers to as the level 4/5 scale applied in the BML (2014) natural character study. This is an incorrect interpretation of the Boffa Miskell approach, as I shall discuss. Further, every conclusion on the baseline level of natural character for each proposed relocation site is prefaced by the words; *Note: This study considers marine and terrestrial environments together for the assessment of natural character baseline.* In my opinion, this approach displays a flawed understanding of methods for the assessment of natural character and the effects of the proposal on natural character.
98. The first flaw in Mr Hudson’s approach relates to his adoption of what he refers to as the Level 4/5 scale of analysis for assessing natural character.
99. The levels of analysis applied in the Boffa Miskell (2014) study - 1 through to 5 - apply to the terrestrial land systems analytical technique, described in the BML (2014, pp 15-18) study. Thus, they are relevant only to the *terrestrial*

part of the assessment of natural character - in this case the Bulwer coastal terrestrial area. There is no theoretical or practical basis for assessing the coastal marine area (CMA) according to the same scales of analysis. The land systems approach is premised on the differentiation of tracts of land according to topography, and this approach has no relevance within the CMA. This is one of the reasons why terrestrial and marine areas are assessed separately.

100. Mr Hudson's approach may be explained by the approach and terminology adopted in the BML (2014) study, that (erroneously, in my opinion) applies the terrestrial land systems approach to the Coastal Marine Area - but without explaining the rationale for doing so. Level 3, as proposed in the BML (2014, pp.72-3) study is the entire Pelorus Sound, while relevant examples of Level 4/5 includes the area identified as Pelorus Heads.
101. Adopting the hierarchy of scales proposed in BML (2014), I consider the extent of Waitata Reach as a whole to be appropriate to a Level 3 scale of analysis. I consider Port Ligar (for example) as appropriate to a Level 4 analysis, and, say Horseshoe Bay and the locality of Blowhole Point as appropriate to a Level 5 analysis.
102. In analysing the effects of the proposal on natural character, Mr Hudson makes frequent reference to Level 4/5 being the "site scale". I do not accept that a Level 4/5 analysis can be regarded as being at the scale of the site. The BML (2014) study gives the Pelorus Heads as an example of a Level 4/5 scale of analysis, while I suggest Port Ligar would be an example of a Level 4 scale of analysis, and Horseshoe Bay and example of a Level 5 scale. Mr Hudson's 'site scale' is, in fact, off the scale proposed by BML (2014) and were it to be given an order I, would regard the site scale as being appropriately regarded as Level 6.
103. The site scale of analysis as applied by Mr Hudson is in fact poorly defined, but as the two proposed locations in the vicinity of Blowhole Point are regarded by Mr Hudson as separate sites, it appears that Mr Hudson's analysis of effects extends no further than the physical limits of individual

salmon farms, and in particular the sea surface occupied by each farm. Micro-scale analysis taken to this level is inconsistent with established practice for the assessment of effects on landscapes. While some aspects of effects on natural character are relevant at the scale of the site (e.g., benthic effects), they are only a small part of a larger context that must be considered.

104. As already noted, all such references to Levels 1 - 5 refer to terrestrial environments only, relating as they do to the terrestrial land systems approach⁹ to the analysis of the land:

The Land Systems approach involves a systematic analysis of abiotic and biotic (living) characteristics in terms of their spatial configuration, processes and present condition. The geomorphologic characteristics of the region's complex landscapes are used to distinguish physiographic landform units (landtypes), and are based on a range of data sources including published scientific papers, geological and topographical maps, joint earth science inventories and expert scientific knowledge. [BML 2014, p.15]

105. How this system of analysis might be applied to the categorisation and analysis of components of the coastal marine area has not been explained, either in the BML (2014) study or the Hudson report.
106. More appropriately, for the purposes of the current matter, I consider all 5 proposed relocation sites are within the same area of the coastal marine environment - the Waitata Reach - and not, as Mr Hudson suggests, within 5 discrete areas, each capable of independent assessment at the scale of the site.
107. The micro scale of analysis adopted by Mr Hudson enables unrepresentative assessments of natural character to be undertaken. Both Blowhole Point North and Blowhole Point South sites are within the same Level 4/5 Sub-area of the Pelorus Sound Coastal Marine Area (BML, 2014). This is an area rated by the Boffa Miskell study as having High natural character. However, Hudson, in applying a micro level of assessment that goes to a finer grain of analysis than Boffa Miskell's Level 4/5, assesses the sites as having only Moderate natural character. The appropriate scale for the assessment of

⁹ Lynn, I.H (2009) Land Types of the Marlborough Region. Landcare Research New Zealand.

natural character is the coastal environment context of the proposed sites, not the footprint of individual sites.

108. The second flaw in Mr Hudson's approach is his practice of combining terrestrial and marine natural character assessment given for each site, into a single rating of natural character. This is not regarded as best practice, and is methodologically difficult, if not an impossible task, in my opinion. Certainly Mr Hudson does not explain how he achieves his combined rankings. The practice of combining terrestrial and marine ratings into a single rating of natural character ignores the complexity of each context, and the probability that each context may rate significantly different to the other. The outcome is likely to be a meaningless 'average' rating that distorts the actual state of natural character when each context is considered separately.
109. It is my opinion that, with the exception of areas of outstanding natural character, as defined in the BML (2014) study¹⁰, marine farms have no effect on the natural character of adjacent terrestrial environments. No areas of outstanding natural character are directly impacted by the proposal. Each relocation site is located wholly within the marine environment and effects only the marine environment. In assessing the effects of the proposed marine farms on a combined terrestrial/marine unit of analysis, the outcome will necessarily be biased by the inclusion of the terrestrial environment, which will not be affected in any of the circumstances currently being considered.
110. Accordingly, Mr Hudson's assessment of natural character, and the effects of the proposal on natural character, is neither reliable nor is it valid and cannot be relied upon for the purposes of the current matter.

Is the Waitata Reach a "working landscape"?

111. Mr Hudson makes frequent reference to the Waitata Reach (and Tory Channel) as being a "working landscape", or exhibiting "working landscape character". Ms Williams, in her peer review, repeats this reference, with the

¹⁰ The BML (2014) study regards areas of outstanding natural character as including both marine and terrestrial components: *...outstanding natural character assessments should combine both terrestrial and marine components so that important sequences of ecological naturalness (such as from the top of a ridge above sea level to the bottom of the adjacent sea and interconnected systems) are considered (BM: 2014, p.28)*

suggestion (p.24) that the waters of Cook Strait are a “wild landscape”, while the waters of the Waitata Reach are a “working landscape”. Elsewhere in her review, Ms Williams uses the term “working character”.

112. No definition of what is meant by working landscape character is given by either Mr Hudson or Ms Williams.
113. At various places in his report, Mr Hudson refers to working character as being a “key site value”, and also as a mitigating factor when considering the addition of further salmon farms to the landscape/seascape of the Waitata Reach. The use of the term in these contexts suggests that Mr Hudson has a flawed understanding of the concepts of values and mitigation. Mr Hudson provides no evidence that supports the proposition that within the Marlborough Sounds, landscapes of primary production (e.g., forestry, marine farming) are valued by the community.
114. The question of whether the Waitata Reach can be regarded as a working landscape, or a landscape displaying working character can be resolved with reference to my scale of natural character (Figure 4).



VERY HIGH	HIGH	MODERATEHIGH	MODERATE	MODERATELOW	LOW	VERY LOW
-----------	------	--------------	----------	-------------	-----	----------

Figure 4: The scale of natural character, illustrating the range within which a landscape/seascape might be regarded as exhibiting working character (Moderate-Low - Very Low)

115. As Figure 4 illustrates, there is an inverse relationship between cultural influences and natural influences in the determination of levels of natural character. As natural influences (through the expression of natural elements, natural patterns and natural processes) dominate over evidence of human interventions through management, natural character increases. While Mr Hudson has not defined what he means by a working landscape or working

landscape character, it is my opinion that such a landscape will exhibit the influences of human management and interventions to a greater extent than evidence of natural elements, patterns and processes. The Moderate range of the scale is the range within which landscape/seascapes exhibit expressions of natural and cultural influences to an equal degree. Within the ModerateLow, Low and Very Low ranges of the scale, cultural influences dominate over natural influences. Thus a working landscape, by any reasonable definition, must rate within the Moderate-Low - Very Low range of the scale of natural character.

116. In the context of Pelorus Sound, I regard the Havelock marina and environs as an example of a landscape/seascape or area of the coastal environment with working character. In my opinion, no part of the Waitata Reach CMA can be regarded as displaying natural character within the range indicative of working character.
117. I note that there is no reference to the terms working landscape or working landscape character in the proposed MEP, and on that basis I understand the terms to have no basis in regulatory or policy frameworks relevant to the Marlborough Sounds.

My assessment of the natural character of the Waitata Reach coastal marine environment

118. In my evidence before the NZKS BoI, I rated the natural character of the terrestrial component of the Waitata Reach to be Moderate-High, while the natural character of the marine component I rated to be High. I consider localised areas of the coastal environment within Waitata Reach, particularly off headlands where marine farming is absent, rate within the Very High range of the natural character scale for the marine component, and the High range of the scale for the terrestrial component.
119. As noted above, I have assessed the natural character of the Waitata Reach marine environment (the Coastal Marine Area, or CMA) as High. In doing so I acknowledge that landscape architects have no expertise in the assessment of the natural character of marine environments, beyond informed

observation of what is visible on the surface of the waters, and what knowledge may be available from published sources.

120. The inter-tidal zone at least is available for observation and assessment, as is evidence of modification to the surface of the marine environment, for example by the installation of marine farming structures. Natural processes, such as tidal flows are also readily observed.
121. An important and observable aspect of natural character within the marine component of the coastal environment is marine fauna, particularly sea birds and marine mammals such as fur seals and dolphins. The MSRMP acknowledges this in Chapter 2, Natural Character (p.2-1):

The natural character of the coastal environment and freshwater bodies is comprised of a number of key elements which include:

...

- *Indigenous flora and fauna, and their habitats;*

...

122. I regard it as important for assessments of the natural character of the coastal environment to take account of the marine environment to the extent possible. At the very least, in making such assessments landscape experts should take into account modifications to the intertidal zone, and draw upon such knowledge as is available in the marine environment beyond this.
123. It is my opinion that in general, the natural character of the terrestrial component of the coastal environment within the Waitata Reach has been subject to considerably greater modification by forestry and agricultural development, than the marine component has by marine farming and fishing.
124. The significant difference between my ratings of natural character for the Pelorus Sound coastal environment and the ratings of the Boffa Miskell (2014) study is illustrated in the following table (Table 1).

	Steven	Boffa Miskell (2014)
Coastal Marine Area	High	Moderate-High
Coastal terrestrial area	Moderate-High	High

Table 1: Differences in natural character ratings between the Boffa Miskell (2014) assessment and my own assessment undertaken for the NZKS BoI hearing.

125. In my opinion, a reason for the differing assessments could be that the Boffa Miskell assessors have underestimated or overlooked the extent of modifications to the terrestrial environment through farm development and forestry, while over-estimating the natural character effects of marine farming on the coastal marine area of the Waitata Reach as a whole. I find it incomprehensible that the entire coastal marine area of Waitata Reach should rate only Moderate-High, except for areas of High in the area of the Pelorus Heads. I attribute this to flaws in the Boffa Miskell assessment method, which I discuss in my report to MDC on the proposed Environment Plan.
126. Differences aside, I consider it significant that neither my own assessment nor that of the BML (2014) study rate the natural character of the Waitata Reach as less than Moderate-High. With reference to the scale of natural character presented above (Table 1), the natural character of the terrestrial and marine components of the Waitata Reach fall within the range that qualifies the landscape/seascape of the Waitata Reach to be regarded as a natural landscape/seascape, and thus subject to NZCPS Policy 15(b).
127. The NZKS BoI at paragraph [655] of their final decision, made the following finding with regard to the natural character of the Waitata Reach:
- [655] We find that the Reach as a whole has high natural character value which extends close to outstanding in some places, particularly on the western headlands identified by Mr Brown.*
128. I acknowledge that identified areas of outstanding natural character, as recognised in the proposed MEP, are restricted to Maud Island and the Chetwode Islands and immediately adjacent waters. I note that these areas mark the southern and northern limits of the Waitata Reach, and as such are within the Level 3 coastal environment under consideration. While the proposed sites are outside these areas of ONC in a physical sense, it is possible that their location may still lead to 'downstream' depositional effects from waste products within the areas of ONC. I do not have the expertise to comment on the possible effects of this aspect of the the proposal on the

outstanding natural character of these two areas. While experts from other disciplines may differ in their opinions on this issue, I accept that to the extent of my knowledge and expertise, the proposal may not be subject to NZCPS Policy 13(1)(a):

avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character;

129. However, Policy 13(b) remains as a relevant provision of the NZCPS with reference to which the current matter must be considered:

(b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment;

130. It is my opinion that the proposed relocation of 5 salmon farms to the Waitata Reach constitutes a significant adverse effect on the natural character of the coastal environment in this area and thus should be avoided. If it should be determined that the effects are not significantly adverse, it is my opinion that the effects can neither be remedied nor mitigated, and thus must also be avoided.
131. The basis for the effects being significantly adverse is the cumulative level of marine farming and other developments within the Waitata Reach. Collectively, it is my opinion that these developments have reached the threshold for cumulative adverse effects, beyond which further effects must be avoided. I understand this opinion to be the view of the BoI in the original NZKS hearing, and also the view of the Environment Court in *KPF Investments*. I turn now to a consideration of cumulative effects.

IS DEVELOPMENT WITHIN THE WAITATA REACH AT THE THRESHOLD OF UNACCEPTABLE CUMULATIVE EFFECTS?

The assessment of effects

132. There is currently no NZILA endorsed best practice guide for the undertaking of landscape and visual effects assessments in NZ. In the absence of locally produced documentation, NZ practitioners are increasingly drawing upon the

UK publication, *Guidelines for landscape and visual impact assessment* (2013) (GLVIA)¹¹. My assessment of cumulative effects draws upon definitions and principles presented in this publication.

133. Cumulative effects are defined in the GLVIA (p.120) as those that:
result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments (associated with or separate to it), or actions that occurred in the past, present, or are likely to occur in the foreseeable future.
134. In considering the current matter, cumulative effects must be understood in terms of the totality of changes evident to the landscape and natural character within the Waitata Reach, and not simply the cumulative effects arising from each additional salmon farm. As such, the cumulative effects of marine farming generally - and the current proposal in particular - must be considered together with all other modifications to the landscape and coastal environment within the Waitata Reach. When marine farming is combined with terrestrial activities such as forestry, agriculture, holiday home and tourism developments, the cumulative effects become greater and pose significant threats to the natural character and overall significance of the Marlborough Sounds landscapes, wherever such developments occur. This is certainly the case in the Waitata Reach, where two salmon farms have already been added to a landscape and coastal environment I consider to be significantly compromised in terms of cumulative effects.
135. There are three broad areas for the assessment of effects in a matter such as this:
 - 135.1. Landscape effects (which in the circumstances should be regarded as landscape/seascape effects). These are effects on the physical fabric of the landscape/seascape, such as changes to the biophysical elements that make up the landscape and and give it its distinctive character. These effects may involve the addition, deletion, or modification of

¹¹ Landscape Institute and Institute of Environmental Management and Assessment (2013) *Guidelines for landscape and visual impact assessment*, 3rd edition, Routledge.

biophysical elements that lead to changes in the character of a landscape.

- 135.2. Natural character effects¹². These are effects that change or impact upon natural elements, natural patterns and the operation or functioning of the natural processes that define the natural character of a landscape/seascape or area of the coastal environment.
- 135.3. Visual effects Visual effects may be understood as the; “the effects of change and development on the views available to people and their visual amenity” (GLVIA p.98).
136. These are related concepts, given that landscape and natural character are perceptual phenomena, understood in particular as the result of visual perception. The distinction, subtle it may seem, may be understood in the following terms:
 - 136.1. landscape and natural character effects are those that change the biophysical fabric of the landscape/seascape, the processes operating within or upon landscape/seascape, and which materially change the character or natural character of landscape, seascape or coastal environment. They are tangible, objectively verifiable changes observable within the environment.
 - 136.2. visual effects occur within the minds of the viewers, and are able to be expressed in terms of changes to the amenity experienced and enjoyed by viewers.
137. In short, the source of landscape and natural character effects is the physical environment, while the source of visual effects is the viewer. An important implication of this is that landscape and natural character effects exist independently of the viewer’s experience. They do not vary according to the

¹² The GLVIA does not refer specifically to effects on natural character, but rather to landscape character generally. The concept of the natural character of the coastal environment is a narrow aspect of the wider concept of landscape character that has its origins in the Town and Country Planning Act 1977 3(1)(c), RMA s6(a) and NZCPS Policy 13.

size of the viewing audience, nor the nature of viewer experience, such as the distance from which a change is viewed.

138. With regard to the consideration of landscape effects, the appropriate context for the assessment of effects is the Waitata Reach landscape, as defined elsewhere in this evidence (Figure 2). This landscape includes the waters of the Waitata Reach, and the enclosing landforms, including associated bays and inlets. As noted earlier in my evidence, this context is consistent with that agreed on by the landscape expert witnesses appearing before the NZKS BoI, and subsequently endorsed by the board in its final decision:

[644] There was general consensus between the landscape architects that the location and general character of the Reach needs to be appreciated in the context of the overall labyrinth of waterways known as Pelorus Sound. There was little or no disagreement as to its setting.

139. The spatial context for the consideration of visual effects is the same as for landscape effects.
140. The context for the consideration of effects on the natural character of the coastal environment may also be regarded as the landscape/seascape, as defined elsewhere in my Figure 2. While I have stated that landscape and coastal environment are different concepts, the boundaries of which do not necessarily coincide, the basis for applying the same spatial frame of reference in this matter is the fact that the Waitata Reach coastal environment extends inland to the catchment ridgelines that also define the landscape.

The NZKS Board of Inquiry on Cumulative Effects

141. The decision of the NZKS Board of Inquiry to grant consent for salmon farms at Waitata and Richmond compounds further the cumulative adverse effects associated with marine farming in the Waitata Reach. I regard it as significant that applications for salmon farms at Kaitira, Tapipi and White Horse Rock were declined. The Kaitira and Tapipi salmon farms were declined for reasons of cumulative effects on natural character, landscape and seascape qualities.

142. In its final decision, the board identified the Waitata Reach as being an area of the Sounds in a “fine state of balance” with respect to the effects of development on landscape significance and natural character, but noted that little of this development has yet extended into the main channels of the Sounds:

[574] Few parts of the Marlborough Sounds are wholly natural. Mussel farming, in particular, lines the margins of many inlets and bays – from Croiselles Harbour to East Bay, and parts of Tory Channel. Throughout most of the Sounds, areas of open pasture, pockets of residential settlement and – perhaps most obvious of all – production forestry, leave their mark on the local landscape, disturbing its natural gradients and patterns. Tory Channel and the upper reaches of Pelorus Sound go well beyond this, as both appear seriously degraded from a landscape and natural character standpoint, despite being key gateways to the Sounds as a whole.

[575] Hardly surprising therefore, that some of the least modified parts of the Sounds – such as Port Gore, the Waitata Reach, and Queen Charlotte Sound approaching Picton from Cook Strait – remain in a fine state of balance. The question is – to what extent these landscapes are able to withstand change and development, and at what scale?

[576] Most of the inlets and bays either side of Pelorus Sound, as well as in the vicinity of Port Gore, are already lined by a significant proportion of the 575 consented marine farms scattered throughout the Marlborough Sounds. Fortunately, few of these current operations extend beyond their more sheltered bay margins out into the Sounds’ main channels.

143. On the matter of natural character effects, the board found (final decision, paragraphs [697-698]):

[697] Our site visits confirmed Mr Rough’s opinion to us that in comparison to mussel farms, salmon farms are a highly visible form of marine farm. As a consequence, the mere presence of salmon farms in the Waitata Reach, and their cumulative effects constitutes a substantive issue in respect of the effects of the proposal on the natural character of that Reach.

[698] The cumulative effect of the five proposed farms, in conjunction with the other consented salmon farms (Port Ligar and Waihinu Bay) would, in our view, have a high impact on the natural character of this Reach of Pelorus Sound. We find that, individually, each new farm would have an effect on natural character. Given the prominent locations of the White Horse

Rock/Waitata site, Kaitira and Tapipi, even if only one or two of these farms were consented, the effect on natural character would be high.

144. In consideration of the evidence on landscape and visual effects, the board found (final decision, paragraph [713]):

[713] We accordingly find that:

[a] Five farms would have a decisive cumulative effect and from a visual and aesthetic point of view the two most prominent farms of Kaitira and Tapipi are the defining element of the decisive cumulative effect; and

[b] At a more local level, the five proposed farms would have adverse visual effects. The most severe effects would be created by Kaitira and Richmond.

[emphasis in original]

145. At paragraphs 1249-1250 of its final decision, the board noted in its conclusions on natural character and landscape that these sites are located within an area regarded as the 'gateway' Pelorus Sound - an area with memorable views, whether entering or leaving the Sound. As such, the Waitata Reach location of the proposed NZKS farm was considered highly sensitive to further reductions in natural character and adverse effects on landscape value, such as aesthetics:

[1249] The Waitata Reach has been described as the "gateway" to Pelorus Sound from Cook Strait, with the twin promontories of Te Akaroa and Kaitira being the two key features. We have found the Kaitira headland to be an Outstanding Natural Landscape. We have assessed that the proposed Kaitira and Tapipi farms would be prominently situated in the "gateway" which has memorable views whether entering or leaving the Sounds.

[1250] The effect on the Outstanding Natural Landscape of the Kaitira headland would be high, thus not giving effect to Policy 15(a) of the Coastal Policy Statement. We have found that the cumulative effect of the proposed farms would have a high impact on the natural character of the Reach, and a very high effect on the prominent, highly visible location of Kaitira and Tapipi sites.

146. The board concluded, at paragraphs [1252 - 1254], that the overall cumulative effects would be high:

[1252] After careful consideration of all the balancing factors, we conclude that the siting of four proposed farms in this Reach would not be appropriate. The assimilative capacity of the receiving waters and the potential cumulative effects on the foraging areas of the King Shag are uncertain. The cumulative effects of the Kaitira and Tapipi on the natural character, landscape and seascape qualities of the entrance to the Sounds would be high. Further, Tapipi lies in the path of a traditional waka route – a taonga to Ngati Koata. It would also be in the vicinity of recorded sites of significance to Maori.

[1253] To grant all of the zones would not give effect to the statutory provisions in respect of natural character, landscape, Maori, or ecological matters. The overall cumulative effects would be high.

[1254] We accordingly grant the request with respect to Waitata and Richmond, but decline the request with respect to Kaitira and Tapipi.

Mr Hudson's assessment of cumulative effects

147. Mr Hudson addresses cumulative effects at pages 7-9 of his report. His approach to the assessment of cumulative effects appears to be based on the following statement (Hudson report, p.10):

When assessing cumulative effects, the sites have been considered in terms of the following:

Simultaneous: where two or more salmon farms are seen at the same time from the same viewpoints,

Successive: where two or more salmon farms are present in views from the same viewpoint but cannot be seen at the same time as the viewer needs to turn his or her head,

Sequential: where two or more salmon farms are not present in views from the same viewpoint and cannot therefore ever be seen at the same time if the observer moved around the arc of view. Here the observer has to move through the landscape/seascape area.

148. From this discussion, my understanding of Mr Hudson's approach is that he assesses cumulative effects only with regard to the proposed salmon farm

sites, individually and in relationship to each other. Existing modifications to landscape and natural character within the Waitata Reach - the effects of which will be compounded by the proposed farms - are not recognised or addressed as part of the wider issue of cumulative effects.

149. In particular, Mr Hudson's approach to cumulative effects precludes consideration of other marine farms within the Waitata Reach. However, this is done by way of an analytical deceit which has the effect of excluding from consideration all the side bays within which the predominance of mussel farms are located. At page 9 of the Hudson report, in justifying the omission of mussel farms from the assessment of effects, he states:

Mussel farms are located in many side bays, such as Waitata, Wahinuau, Port Ligar, Horseshoe and Blowhole (north and south), but these are generally absent from Waitata Reach itself, with marine farming being confined to the existing salmon farms. For this reason, mussel farms are not considered to contribute to the cumulative effects assessment within Waitata Reach, with this assessment focusing primarily on the effect of 5 salmon farms additional to those existing or consented.

150. Mr Hudson's exclusion from consideration of marine farm development within the side bays of the Waitata Reach is based on a narrow, and in my opinion invalid analysis of the landscape/seascape and coastal environment context for the proposal. I have identified what I regard to be the appropriate context earlier in my evidence (Figure 2).
151. Mr Hudson's assessment of cumulative effects is compromised further by a number of other deficiencies in his analysis:
- 151.1. His approach appears to privilege the assessment of visual effects, and ignore effects on the biophysical landscape/seascape, and natural character. Further, I understand Mr Hudson's assessment to be based to a large extent on the experience of the proposed farms from the perspective of a viewer traveling through the Reach on a boat. This in turn is based on certain assumptions regarding the courses taken by vessels traveling the Reach and its approaches. While the view from vessels is relevant to visual effects, it is not of itself sufficient. A more

holistic overview is also required, together with an analysis of landscape and natural character effects, that are not subject to the contextual and behavioural complexities of views.

- 151.2. Mr Hudson's focus upon visual effects is repeated in the MWH summary assessment of environmental effects document (paragraph 6.8.4, p.106):

6.8.4 Policy Issues

*Policies relevant to landscape and natural character have been identified in sections 6.2 – 6.6 above. As outlined above, on the basis of the information currently available, **significant adverse effects on natural character are not anticipated from the cumulative effects of viewing multiple sites within Waitata Reach**, and effects on landscape will be no more than minor, although there is a difference in professional opinion in relation to this between the Landscape Report and the peer review. [emphasis added]*

- 151.3. In his analysis of visual effects, Mr Hudson (p.10) distinguishes between simultaneous and successive views - the distinction being whether viewers hold their heads still, or turn their heads. This is a spurious distinction in my opinion, and one that has no theoretical or empirical support that I am aware of. The basis for Mr Hudson making these distinctions is not explained.

- 151.4. There is an apparent focus upon whether the areas affected are identified as outstanding with respect to landscape value or natural character in the MEP. This may be an oblique reference to the implications of the Supreme Court's interpretation of NZCPS Policy 13(a), requiring the avoidance of ; "...adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character". Nowhere in Mr Hudson's report does he acknowledge NZCPS Policy 13(b):

*avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character **in all other areas of the coastal environment**; [emphasis added]*

- 151.5. The words; *in all other areas of the coastal environment* refer to all areas of the coastal environment not otherwise identified as having

outstanding natural character. The level of natural character assessed for such areas is immaterial, and may be assessed as falling within any range of the scale presented at Figure 3 of my evidence. An implication of Mr Hudson's approach appears to be that in the absence of areas of outstandingness (which is incorrect with respect to the Blowhole Point area, according to the proposed MEP), NZCPS Policies 13 and 15 do not apply.

- 151.6. Existing development appears to be taken as justification for further development at individual sites. With regard to the Blowhole Point sites, Mr Hudson states in his Conclusion on cumulative effects (p.11);

*The only area where landscape values are mapped as outstanding is in the Proposed Plan beyond the gateway at Blowhole North and South. In these bays, the site specific characteristics and values are not assessed as outstanding for landscape values **due to the degree of terrestrial and marine modification present in the specific locations**. Cumulative effects at these two bays will not be significant **due to the dominance of the landform and existing modifications present**. When the Blowhole cumulative sequential effects are considered at the wider gateway and reach scale, as identified in the Proposed Plan and characterisation above, the scale and location of the two farms is such that the effects on the key values that cause parts of the wider gateway and reach to be identified as Outstanding in the Proposed Plan will be no more than minor. [emphasis added]*

152. As well as appearing to justify further modifications on the basis of existing changes, this last quote from the Hudson report appears to be contrary to the views of the BoI. The BoI declined the Kaitira site (which the BoI determined to be adjacent to an ONL, being the Kaitira Headland, which correctly should be referred to as an ONF) largely on the basis of its potential effects on the seascape qualities that mark the "gateway to the Pelorus Sound". Mr Hudson proposes two sites for this same locality - albeit on the western side of the gateway rather than the east - while maintaining effects will be no more than minor. This is not a reliable or credible analysis in my opinion.

My assessment of cumulative effects

153. My evidence to the NZKS Board of Inquiry expressed the opinion that within many parts of the outer Pelorus Sounds, existing marine farming has reached

- a density that can be regarded as being at the threshold for unacceptable cumulative adverse effects associated with marine farming development. In some areas the extent of mussel farming may already exceed community perceptions of acceptable levels of cumulative adverse effects.
154. I have expressed the same opinion in expert evidence presented to the Environment Court in *KPF Investments v Marlborough District Council*, *RJ Davidson Family Trust v Marlborough District Council*, and *Clearwater Mussels Ltd v Marlborough District Council*.
155. The extent of consented marine farm development within the outer Pelorus Sound area is shown in a section of a map published by Marlborough District Council, reproduced as the base for my Figure 2. Figure 2 illustrates the current extent of marine farming within the outer Pelorus Sound, including Waitata Reach and adjacent bays, together with the proposed locations of the 5 salmon farms to be relocated. For convenience I have reproduced the base map below as Figure 4¹³.
156. The extent of marine farm development within the outer Pelorus Sound is clearly evident in this map, but it is significant that the main channel of the Waitata Reach - currently Coastal Marine Zone 1 (CMZ1), an area from which marine farming is precluded - is relatively free of marine farming development. The NZKS Board of Inquiry final decision (paragraph [576]) had this to say on this absence:
- [576] Most of the inlets and bays either side of Pelorus Sound, as well as in the vicinity of Port Gore, are already lined by a significant proportion of the 575 consented marine farms scattered throughout the Marlborough Sounds. Fortunately, few of these current operations extend beyond their more sheltered bay margins out into the Sounds' main channels.* [emphasis added]
157. It would appear from this statement that the view of the BoI was that it would be unfortunate were marine farming operations to extend into the main channels of the Waitata Reach. The Board's decision to permit the development of the Waitata and Kopaua salmon farms was made on the basis

¹³ The full map is available on-line through the MDC Smart Maps facility. Map reproduced current at date shown on map: 31 Jan 2017.

that 2 farms were considered acceptable, but three - or more - farms exceeded the level of acceptable adverse effects.

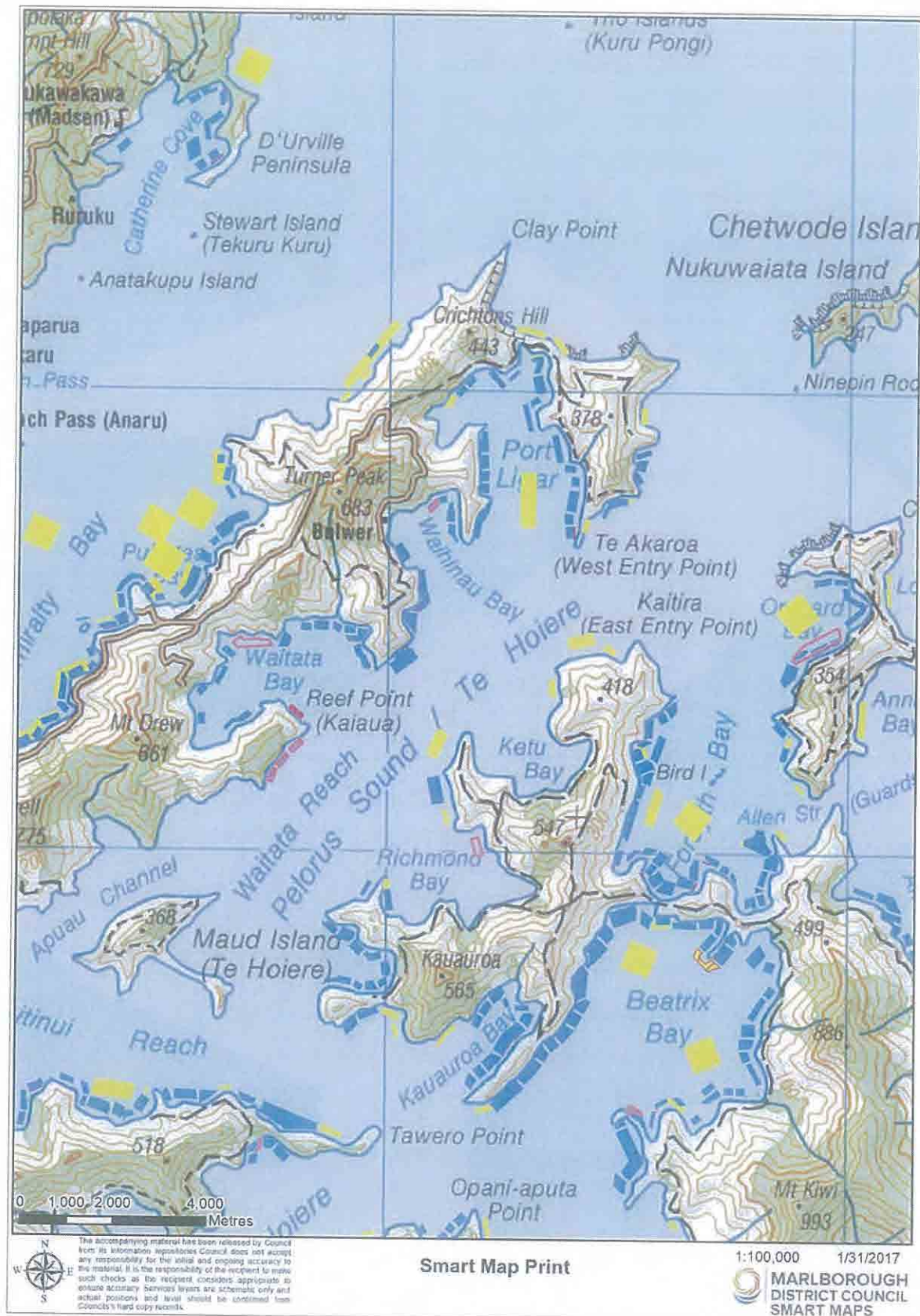


Figure 5: The current extent of marine farm development, outer Pelorus Sound.
 Legend: Blue - Granted; Yellow - Refused; Pink - Processing. Source MDC Smart Maps

158. In my opinion, with the addition of two further salmon farms to the Waitata Reach, the threshold for what may be considered an acceptable level of marine farm development with respect to landscape, natural character and the enjoyment of amenity has clearly been reached. The development of a further 5 salmon farms in the Waitata Reach will, in my opinion take marine farm development in the outer Pelorus Sound generally , and the Waitata Reach in particular, well beyond the threshold of acceptable cumulative effects, as these relate to landscape and natural character.
159. The particular aspect of landscape to be adversely affected is the aesthetic value of the Waitata Reach and the amenity that this affords to those who experience this place. The effects of the proposed farms on aesthetic value derive largely from the issues of fitness and congruity. Many maritime developments and infrastructure (e.g., wharves, jetties, boatsheds, navigation lights), display congruity, or a sense of fitness or appropriateness to their context, or a sense of belonging in the place where they are found. The incongruous character of the farms in their contexts, the absence of any redeeming aesthetic value in the farms as structures, and the effects these issues have on perceptions of natural character will result in a significant reduction in aesthetic value in the localities within which they will be seen or otherwise experienced.
160. While the proposed salmon farms are totally within the marine environment (seascape), with the exception of the mid-Waitata Reach site, they will generally be seen against the backdrop of the terrestrial component of the landscape/seascape, particularly when viewed from the surface of the water. From such positions it will be common to view the farms against the land-sea interface, which I regard as a highly sensitive area of the landscape/seascape. The land/sea interface is the area that attracts the greatest focal attention, owing to the sharp contrasts and interactions between land and water (e.g., erosion and deposition) that are perceived in this area. The perception of the land/sea interface contributes greatly to the aesthetic appreciation of the Waitata Reach and the Sounds generally.

161. With regard to adverse effects on natural character, the 5 proposed relocated farms will result in adverse effects on each of natural elements, natural patterns and natural processes of the Waitata Reach CMA:
- 161.1. The proposed farms and related infrastructure constitute unnatural structural elements within the CMA. At the level of the site, the effect of inserting such structures into the marine environment is significantly adverse, and is an effect completely independent of the viewing distances assessed by Mr Hudson.
 - 161.2. The proposed farms will add conspicuous and incongruous structural components to the surface of the marine environment within relatively close proximity to the shoreline, disrupting natural patterns, particularly where these are apparent as an uncluttered planar surface of water abutting the land.
 - 161.3. Natural processes within the CMA will be adversely affected through the concentration of large populations of fish within the water column, the addition of feed, and the discharge of effluent from the fish, with consequential effects on water quality and the benthic environment immediately below, and within the depositional footprint of the farms. The natural behavioural patterns of wildlife (sea birds and seals) will change as a consequence of habituation to the sites. Changed patterns of wildlife behaviour come to be regarded as wildlife nuisance, and "seal incidents".
162. I understand Ms Williams, in her peer review of the Hudson report, to reach a similar conclusion. Discussing cumulative effects on the Waitata Reach, Ms Williams states (p.73):
- ...the addition[al] of five salmon farms to create a total of seven farms since the BOI, and including a farm sited in the middle of Waitata Reach will have High to Very High cumulative effects on natural character. Given the high experiential values and visual amenity of Waitata Reach, I would expect cumulative effects on landscape values to be High.*

The Proposed MEP, and Significant Adverse Effects

163. The Proposed Marlborough Environment Plan states the basis for assessing whether an adverse effect is a significant adverse effect:

Policy 6.2.3 – Where natural character is classified as high or very high, avoid any reduction in the degree of natural character of the coastal environment or freshwater bodies.

The degree of adverse effects on coastal natural character is an important consideration under Policy 13 of the NZCPS. This policy establishes a threshold for the extent of further change that can be made in coastal environments that have high or very high natural character. Any activity that would have the effect of reducing the natural character at or near the site to a classification below that which exists at the time of making a resource consent application or plan change request, will be considered a significant adverse effect in the context of Policy 13(1)(b) of the NZCPS and should therefore be avoided. ...

164. As stated earlier in my evidence, I consider the natural character of the CMA of the Waitata Reach is currently High. The development of a marine farm within any part of the Waitata Reach not currently developed for marine farming would have the effect of: “...***reducing the natural character at or near the site to a classification below that which exists at the time of making a resource consent application or plan change request***”. In such circumstances, I regard any new salmon farm as an unacceptable adverse effect on natural character. Such unacceptable adverse effects would be apparent at the scale of the site and its immediate locality for individual farms, and cumulatively throughout the Waitata Reach when considered in terms of all proposed farms.
165. In my opinion, the magnitude of cumulative adverse effects falls within what is intended by the words *significant adverse effects* in NZCPS with regard to both natural character and landscape:

Policy 13

(b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment;

Policy 15

(b) avoid significant adverse effects and avoid, remedy, or mitigate other adverse effects of activities on other natural features and natural landscapes in the coastal environment;

166. As I have stated, with regard to NZCPS Policy 13, the level of natural character of the Waitata Reach is immaterial as far as the application of Policy 13(b) is concerned, and so it is of no consequence that - with the exception of Maud Island and the Chetwode Island - no parts of the Waitata Reach have been identified as having outstanding natural character. Natural character is evident throughout the Reach, at a level that I have assessed as High. The principal concern is whether the proposed relocation of 5 salmon farms to Waitata Reach will have adverse effects on prevailing levels of natural character (as rated anywhere along the scale), considered in terms of changes to any or all of natural elements, natural patterns and natural processes.
167. With regard to Policy 15(b), the Waitata Reach is clearly a natural landscape/seascape. Whether it is also an outstanding natural landscape/seascape is yet to be determined with any authority, however I have stated my opinion that it is. Regardless of its outstanding status, the factors by which adverse effects on a landscape are to be considered remain the same: (1) values associated with natural science aspects, (2) values associated with sensory (aesthetic) qualities, and (3) values associated with particular associations and meanings.
168. In consideration of Policies 13(b) and 15(b) the issue remaining to be resolved is the question of whether the effects of the proposed developments can be remedied or mitigated. I address this in the next section of my evidence.

CAN THE ADVERSE EFFECTS BE REMEDIED OR MITIGATED?

169. In discussing cumulative effects at page 11 of his report, Mr Hudson claims:

The primary mitigation for sequential effects is the overall length of the Reach at more than 12km, the broad and dominant scale of the setting and the modifying characteristics that already exist.

170. I understand Mr Hudson to be referring to the mitigation of natural character, landscape and amenity effects in this context.

171. My understanding of mitigation as a resource management tool or practice is that it is a purposeful concession, or design consideration on the part of the developer, relating to the development itself. I do not accept that characteristics of the receiving environment (the dominant scale of the setting and modifying characteristics that already exist) can qualify as mitigation, as these factors are given and independent of the proposal.
172. Other references to the a “visually complex backdrop” and “working landscape character” (p.21) as a mitigating factor are equally irrelevant in my opinion.
173. The only valid mitigating factor proposed by Mr Hudson is the reference to the shape of the pens and the use of dark colours:
- It is recommended that the proposed farms adopt round pens and dark recessive colouring for all structures in this high amenity landscape (p.11).*
174. I understand Mr Hudson to recommend circular pens for both the Blowhole Point sites, and the mid-channel Waitata site, but that dark recessive colours are used at all sites.
175. There are no proposals presented in the Hudson report for the remediation of adverse effects.

Mitigation with respect to natural character

176. In my opinion, the use of circular pens and recessive colours is irrelevant as a device for mitigating natural character effects. These measures may diminish the visibility of the structures from certain distances in certain light conditions, but the physical fact of there being a salmon farm in the coastal environment remains, and other adverse effects on natural character will occur. As I have noted earlier in this evidence, the presence of the proposed salmon farms and their adverse effects on natural character would be an objectively verifiable fact, the visibility of which does not diminish the adversity of effects. Effects will relate to the changes in the expression of natural elements, natural patterns and natural processes, and will include:

- 176.1. the introduction of unnatural, structural elements into the sea surface and water column,
- 176.2. adverse effects of habituation of wildlife (sea birds and seals) to the sites, and the effects this will have on perceptions of natural character through modifications to wildlife behaviour,
- 176.3. the captive farming of genetically improved fish, bred in captivity,
- 176.4. the disruptions caused to natural flows of water,
- 176.5. changes to the composition of benthic communities beneath the sites through the deposition of salmon faecal matter.
- 176.6. Salmon farms require frequent attendance of staff, and facilities for the storage of feed and equipment. If staff and utility storage is not provided on site, then this must be provided by daily visits from service vessels. Human activity associated with salmon farm management diminishes natural character.
- 177. I am unaware of any manner in which the adverse effects of salmon farms on natural character can be mitigated. I consider the only option is to avoid the adverse effects altogether.

Mitigation with respect to landscape value and amenity

- 178. I accept that in some circumstances the use of recessive colours may reduce the visibility of salmon farming structures, but this is largely dependent on viewing distance, the elevation of the viewer, and atmospheric and sea surface conditions. Recessive colours are not of themselves sufficient mitigating measures to reduce adverse effects on aesthetic appreciation of the landscape/seascape and visual amenity.
- 179. Salmon farms are an industrial artefact, with structural components that may rise to over 2 m above sea level, constructed of steel and metals and synthetic materials which may often appear as highly reflective surfaces. While the holding pens for salmon are largely submerged, the superstructure required

for predator exclusion (fur seals in particular, but also sea birds feeding on salmon food) can be quite substantial and visually prominent.

180. With the exception of the Waitata mid-channel site, all proposed sites are located close to the shore, within an area that is particularly sensitive to viewing - the land-sea interface and adjacent waters. This is an area that in my opinion holds a particular fascination for viewers.
181. The intricate and at times confusing complexity of the land/sea interface is a significant aspect in terms of defining the character and aesthetic quality of all parts of the Sounds. Indeed, the experience of the land/sea interface could be regarded as one of the defining characteristics of the Sounds. The land/sea interface draws the eye, and is the most sensitive area of each landscape - the area most likely to be compromised in terms of natural character and aesthetic quality through marine farming and development. In my opinion, marine farms within the marginal waters of the Sounds occupy the most the most visually sensitive and visually vulnerable locations.
182. These marginal areas, where land and sea meet, offer a diverse range of rich aesthetic and recreational experiences. These are dynamic environments, changing daily with the ebb and flow of the tides, impacted by currents and weather systems, and responding to the impact of natural forces on ancient geology. These are ecologically rich areas, both in terrestrial and marine communities, offering roosting, breeding and loafing places for marine mammals and birds and a diversity of plant life. The shallow waters of the margins also afford opportunities to view the sea floor, and where beaches offer opportunities to land, to explore the inter-tidal zone and forest margins. These areas are also accessible to a wide range of water craft, from kayaks to larger powered vessels, and I regard it as a matter of considerable concern that marine farming has become ubiquitous around the coastal margins throughout so much of Pelorus Sound.
183. In my opinion, the potential for mitigating the adverse effects of salmon farms on aesthetic value and visual amenity can only be mitigated to a minor degree by facilities design and colour. Such mitigatory measures are effective only in circumstances that are beyond the control of the developer, being:

- viewing distance
- viewing elevation
- atmospheric conditions
- sea conditions
- viewer behaviour

184. As NZKS has no control over any of these factors, the potential for mitigation through the design of structures is unacceptably limited, in my opinion.

CONCLUSION: DOES THE PROPOSAL REPRESENT APPROPRIATE DEVELOPMENT?

185. My comments on the appropriateness of the proposal relate to natural character and landscape value. This is a conclusion that draws on factors selectively, according to my expertise, and I do not purport this to be a decision based on a comprehensive consideration of all relevant factors.
186. The question of whether the proposal constitutes appropriate development in terms of NZCPS Policies 13 and 15 must be addressed. What is appropriate is to be considered in terms of those aspects of the landscape or coastal environment that are to be protected or preserved¹⁴. In this particular matter it is natural character, and landscape value - particularly that landscape value associated with the aesthetic appreciation of the Waitata Reach.
187. In the previous sections I have concluded that the proposal will result in significant levels of adverse effects on natural character of the coastal environment, on landscape value (particularly with regard to aesthetic appreciation) and on visual amenity.
188. I have also concluded that the adverse effects of the proposed relocation can neither be mitigated nor avoided. As such, and consistent with NZCPS Policies 13(b) and 15(b), in my opinion they should be avoided.

¹⁴ I note that the Supreme Court in the *NZ King Salmon* decision made the following comment regarding "inappropriateness":

[105] We consider that "inappropriate" should be interpreted in s 6(a), (b) and (f) against the backdrop of what is sought to be protected or preserved. That is, in our view, the natural meaning.

189. The Blowhole Point sites are proposed within an area identified within the proposed MEP as an outstanding natural feature and an outstanding natural landscape. In such circumstances, NZCP Policy 15(a) is relevant, and the only option in response to adverse effects is avoidance.
190. My concluding opinion is that the proposal - insofar as the Waitata Reach is concerned - does not give effect to Policies 13 and 15 of the New Zealand Coastal Policy Statement (2010) and should not be approved.

THE DRAKEFORD WILLIAMS PEER REVIEW

191. A peer review of the Hudson landscape and natural character assessment has been undertaken by Julia Williams of Drakeford Williams Ltd.
192. Ms Williams records that, in undertaking her own analysis, she had regard to expert evidence presented to the NZKS Board of Inquiry by landscape experts, and specifically refers to evidence presented by landscape architects Frank Boffa, Peter Rough and Stephen Brown. Ms Williams quotes widely from the evidence of these landscape architects, noting that their evidence; "...provides an in-depth evaluation of 'Waitata Reach' natural character and landscape values...".
193. Ms Williams' peer review omits to mention that I also presented evidence to the NZKS Board of Inquiry, addressing landscape and natural character matters in both the Waitata Reach and Queen Charlotte Sound.
194. Stage 1 of Ms William's report is a methodology review, that commences with the statement (p.4):

The methodology review is based on the methodology contained in NZILA Best Practice Note: Landscape Assessment and Sustainable Management (10.1)

195. Ms Williams continues, noting that the Hudson reports draws upon recent studies on landscape and natural character undertaken for Marlborough District Council, and stating that these studies:

...use recently established best practice methodology to articulate the complex differences between landscape and natural character attributes.

196. Ms Williams summary of her methodology review concludes that the Hudson report; "...follows best practice methodology that is robust in principle and uses appropriate and consistent comparison measures".
197. References to the Hudson report applying best practice methodology is misleading at best. It is incorrect if by 'methodology', Hudson and Williams refer to a system of clearly articulated methods and techniques that are both valid and reliable, and which include statements of the objectives, and the underlying, guiding principles and reasons for selecting certain methods and techniques.
198. There is not yet a best practice methodology for landscape assessment in New Zealand, and certainly no approach that can be described as robust - or to use more technical terms of evaluation, valid and reliable.



ML Steven
26 March 2017

APPENDIX A WHAT IS A LANDSCAPE?

Excerpt from Environment Court decision, [2014] NZEnvC 152, *Pelorus Wildlife Sanctuaries v Marlborough District Council*.

What is a "landscape"?

[47] We accept that "landscape" can be considered at various scales, depending on the context - as recognised by the Supreme Court in *Environmental Defence Society v The New Zealand King Salmon Company Ltd*. However those scales cannot be so large or small that they warp the meaning of the word used by Parliament.

[48] Landscape is defined in the *Shorter Oxford English Dictionary* as; "...a prospect of inland scenery, such as can be taken in at a glance from one point of view." The NZ Oxford Dictionary definition is (relevantly):

- 1 Natural or imaginary scenery as seen in a broad view
- 2 (often attrib.) a picture representing this; the genre of landscape painting
- 3 ...

The NZ definition partly confuses, it seems to us, the first meaning with the second. But the sense of a broad expanse is common to the term "landscape" when it applies to an actual place rather than to an image of a (real or imagined) place.

[49] Features - as the word is used in section 6(b) - are (usually) smaller components of landscape. As the court stated in *Wakatipu Environment Society Inc v Queenstown Lakes District Council*:

We consider the words "landscape" and "feature" are used deliberately in section 6(b) and that "feature " means:

... a distinctive or characteristic part of a [landscape]

[50] In descriptions of larger landscapes such as the "Central Otago landscape" or the "Marlborough Sounds", landscape means a "landscape type" or "a collection of adjacent similar landscapes". Given the wide definition of environment(s) in section 2 of the RMA and the other areal terms used in section 6 (...) we hold that Parliament did not intend "landscape" in section 6(b) to be used in the modern broader senses whether as a substitute for "environment"(which is defined in the RMA) or as a "landscape type".

[51] We have recognised that landscapes may be seen/assessed at various scales depending on context. However, when used of a large area the word "landscape" tends to morph into a second sense of "landscape type" as discussed. Or when used of an area that is less than a viewer sees at a glance, then the area is probably a landscape unit, or a feature, rather than a landscape. As between those extremes, section 6(b) of the RMA is usually concerned with the smallest scale at which we can consider a landscape.

[52] We hold that the word "landscape" is being used in section 6(b) primarily in the picturesque sense of an area that can be seen at a glance. We also note in passing that there is an issue - never tested - as to whether section 6(b) was ever intended to apply to the coastal environment. Parliament may have intended that a landscape is an area of inland scenery as opposed to a "seascape". Section 6(a) and (b) could have been intended to be complementary, rather than overlapping.

APPENDIX B: THE CONCEPT OF NATURAL CHARACTER AND ITS ASSESSMENT

1. Natural character is an aspect of the wider concept of landscape character¹⁵. Both phenomena are the product of a reasoned, descriptive analyses of a landscape. They are not 'values' per se, although landscape character and natural character may be valued. It is in valuing particular aspects landscape character that a landscape assumes significance, such as may be indicated by the accolade 'outstanding', when used in s6(b) terms. The question of whether a particular expression of natural character is valued must be determined by a separate evaluative exercise. However, I qualify this statement by acknowledging that s6(a) of the RMA does establish a value for

¹⁵ Landscape character is defined in the *Guidelines for landscape and visual impact assessment* (3rd edn., 2013) as "A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse."

natural character, particularly insofar as the natural character of the coastal environment is concerned, being referred to as one of several 'matters of national importance' in Part 2, section 6 of the RMA:

The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:

2. The NZCPS does not define natural character. A recurring definition of natural character emerged from a Department of Conservation (DoC) publication¹⁶ that resulted from a national workshop conducted by DoC on the interpretation of the NZCPS. The publication proposes the following definition of natural character:

Natural character is the term used to describe the natural elements of all coastal environments. The degree or level of natural character within an environment depends on:

1. *The extent to which the natural elements, patterns and processes¹ occur*
2. *The nature and extent of modification to the ecosystems and landscape/seascape. The degree of natural character is highest where there is least modification*

The effect of different types of modification upon natural character varies with context and may be perceived differently by different parts of the community.

3. I consider the DoC definition is in error in referring only to natural elements in the introductory sentence:

Natural character is the term used to describe the natural elements of all coastal environments.

4. Rather than adopt the DoC definition, which I understand has yet to receive explicit endorsement through the Court, I regard the following definition as being particularly robust:

¹⁶ Department of Conservation, 2012, *Natural character and the NZCPS 2010 National Workshop - Summary of discussion and outcomes*, p.19

Natural character is the expression of natural elements, natural patterns and natural processes in the landscape or coastal environment, rated according to the perceived degree of modification through human agency¹⁷.

5. Some current methods for the assessment of natural character refer to two approaches to the concept; one approach bases assessments on what is termed 'ecological naturalness', while the other addresses 'landscape naturalness', or what is also termed 'perceived naturalness'. These two approaches, which are generally combined in natural character assessments as if they investigate the same concept, reveal a misunderstanding as to the nature of natural character. *All* natural character is perceived, by definition, and thus the assessment of perceived naturalness (more correctly, natural character) is the only valid approach to investigating the phenomenon. What must be considered is the question of whose perceptions matter. All perceptions are influenced by prior knowledge and understanding, and thus some perceptions of natural character may be regarded as more reliable or trustworthy than others.
6. Further, natural character is a condition rather than a quality or value. RMA s6(a) establishes the value of natural character - its preservation within the coastal environment is a matter of national interest. The role of the assessor is to determine how much, or how little of the phenomenon is evident in a given coastal environmental context. The material 'stuff' of natural character exists regardless of experiential or perceived attributes - these are the added dimensions that the observer brings to the assessment. The primary determinants of natural character are biophysical, and relate to the perception of natural elements, patterns and processes, and the extent to which human intervention has modified these factors. What are sometimes referred to as 'experiential' or perceptual aspects of natural character can all be understood with reference to natural elements, natural patterns and natural processes. While Policy 13(2)(a)-(h) of the NZ Coastal Policy Statement introduces a range of more specific factors for consideration, in

¹⁷ 'modification' or 'intervention' could be used as an alternative to 'agency'.

my opinion these are consistent with the definition I have stated, and the reference to elements, patterns and processes.

7. My definition refers to the potential to rate levels of natural character within the landscape or coastal environment, according to the perceived degree of modification through human agency. Natural character ratings can be undertaken with respect to an ordinal scale, whereby different landscapes, or different sections of the coastal environment can be located within different ranges of the scale, according to whether they display more or less of the phenomenon of natural character. A scale of natural character endorsed by the Environment Court is presented in Figure 1, below. Figure 2 interprets this scale with respect to NZCPS Policies 13(1)(a) and 13(1)(b)



Figure 1: 7-range scale of natural character for the assessment of the degree of natural character exhibited by a landscape or the coastal environment. The Moderate-High, High and Very High ranges of the scale (shaded) are regarded as that part of the scale within which landscapes may be considered 'natural' landscapes or natural features for s6(b) and NZCPS Policy 15 purposes.

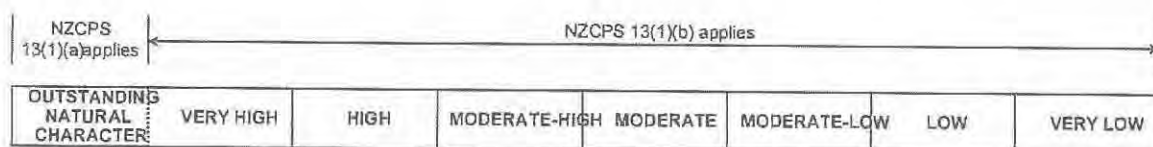


Figure 2: Outstanding natural character may be understood as natural character assessed as being at the extreme end of the Very High range of the scale, i.e. natural character approaching 'pristine' levels. It is generally accepted that pristine natural character, in the narrowest sense of the term, no longer exists, as all environments in NZ are to a degree, influenced by human agency.

8. This scale of natural character was endorsed by the Environment Court in paragraph [93] of its decision in *High Country Rosehip Orchards Ltd v Mackenzie District Council*¹⁸.
9. I consider the threshold of natural character required for RMA s6(b) and NZCPS Policy 15 assessments lies between Moderate and Moderate-High on this scale. This is the point at which natural processes become dominant over cultural processes within the landscape. Expressions of natural character within the shaded range of the scale may be regarded as not necessarily natural landscapes (in the strict, pristine or unmodified sense of the term), but 'natural enough' for consideration as outstanding natural features and landscapes (ONFL).
10. For this scale to be used in the field, it is necessary to identify and observe objective indicators that are indicative of different levels of natural character along the scale. These indicators generally relate to visible evidence as to levels of human intervention or management evident in a landscape, and the extent to which interventions have modified natural elements, natural patterns and natural processes within both the terrestrial and marine environments. This is consistent with the notion that 'landscape naturalness' (as distinct from 'ecological naturalness') is a perceptually determined phenomenon, as distinct from a concept based upon empirical investigations (ecological naturalness).
11. While it has been my practice to apply this 7-range scale to the assessment of the natural character of the coastal environment, it may be the case that the marine component of the coastal environment should more usefully be assessed with reference to a 5-range scale. I regard this as a matter for marine scientists to determine.
12. Policy 13(2)(a)-(h) appears to widen the scope of factors to be considered in the assessment of the natural character of the coastal environment, beyond

¹⁸ Decision No [2011] NZEnvC 387, at paragraph [93]

the consideration of natural elements, natural patterns and natural processes, stating that it: "...may include matters such as:

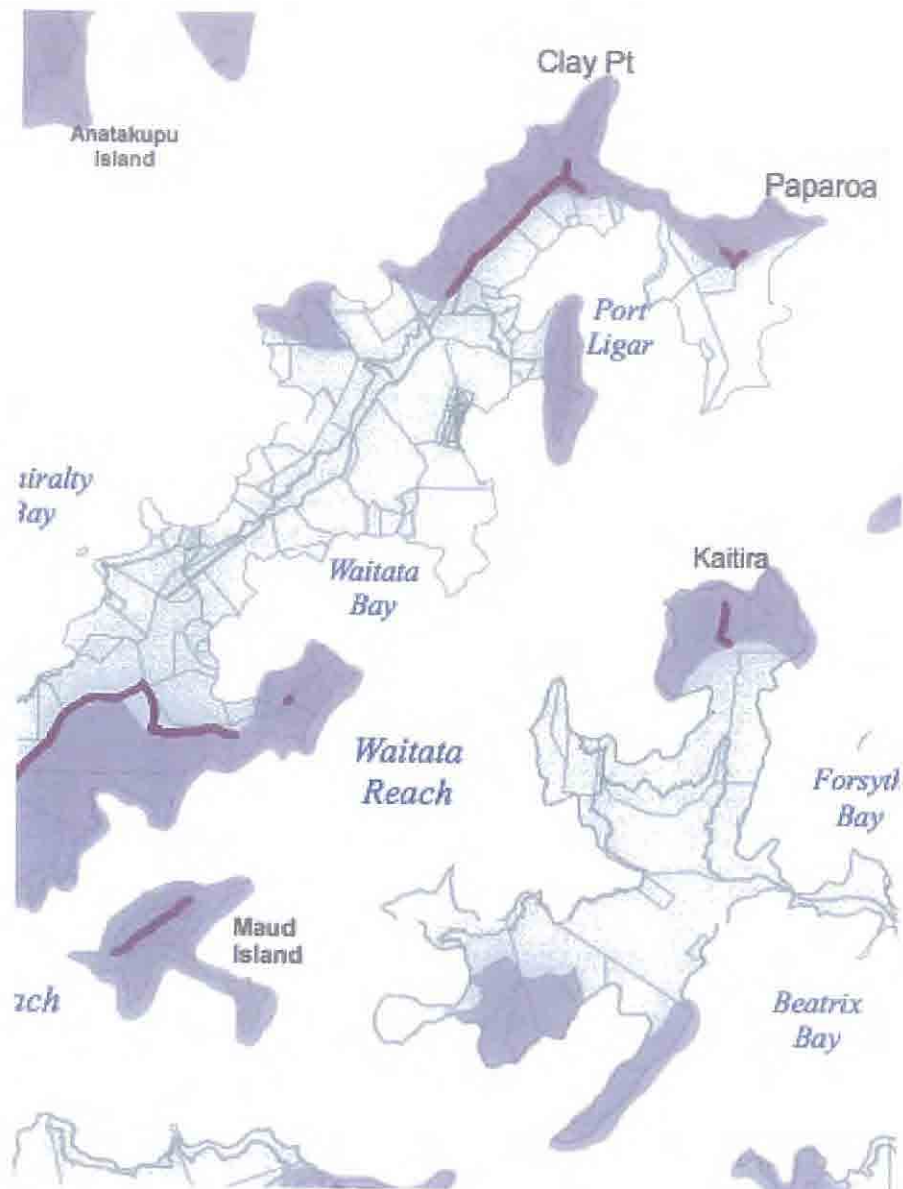
- (a) natural elements, processes and patterns;*
- (b) biophysical, ecological, geological and geomorphological aspects;*
- (c) natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks;*
- (d) the natural movement of water and sediment;*
- (e) the natural darkness of the night sky;*
- (f) places or areas that are wild or scenic;*
- (g) a range of natural character from pristine to modified; and*
- (h) experiential attributes, including the sounds and smell of the sea; and their context or setting.*

13. In my opinion, these factors are entirely consistent with the definition of natural character I propose. However, some interpretation is required:
- 13.1. (a) is the the most relevant factor, in my opinion, and is consistent with the widely adopted definition of natural character I apply.
 - 13.2. the factors given in (b) are examples of (a) - natural elements, natural patterns and natural processes.
 - 13.3. the factors given in (c) are further examples of (a) - natural elements, natural patterns and natural processes.
 - 13.4. (d) is an example of natural processes.
 - 13.5. (e) and (f) are functions of the extent of human modification to the coastal environment, which again, relates to the definition I apply.
 - 13.6. (g) refers to the application of a scale of natural character, such as introduced above.
 - 13.7. (h) is a factor that I have some difficulty with, given that the sounds and smell of the sea could be regarded as ubiquitous characteristics of any coastal environment, regardless of its level of natural character.

Factor (h) is not a reliable indicator of levels of natural character, in my opinion but is more appropriately applied to assessing the inland extent of the coastal environment.

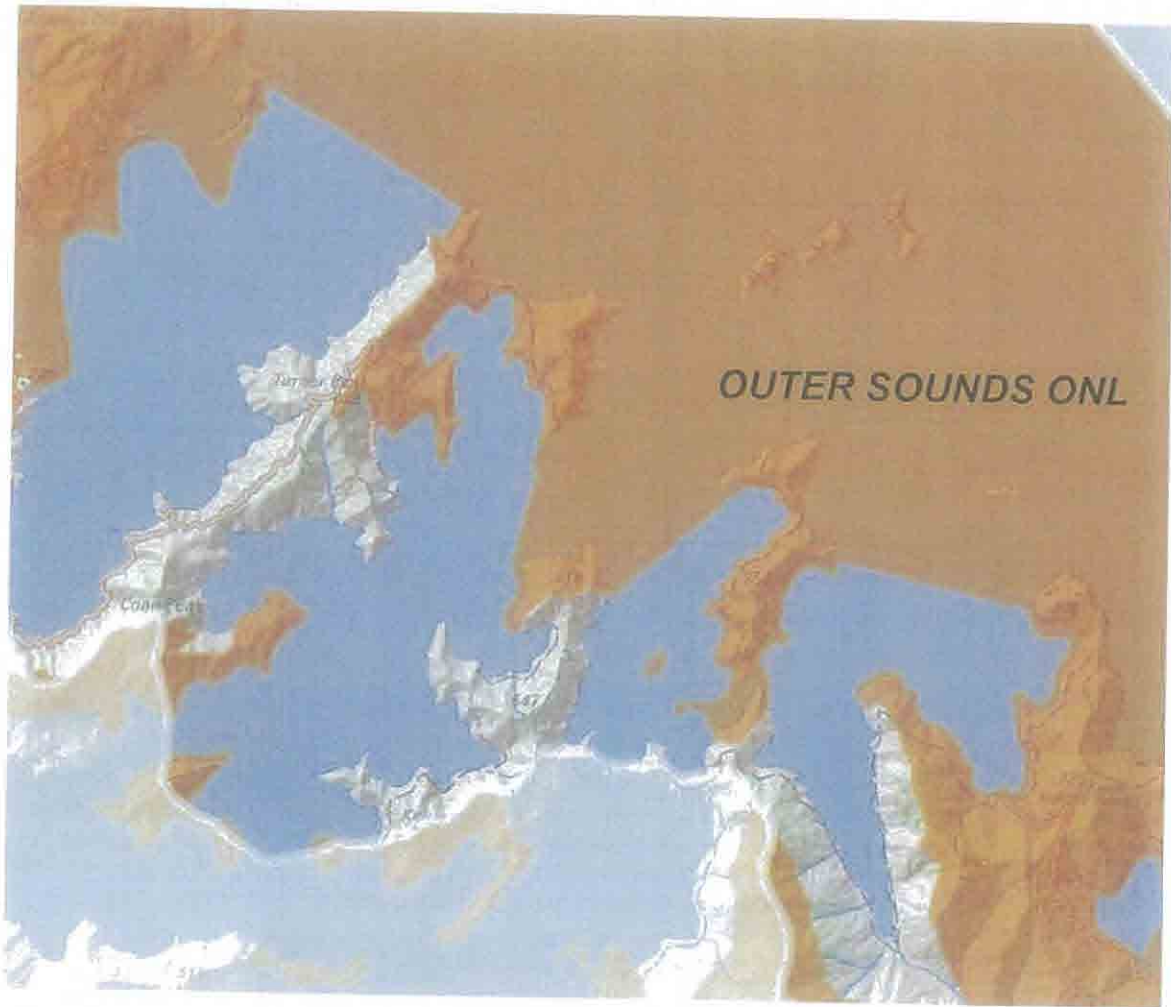
14. In light of these comments I consider it sufficient to investigate the natural character of the coastal environment with respect to the expression of natural elements, natural patterns and natural processes, and the extent to which these have been modified by human intervention. ☐

**APPENDIX C: ENLARGED SECTION OF LANDSCAPE MAP 74 (MSRMP)
SHOWING AREAS OF OUTSTANDING LANDSCAPE VALUE, VICINITY OF
WAITATA REACH**



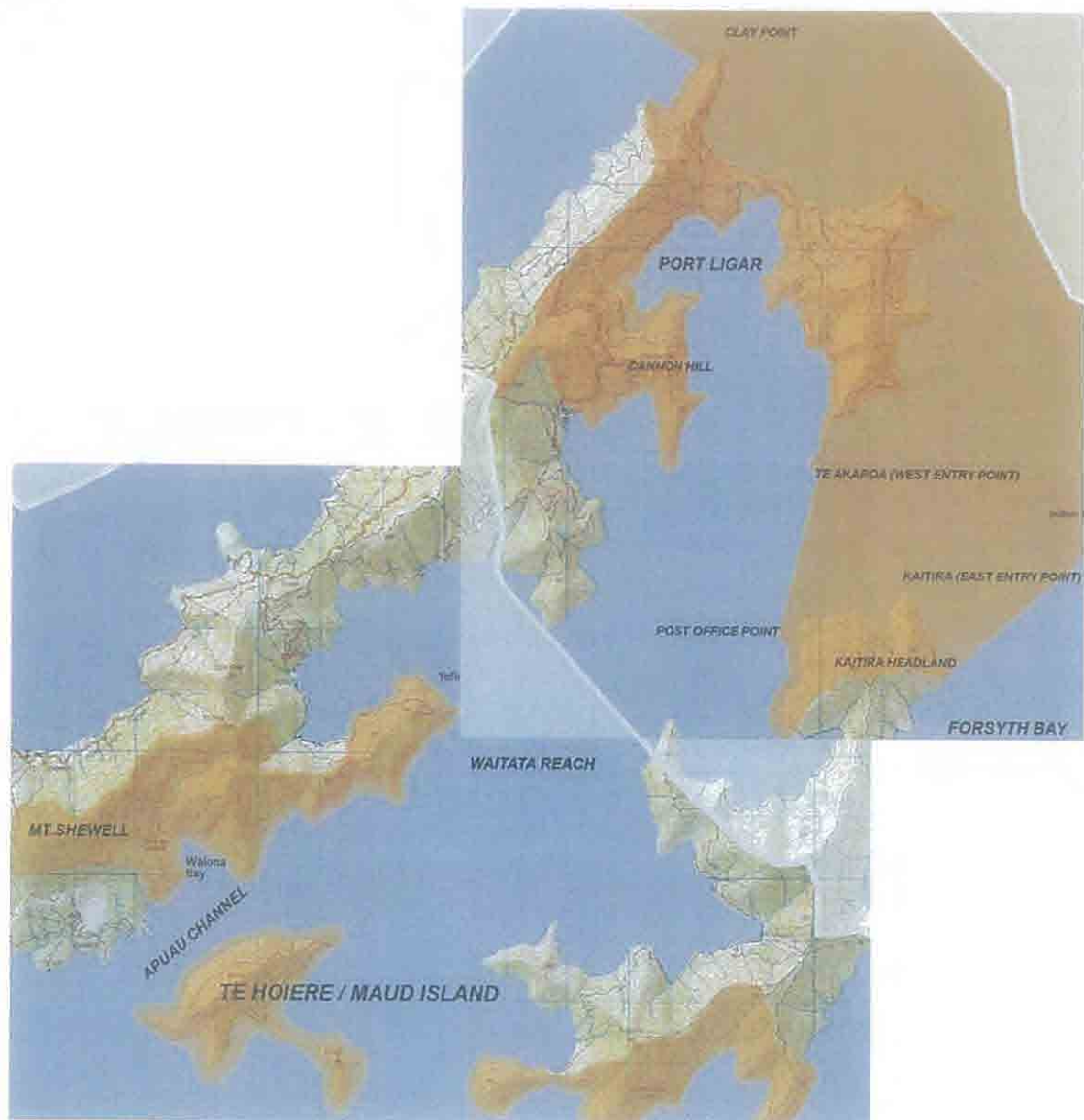
An element of arbitrariness is apparent in the definition of areas of outstanding value (purple). There is no explanation given as to why areas of sea between outstanding landscapes are not consistently shown as outstanding - compare Tennyson Inlet landscape (previous map) with the sea (Apuau Channel) between Maud Island and the mainland.

APPENDIX D: PART OF AREA 1, OUTER SOUNDS ONL (BOFFA MISKELL 2015)

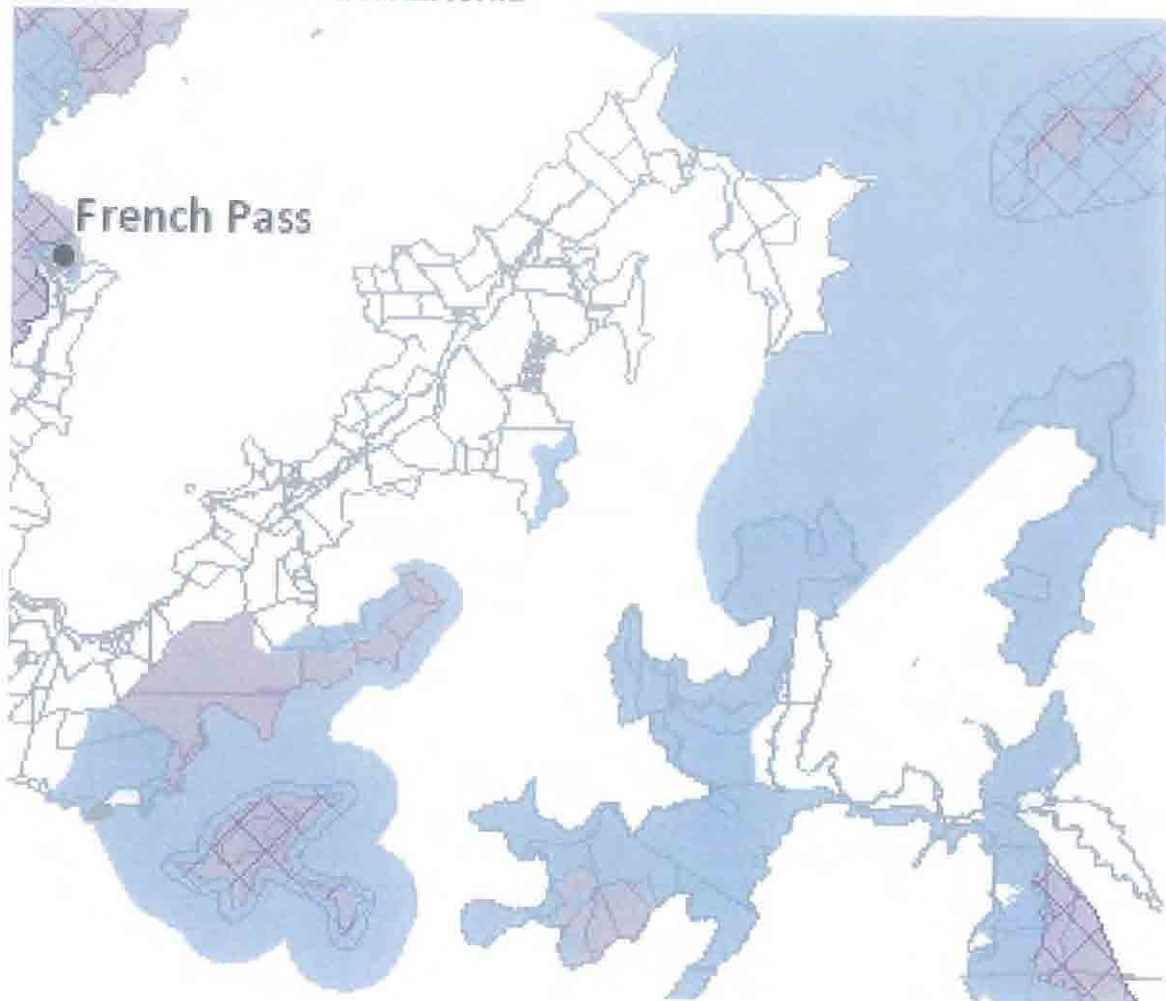


Part of map showing extent of Area 1, Outer Sounds ONL. (Source: *Marlborough Landscape Study* (2015) Boffa Miskell Ltd. pp108-109)

APPENDIX D: COMBINED PARTS MAP 5 (BOFFA MISKELL 2015) PORT LIGAR, FORSYTH ISLAND AND KAITIRA HEADLAND ONF AND MAP 6: MAUD ISLAND, MT SHEWELL, FITZROY BAY, AND EASTERN TAWHITINUI REACH ONF



(Source: Source: Marlborough Landscape Study (2015) Boffa Miskell Ltd. pp117 & 119)

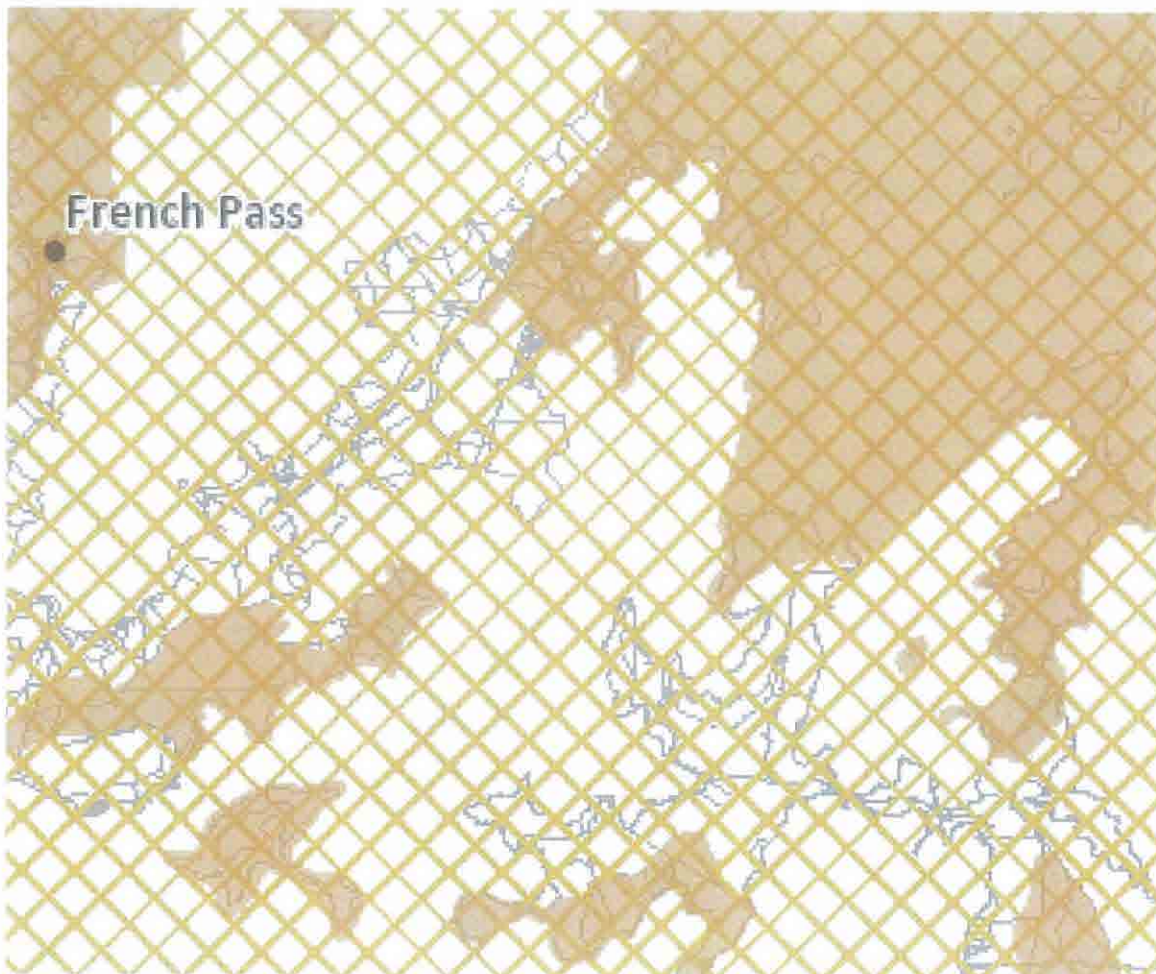
**APPENDIX E: PROPOSED MEP COASTAL NATURAL CHARACTER IN
LOCALITY OF WAITATA REACH.□****COASTAL NATURAL CHARACTER LEGEND**

Blue - High

Pink - Very High

Hatched - Outstanding natural character

APPENDIX F: PROPOSED MEP ONFL AND HIGH AMENITY LANDSCAPE IN LOCALITY OF WAITATA REACH



LEGEND

Outstanding Natural Features and Landscapes (ONFL) - Orange

High Amenity Landscape (HAL) - Hatched

ATTACHMENT: PROPOSED MARLBOROUGH ENVIRONMENT PLAN - REVIEW OF LANDSCAPE & NATURAL CHARACTER CHAPTERS, LANDSCAPE AND NATURAL CHARACTER OVERLAYS, & BOFFA MISKELL LTD LANDSCAPE & NATURAL CHARACTER STUDIES

Written Comment No: 0598

DR MICHAEL STEVEN

Landscape Architect | Landscape Planner
Making Sense of the Land

Marlborough District Council
Proposed Marlborough Environment Plan

Review of Landscape & Natural Character
Chapters, Landscape and Natural Character
Overlays, &

Boffa Miskell Ltd Landscape & Natural Character
Studies

Prepared for:

Friends of Nelson Haven and Tasman Bay &
Kenepuru and Central Sounds Residents
Association

Prepared by:

Dr Michael Steven
Landscape Architect | Landscape Planner

PO Box 314 Takaka, 7142 NEW ZEALAND
Tel: 03 525 6044 | Mobile: 027 635 7429
Email: michaelstevenltd@v113.co.nz

INTRODUCTION

1. Friends of Nelson Haven and Tasman Bay Incorporated (the client) have sought professional landscape planning advice in support of submissions on the Marlborough District Council's Proposed Marlborough Environment Plan (MEP).
2. This report has been prepared following a review of the Natural Character and Landscape chapters of the MEP, and the natural character and landscape overlays to the planning maps. I have also undertaken a review of the landscape and coastal natural character studies undertaken by Boffa Miskell Ltd. These studies informed the natural character and landscape overlays of the planning maps.
3. Due to the particular concerns of the client, my review has focussed on natural character and landscape matters as they relate to the coastal environment and landscapes of the Marlborough Sounds, rather than the Marlborough District as a whole.

GENERAL ISSUES

4. The principal focus of this report is the adequacy of landscape assessment and policy making as these processes apply to the Marlborough Sounds, post-the Supreme Court's NZ King Salmon (NZKS) decision.
5. The NZKS Supreme Court decision has significant implications for landscape assessment practise and plan preparation. In particular, the decision has served to:
 - 5.1. Identify the need for greater rigour in landscape assessment, such that assessments of coastal natural character (in the context of New Zealand Coastal Policy Statement (NZCPS) Policy 13), and landscape significance (in the context of NZCPS Policy 15) are valid and reliable, and in the judgement of the community, credible or plausible. The threshold for what constitutes 'outstandingness' (in the sense of outstanding natural features and landscapes) has not been raised, but rather the bar has been raised on what should constitute a robust method of assessment.
 - 5.2. Identify the need for precise, critical use of language in the preparation of statutory documents, such as regional and district plans and policy statements.
6. These matters are thrown into sharp focus within the Marlborough Sounds (the Sounds), given that the Sounds was the location of the NZKS proposal, and is an area subject to considerable ongoing development pressure for marine farming applications.
7. The Supreme Court's decision on the meaning of the word 'avoid', as it appears in NZCPS Policies 13 and 15, when used with respect to development

in areas of outstanding natural features and landscapes and outstanding natural character, creates professional obligations on part of assessors and policy makers. Significant developments may stand or fall on

the basis for the findings of landscape and natural character assessments, and the consequent writing of planning objectives and policies. Equally, the protection of outstanding natural landscapes and features, and the preservation of coastal natural character within one of New Zealand's most remarkable coastal environments is dependent upon those same assessment methods and approaches to planning.

8. The imperative for valid, reliable and technically robust methods of landscape assessment has risen above and beyond the potential for present landscape and natural character assessment methods and techniques to satisfy. The development and application of more valid and reliable methods are as important for protection and preservation as for development.
9. It is over 15 years since the Pigeon Bay and WESI Environment Court decisions¹ that gave recognition to what have become known as the Pigeon Bay factors (PBF), yet landscape assessment theory and practice has advanced very little in that time. Contrary to what appears to be conventional professional opinion, the Pigeon Bay factors do not constitute a method of assessment, and very little professional thought appears to have been directed at defining a method of assessment into which these factors might fit.
10. The assessment of natural character has been fraught with irreconcilable professional differences of opinion regarding the definition of natural character. The professional failure to advance methods of natural character assessment post-New Zealand Coastal Policy Statement (2010) has been confounded by differing professional interpretations of Policies 13 & 15, particularly with regard to the definition of such fundamental terms as natural character, landscape and feature, and how outstanding is to be understood in the context of outstanding natural features and landscapes, and outstanding natural character.
11. In the absence of sound definitions and valid, reliable and robust methods of assessment, landscape and natural character assessments have taken on the characteristics of an opaque 'dark art', rather than a transparent professional, expert methodology.

Differentiating landscape and natural character

12. An example of these problems, and one of particular relevance to the MEP, is the failure to adequately differentiate the concepts of landscape and natural character in assessments. NZCPS Policy 13.2(a-h) clearly states that there is a distinction:

Recognise that **natural character is not the same as natural features and landscapes or amenity values** and may include matters such as:

¹ The Pigeon Bay factors have their origin in a set of factors for landscape assessment originally identified in the Canterbury Regional Landscape Study (Boffa Miskell Ltd and Lucas Associates (1999)), then accepted as factors for the assessment of landscape in *Pigeon Bay Aquaculture Ltd v Canterbury Regional Council* (C32/99) at paragraph [56]. These factors were later modified in *Wakatipu Environmental Society Incorporated v Queenstown Lakes District Council* (C180/99) at paragraph [80].

- (a) natural elements, processes and patterns;
- (b) biophysical, ecological, geological and geomorphological aspects;
- (c) natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks;
- (d) the natural movement of water and sediment;
- (e) the natural darkness of the night sky;
- (f) places or areas that are wild or scenic;
- (g) a range of natural character from pristine to modified; and
- (h) experiential attributes, including the sounds and smell of the sea; and their context or setting.

9. The statement; "...natural character is not the same as natural features and landscapes or amenity values..." should force some critical consideration of the concepts for the purposes of determining a working definition of the concept. A robust investigation into any phenomenon cannot proceed in the absence of a valid definition of the phenomenon to be investigated. Yet the *Landscape Meaning and Marlborough's Statutory Context* section (p.15) of the Boffa Miskell Marlborough Landscape Study begins with the unhelpful statement:

The Environment Court has commented that "A precise definition of 'landscape' cannot be given ..." [WESI vs QLDC [2000] NZRMA 59].

10. Given the state of RMA-based landscape assessment practice in 2000, this may have been an understandable statement for the Court to make. However, in my opinion, 16 further years of landscape assessment practice should have brought members of the landscape profession closer to an understanding of the phenomenon they are assessing when undertaking landscape assessments. There is no clear indication from the BML (2015) landscape study that this is the case.
11. What is required is a valid, unambiguous operational definition for the purposes of undertaking landscape assessments in response to section 6(b) and NZCPS Policy 15. The IFLA² Asia-Pacific Region Landscape Charter, to which the NZILA is a signatory, provides such a definition. It is the same definition adopted by the European Landscape Convention. Landscape is defined as:

An area, as perceived by people, whose character is the cumulative result of the action and interaction of natural and/or cultural factors.

12. The Boffa Miskell (2014) study, *Natural Character of the Marlborough Coast* is scarcely more definitive on the matter of defining natural character. Despite a 2 page discussion (pp.13-14) no clear, unambiguous operational definition of natural character is offered.
13. The failure of assessors to articulate and operationalise the differences between landscape and natural character by way of valid and unambiguous definitions is a significant flaw in the Boffa Miskell MDC landscape and natural character assessments. Problems arising from this flaw are consequently apparent in the landscape and natural character overlay maps of the MEP.

² International Federation of Landscape Architects

14. The failure to clearly differentiate natural character from landscape is evident in the way in which the italicised words in the NZCPS Policy 13.2 are generally interpreted:

Recognise that natural character is not the same as natural features and landscapes or amenity values and *may include matters such as*:

15. The phrase "...*may include matters such as...*", is interpreted as prescriptive, as if all the matters 13.2(a)-(h) are mandatory for the assessment of natural character ratings. This is evident in MEP Chapter 6, where Policy 6.1.1 states:

Policy 6.1.1 – Recognise that the following natural elements, patterns, processes and experiential qualities contribute to natural character:

- (a) areas or water bodies in their natural state or close to their natural state;
- (b) coastal or freshwater landforms and landscapes (including seascape);
- (c) coastal or freshwater physical processes (including the natural movement of water and sediments);
- (d) biodiversity (including individual indigenous species, their habitats and communities they form);
- (e) biological processes and patterns;
- (f) water flows and levels and water quality; and
- (g) the experience of the above elements, patterns and processes, including unmodified, scenic and wilderness qualities.

This policy describes those matters considered to contribute to the natural character of coastal and river environments. This provides MEP users with a clear understanding of the meaning of natural character.

16. The addition of matter (g) in Policy 6.1.1 (*the experience of the above elements, patterns and processes, including unmodified, scenic and wilderness qualities*) serves to expand the notion of natural character to a concept barely indistinguishable from landscape. All matters listed in NZCPS 13.2(a)-(h) are as applicable to the assessment of ONFL, as to natural character. Several matters relate directly to amenity. Not all are applicable to the rating of natural character, yet assessors assume that to be the case.
17. It is clear that at a professional level (assessors, policy makers) insufficient analysis and critical thinking has been applied to the problem of differentiating the concepts.
18. As a consequence, I expect that from a community perspective, the Boffa Miskell natural character assessments and landscape assessments will appear to have assessed the same phenomena. Contrary to MEP Policy 6.1.1, the manner in which natural character has been assessed does not provide MEP users with a clear understanding of the meaning of natural character.

How should the community evaluate landscape and natural character assessments?

19. There is a sound methodological basis - a series of tests - for evaluating landscape and natural character assessments, such as the Boffa Miskell studies undertaken for the purposes of the MEP. The approach is set out in a paper by Swaffield and Foster (2000)³. In simple terms, the tests ask: Are the

³ Swaffield, S.R. and R.J.Foster (2000), *Community perceptions of landscape values in the South Island high country: A literature review of current knowledge and evaluation of survey methods*. Science for Conservation Publication 159, Department of Conservation.

findings of the Boffa Miskell studies that have informed the identification of the outstanding natural landscapes and features, and the natural character of the coastal environment of the Marlborough Sounds credible? Or, in other words, do the findings 'ring true' with everyday experience?

20. At the level of a professional evaluation of the Boffa Miskell assessments, two key criteria can be applied to assessing the credibility, or 'truth value' of the assessments in question: a test of validity, and a test of reliability:
 - 20.1. *Validity* is a test of whether a method measures the quality or attribute it claims to measure. Validity can be understood in terms of the constructs/concepts used, and of the resulting assessment. In terms of assessments of natural character, validity refers to (i) the validity of the definition of the construct itself, and (ii) how well the construct has been operationalised in the field, i.e., whether the methods applied actually measure the phenomenon they purport to measure.
 - 20.2. *Reliability* is a test of consistency, and is concerned with whether different methods will produce the same findings when measuring the same phenomena in different contexts. Citing Daniel & Vining (1983), Swaffield and Foster (2000) note: "methods such as expert evaluation are of questionable reliability, in that a range of experts are likely to evaluate the same phenomena differently. Even an individual expert will make different judgements at different times."
21. The validity of the Boffa Miskell Marlborough coastal natural character and landscape assessments is questionable from the start, owing to the failure of either study to clearly define the fundamental concepts that are being investigated.
22. From perspective of the community, validity and reliability can be approached from the simple concept of credibility, or plausibility. Do the findings of the BML studies offer the reader a plausible explanation for the phenomena under investigation (natural character, ONFL).
23. Plausibility cannot exist in work which lacks 'truth value' and consistency.
 - 23.1. Truth value - do the findings reflect experience of the community?
 - 23.2. Consistency - are similar areas assessed the same? Consistency can also be understood as dependability - can the findings be relied upon?
24. In my opinion, the Boffa Miskell studies of landscape and natural character of the Marlborough Sounds are neither credible nor plausible accounts of landscape value and natural character.
25. An analysis of the landscape and natural character overlays to the MEP planning maps reveals several aspects that are implausible, or not credible. Problems with the overlay maps - and the studies that informed them - may be attributed to:
 - 25.1. Invalid definition of natural character
 - 25.2. Reference to inappropriate or irrelevant assessment factors
 - 25.3. Invalid distinctions between landscapes and features

- 25.4. Inconsistent treatment of seascapes as part of landscapes
- 25.5. Inconsistency of application - glaring inconsistencies with no apparent justification.
26. I address each of these problems in the following sections of this report.

HOW TO UNDERSTAND NATURAL CHARACTER

27. As noted, a fundamental flaw of the Marlborough Coastal Natural Character study is the absence of a clear, unambiguous definition of natural character - an awareness of what it is, and what it is not. In my opinion, the following simple definition is valid, and has sufficient utility for the purposes of RMA section 6(a) and NZCPS Policy 13:

Natural character is the expression of natural elements, natural patterns and natural processes in the landscape or coastal environment, rated according to the degree of modification through human agency.

28. By this definition, natural character must be understood as a condition, or state of the coastal environment, assessed with reference to how much or how little human modification to natural elements, natural patterns and natural processes is evident.
29. Natural character is an aspect of the broader concept of landscape character - characteristic by which the coastal environment can be described and rated according to whether it is the product of natural process, or human influenced processes and ongoing management.
- 29.1. The assessment of natural character is concerned with identifying how much, or how little of that characteristic is exhibited in areas of the coastal environment.
- 29.2. Natural character assessment is not an evaluative process. The RMA and NZCPS establish the value of natural character, so the purpose of assessment is not to attribute value. The purpose is to inventory how much - or how little - natural character exists in a given area of the coastal environment, according to a scale of reference.
- 29.3. The only valid attributes for the assessment of natural character are those that derive directly from the definition above: *expressions of natural elements, natural patterns and natural processes*. There is nothing more.
30. It is generally accepted now that natural character may be rated with reference to a 7-range scale:

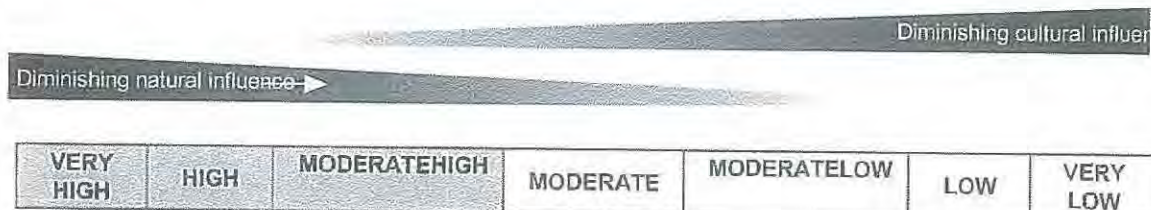


Figure 1: 7-point scale of natural character for the assessment of the degree of natural character exhibited by a landscape or the coastal environment. The shaded part of the scale is the range within which natural processes become dominant over cultural processes, and represents the range within which a feature or landscape may be regarded as natural enough for s6(b) purposes. Landscape assessed as being within the Moderate range of the scale will generally display natural and cultural influences in equal measure. From Moderate-Low to Very Low, there is an increasing dominance of cultural elements, patterns and processes over natural influences.

31. The matters listed in NZCPS 13.2(a)-(h) are relevant to different aspects of natural character and its assessment. It is important to understand which matters are to be applied to the task of assessing levels of natural character in the field:
 - 31.1. Some matters are relevant to defining inland extent of the coastal environment ("context and setting")
 - 31.2. Other matters - (a)-(e) - are relevant to assessing levels of natural character. Generally, these factors refer to objectively verifiable aspects of natural character, and it is the application of such factors that contribute to the reliability of a robust assessment method.
 - 31.3. Matter (g) addresses the application of a scale (as above) for rating natural character levels of some areas relative to others.
 - 31.4. Matters (f) and (h), which refer to 'places or areas that are wild or scenic' and 'experiential' qualities require critical analysis:
32. Matters (f) and (h) have more to do with the appreciation of natural character - what goes on in the head rather than in the environment. Levels of natural character *cannot be determined* with respect to wild, scenic or experiential qualities. These aspects are not determinants of natural character, but rather the outcome, or result of the experience of natural character in certain locations.
33. The admission of an as yet undefined range of experiential factors or attributes to the assessment of natural character could lead to the possibility that an objectively verifiable natural character rating for an area of the coastal environment (say, high) could be reduced to the next level down (moderatehigh) on the spurious grounds that the area is assessed as insufficiently wild or scenic, or lacks other attributes such as the sound or smell of the sea⁴. If it were to be argued that experiential attributes could not diminish a natural character rating, then it must be equally true that such attributes cannot increase a natural character rating. In which case, the factors 13(2) (f) and (h) are completely redundant and there is no need for them to be assessed at all.
34. The flawed application of 'experiential' attributes to the assessment of natural character has compromised the concept of natural character to the point where it is almost indistinguishable from the phenomena that are assessed in

⁴ How the sound and smell of the sea can be applied to the rating of natural character according to the accepted 7-range scale has never been addressed. However, these factors may be relevant in defining the inland extent of the coastal environment.

landscape and amenity assessments. This has had significant consequences for natural character assessments:

- 34.1. Assessments frameworks lack transparency as poorly defined irrelevant aspects (i.e., scenic or aesthetic qualities) are admitted to the assessment framework. The specific factors considered in the assessment of experiential attributes are largely unstated, as is the manner in which they are rated.
- 34.2. The potential exists for the subjective assessment of experiential factors to colour or cloud the objective analysis of natural character.
- 34.3. The mapping of natural character lacks credibility and consistency (see maps reproduced later in this report), as demarcation lines between differently rated areas are inexplicable by any objective analysis.
- 34.4. The confused and incorrect use of language/terminology, particularly frequent reference to 'values' in different contexts ('natural values', 'perceived naturalness values', 'experiential values') both in the Boffa Miskell natural character report and in the MEP discussion on natural character (Chapter 6). As noted earlier, natural character assessment is a descriptive as opposed to an evaluative exercise, and the identification of values is not a valid part of the process.
35. Given the level of ambiguity and confusion concerning the definition of natural character, it is not surprising that the concept of outstanding natural character (ONC) should be equally confused. It is defined in the MEP (Chapter 6, p.5) as:

*...those areas of the coastal environment that have **very high natural character** and which also exhibit a combination of natural elements, patterns and processes that are exceptional in their extent, intactness, integrity and lack of built structures (and other modifications) compared to other areas in Marlborough, are identified as having outstanding coastal natural character. [emphasis added]*

36. A reasonable interpretation of this explanation is that ONC exists at the upper end of the Very High range of the natural character scale, as illustrated in the following Figure 2:

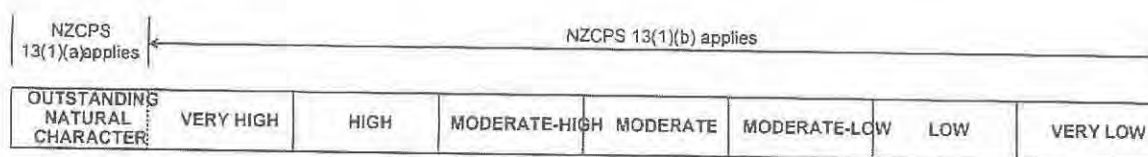


Figure 2: One approach to ONC assessment: Outstanding Natural Character may be understood as natural character considered as being at the extreme end of the Very High range of the scale, i.e. natural character approaching 'pristine' levels. It is generally accepted that pristine natural character, in the narrowest sense of the term, no longer exists, as all environments in NZ are to a degree, influenced by human agency.

37. However, this understanding of ONC is contradicted by the discussion in the Boffa Miskell coastal natural character study (p.28), which attributes ONC to areas with high or very high levels of natural character:

An area with outstanding natural character may be an area within the coastal environment that is considered to have high or very high levels of natural character, although it is important to note that the high or very high ratings do not in themselves equate to 'outstanding'.

38. The question might be asked then, what takes some areas rated high and very high to the level of outstanding, but not others?
39. The discussion continues (p.28):

'Outstanding' is a comparative evaluative term meaning; to stand out, exceptional, pre-eminent.

It was determined by the study team that outstanding natural character should be assessed separately from the main assessment which determines areas holding very low to very high levels of natural character. It was also determined that outstanding natural character assessments should combine both terrestrial and marine components so that important sequences of ecological naturalness (such as from the top of a ridge above sea level to the bottom of the adjacent sea and interconnected systems) are considered.

An assessment to establish whether all or parts of a coastal area contain outstanding natural character needs only be undertaken when **all** of the attributes, when appraised at an adequate scale (in this case Level 4 & 5) and using adequate data, are assessed as being of *'high'* or *'very high'* levels of natural character for the actual part to be identified as outstanding natural character.

Under the methodology an area of **outstanding natural character** (ONC) must:

'exhibit a combination of natural elements, patterns and processes that are exceptional in their extent, intactness, integrity and lack of built structures (the 'clutter' factor) and other modifications compared to other areas in the Marlborough Region'.

40. This discussion appears to adopt a different understanding of ONC than the definition given in the MEP. Of particular note is the statement that both high and very high rated areas may qualify for ONC status, but that ONC must combine both terrestrial and marine components of the coastal environment.
41. The differences between the Boffa Miskell explanation and the MEP explanation is not resolved by way of further explanation in the MEP, and an inspection of the natural character overlay map for the Sounds further confounds any understanding of what has been done, and how it has been done. Areas of high and very high natural character have been found to be ONC, yet other areas of high and very high natural character have not. The boundaries between areas classified high/very high/ONC and areas with no classification show no logic or rationale.
42. The rationale behind the identification of ONC is poorly explained, and this is in large part owing to the failure to offer a succinct and valid definition of ONC in the first place. The Boffa Miskell study offers the explanation that the critical factors that take an area of the coastal environment from high or very high to

ONC are "... natural elements, patterns and processes that are exceptional in their extent, intactness, integrity and lack of built structures (and other modifications)". These are what, by any reasonable analysis, would rate an area as very high in the first place, and certainly no area with these "exceptional" characteristics would rate as high. Why the natural character of some areas identified as high, or very high is considered ONC, but other areas of very high are not, is not explained. The failure of the assessment to treat like areas the same indicates the assessment fails the test of reliability.

43. The analysis is neither credible nor plausible in my opinion, and this problem can be attributed to the fact that the definition of the concept (ONC) is not valid, and the method applied to its assessment is neither valid nor reliable.
44. Given the weight the ONC concept carries in a post-NZ King Salmon planning environment, a valid definition of outstanding natural character is required, and a valid, reliable and robust method for its application.

LANDSCAPE, SEASCAPES AND FEATURES

Landscape and seascape

45. As with the natural character assessment, the failure to clearly define what is meant by landscapes, seascapes and features has implications for the validity, reliability and plausibility of the BML (2015) landscape assessment and the identification of outstanding natural features and landscapes (ONFL) in the MEP.
46. As proposed earlier in this report, a simple, widely accepted definition (European Landscape Charter, Asia-Pacific Landscape Convention, to which NZILA is a signatory) refers to landscape as:

An area, as perceived by people, whose character is the cumulative result of the action and interaction of natural and/or cultural factors.

47. A feature can be understood as a discrete, distinctive or characteristic component of a landscape. Usually defined in a topographical sense, and thus possessing well defined boundaries, a feature is the finest level of analysis at which landscape can be considered for s6(b) assessments.
48. It is implicit in NZCPS Policy 15 that landscapes include seascapes:

Policy 15 Natural features and natural landscapes [To protect the natural features and natural landscapes (**including seascapes**) of the coastal environment from inappropriate subdivision, use, and development: [emphasis added]

49. The identification and assessment of seascapes is a relatively new procedure in RMA-based landscape assessment practice, and the process has its statutory basis in NZCPS Policy 15. As the NZCPS does not define the term seascape. Accordingly, a necessary first step, as with other assessment processes, is to define the term. The BML landscape study (p.20) defines seascape with reference to UK practice:

"Landscapes with views of the coast or seas, and coasts and the adjacent marine environment" (Landscape Institute/ IEMA 2013, p17)⁵ and

"An area of sea, coastline and land, as perceived by people, whose character results from the actions and interactions of land with sea, by natural and/ or human factors" (Natural England 2012, p8)

This Landscape Study identifies seascapes that contribute significantly to the experience of an adjacent outstanding natural landscape. The seascapes identified in this Study form vistas that are imbued with biophysical, sensory and associative qualities that are outstanding in their own right. These seascapes have had limited modification; although in some instances seascapes with development (such as jetties, marine farms and moorings) were incorporated, knowingly, where the development was at a scale that did not detract significantly from the outstanding qualities of the seascape surrounding.

50. While the UK definitions are acceptable for the purpose of the Marlborough study, the manner in which the concept has been applied is, in my opinion, problematic. As stated in the excerpt of the BML landscape study quoted above, seascapes are identified where they:

...contribute significantly to the experience of an adjacent outstanding natural landscape.

51. This implies that outstanding natural landscapes are considered first, and seascapes are only identified as outstanding where they contribute to the experience of those ONLs. In my opinion, this does not adopt the holistic conceptualisation of landscape and seascape as a single entity that is required by NZCPS Policy 15, nor indeed is the approach taken by the BML study consistent with the definition of seascape given in the study and cited above. The definition cited by the BML study requires that the consideration of seascapes goes well beyond contributions to the experience of an adjacent ONL.
52. Some further explanation of the basis for defining seascapes is given in the explanatory text *Mapping of Features and Landscapes, Seascape Approach* (Diagram 6, p.21):

Whilst the land based ONFLs are mapped using approaches 1-5, **the extent of seascape ONFLs have been determined predominately by the marine component of the coastal natural character study 2014. This captures the land/sea interface, where information of marine based-values is generally the greatest.** Refer to Appendix 6 of *Natural Character of the Marlborough Coast* [Boffa Miskell et al, 2014] for further explanation. Other landscape factors have also been considered in determining this mapping approach. [emphasis added]

53. The apparent reliance upon the coastal natural character study for the identification of seascapes reveals a fundamental lack of understanding of the distinction between the concepts 'natural character' of the coastal environment, and landscape/seascape. This approach is also problematic given the differing thresholds that apply to the assessment of natural character for the purposes

⁵ The full definition given on p.16 of the GLVIA3 document (cited as Landscape Institute/ IEMA 2013) is: "...seascape should be taken as meaning landscapes with views of the coast of seas, and coasts and the adjacent marine environment with cultural, historical and archaeological links with each other."

of the *Natural Character of the Marlborough Coast Study*, and the identification of ONL:

- 53.1. The BML natural character study, and the MEP overlay, maps natural character within the range of high - very high, and outstanding
- 53.2. As reference to the scale of natural character included earlier in this report, the threshold of natural character required for the identification of ONFL begins within the moderate range of the scale, but certainly includes any landscape/seascape assessed as being moderate-high in natural character. The BML natural character study does not identify any landscape/seascape at this level - unless of course it can be assumed (and with some justification) that all areas not otherwise shown as high or very high are indeed moderate or moderate-high).
54. The reliance of the landscape study on the coastal natural character study for the identification of natural character thresholds for ONL, in circumstances in which the natural character study does not recognise and map levels of natural character below high, is a flawed approach to the identification of seascapes as part of ONL within the inner Sounds.
55. Within any part of the Marlborough Sounds it is reasonable to understand any landscape as incorporating adjacent seascapes. I consider it would be common ground within the community that, within the Sounds, landscape and seascape combine to form a perceptual whole. As such, and with regard to the definition of landscape/seascape given above, it is reasonable to expect an assessment to identify multiple outstanding natural landscapes within the Sounds, that in each case incorporate landscape and seascape within the area so defined as ONL.
56. It is a matter of some concern, therefore, that with the exception of the Outer Sounds ONL, there does not appear to be a single area of outstanding natural landscape identified within the Sounds. Such areas as are recognised as outstanding are all classified as features, as distinct from landscapes. This has significant implications for the extent to which the MEP gives effect to the NZCP, which I shall explain later in the next sections of this report.
57. The absence of ONL within the inner Sounds is explained (BML Marlborough Landscape Study p.106) as follows:
- At a national scale, the Marlborough Sounds is perceived as one landscape - identified in this report as the Marlborough Sounds Coastal Landscape. At the regional/district scale, the Marlborough Sounds has two distinctive character units, namely the Inner Sounds Landscape and Outer Sounds Landscape.
- ...
- Within the Inner Sounds Landscape Unit there are no identified Outstanding Natural Landscapes, principally due to the small scale of this character unit. The Inner Sounds Character Unit does, however, contain Outstanding Natural Features.
58. The reference to the Marlborough Sounds being perceived as one landscape at a national scale is irrelevant - a national landscape assessment has never been undertaken. The notion of the Sounds in their entirety as being a single

landscape is also inconsistent with the definition of landscape given in this report - from what position in space can the Sounds be perceived as a single landscape? Then to suggest that the Sounds can be regarded as just two landscapes at the District level - an inner and outer Sounds landscape, also is not a plausible explanation in my opinion. To equate character units with landscapes, as the text quoted above does, is also to repeat a common misunderstanding in landscape assessment practice; that landscapes and landscape character area (or units) are one and the same thing.

59. I consider the manner in which the concepts of landscapes and features have been understood and operationalised in the Boffa Miskell (2015) Marlborough Landscape Study displays a considerable degree of conceptual confusion concerning the distinction between these concepts.

Features

60. The lack of conceptual clarity regarding what constitutes a feature, and what is a landscape/seascape is evident in the BML landscape study findings, in that with the exception of the Outer Sounds ONL, no outstanding natural landscapes are identified anywhere within the Marlborough Sounds. Rather, multiple outstanding natural features (ONF) are identified. In some cases these ONF do include large tracts of seascape (CMA), in contexts in which it would be more appropriate to regard these areas as landscape/seascapes.
61. Conceptual confusion over what is a feature and what is a landscape is evident throughout the BML landscape assessment, and not just within the Sounds:
 - 61.1. The Bryant and Richmond Range area is identified as ONL
 - 61.2. The Chalk Range is identified as an ONF
 - 61.3. The Inland Kaikoura Range is identified as an ONF
62. These classifications suggest some confusion, or at the very least inconsistency, in the application of the concepts of features and landscapes to the delineation of outstanding areas of land.
63. Features are defined in the Boffa Miskell (2015) landscape study (p.20) in the following terms:

Landscape features are discrete elements within a landscape, which are generally experienced from outside the features' boundaries. Features display integrity as a whole element and can often be clearly distinguished from the surrounding landscape. Generally, features are defined by their geomorphological landform boundaries. However, in some instances (such as areas of native bush) features are defined more readily by land cover characteristics.

The identification of both landscapes and features is scale-dependent, e.g. the whole of the Marlborough Sounds could be identified as a feature when seen as a whole from a satellite aerial view (regional scale), while landscapes, such as Tennyson Inlet, and features, such as islands, bays or peninsulas, occur within it when perceived from within. Therefore, small landscapes can nest within larger landscapes.

64. While I accept that, as a very general principle, the identification of features is scale dependent, the reliance upon satellite imagery as the basis for identifying the Marlborough Sounds as a feature is a spurious and irrelevant example of

how scale is to be understood in the context of landscape assessment. An aspect of the definition of landscape given above applies equally well to features; "an area, as perceived by people". It is the experience

of the viewer, on the ground that is the most reliable reference to the identification of both landscapes and features.

65. I accept that features are discrete elements within a landscape. However, the identification of the Inland Kaikoura Range as a feature raises the question of what landscape it is legitimately a part of, and at what scale of analysis could one possibly regard that landscape as an area, perceived by people. In my opinion the scale of the Inland Kaikoura Ranges is inconsistent with common understandings of what constitutes a feature in RMA section 6(b) and NZCPS Policy 15 terms.
66. While the distinction between feature and landscape within terrestrial environments may be considered largely semantic, with no significant practical considerations, within the coastal environment it is a significant issue:
 - 66.1. A feature within the Sounds cannot, by definition, include the adjacent seascape. A feature is a discrete element, defined largely by its geomorphological form. The inclusion of the sea within the definition of a feature introduces an entirely arbitrary - and limitless - boundary.
 - 66.2. A landscape within the Sounds must, in my opinion, include adjacent seascapes.
67. By analysing and assessing the Marlborough Sounds as a collection of features, the BML landscape study has, generally, with the exception of Tennyson Inlet, failed to give ONL standing to any part of the inner Sounds coastal marine environment. This is not plausible or credible, in my opinion. Even the definition of Tennyson Inlet appears confused - in the definition of feature quoted above, Tennyson Inlet is referred to as a landscape, while elsewhere (p.124) it is referred to as a feature: Area 9, Tennyson Inlet and Northern Nydia Bay.

Identifying outstanding natural landscapes: 'top down' (landscape) v 'bottom up' (values) approaches

68. As stated already in this report, landscape assessment methods begin with the definition of the concept to be investigated. Landscape has been defined as:

An area, **as perceived by people**, whose character is the cumulative result of the action and interaction of natural and/or cultural factors.
69. For the purpose of delineating the spatial extent of a landscape, the relevant words in the definition are; "...as perceived by people".
70. This is consistent with the general understanding of what constitutes a landscape in a RMA section 6(b) sense, as given by the Environment Court in *KPF Investments Ltd v Marlborough District Council*⁶, at [52]:

We hold that the word "landscape" is being used in section 6(b) primarily in the picturesque sense of **an area that can be seen at a glance**.

⁶ [2014] NZEnvC 152

71. This explanation as to the intended meaning of landscape is consistent with the IFLA definition given above, but also with a range of other accepted definitions, including:

Landscape is not synonymous with environment, **it is the environment perceived**, especially visually perceived' (Appleton, J. 1980. *Landscape in the Arts and the Sciences*. University of Hull, Yorkshire)

Usually a landscape is that portion of land or territory which **the eye can comprehend in a single view**, including all its natural characteristics. (Steiner, F. 1991. *The Living Landscape: An Ecological Approach to Landscape Planning*. McGraw Hill. New York)

Landscape is the assemblage of human and natural phenomena contained **within one's field of view** outdoors (Palka, Eugene J. 1995. *Coming to grips with the concept of landscape*. *Landscape Journal*, 14(1))

72. As is apparent from the words emphasised in the definitions given above, the notion of landscape as a perceived phenomenon is consistent through all these definitions, and the interpretation given by the court in *KPF Investments*.
73. The implication for landscape assessment for section 6(b) and NZCPS Policy 15 purposes is that the starting point is a landscape as perceived or experienced in the field, and experienced in an holistic sense. The top down, or landscape approach (referred to in various decisions of the Environment Court⁷, and the High Court's *Man o'War* decision⁸) applies the following stages to assessment:
- 73.1. Identify the relevant landscape/s,
- 73.2. Determine whether a landscape is a natural landscape, and if so, how natural [with reference to the 7-range scale of natural character given above],
- 73.3. Assess whether any landscape, as a natural landscape, is also outstanding.
74. Landscapes, as they appear to be defined in the BML landscape study, do not appear to have been defined according to this real-world perceptual approach. This has significant implications for the manner in which the spatial extent of ONL are defined.
75. The section *Mapping Landscape Values* (BML Marlborough Landscape Study, pp. 20-21) describes the approach that was taken to the identification of ONL.

As described and illustrated (see diagram reproduced in Figure 3 below), the Boffa Miskell assessment process is based the GIS mapping of landscape 'values', largely by way of desk-based studies. Through the process illustrated diagrammatically in Figure 3, outstanding natural landscapes are 'constructed' or contrived from the mapped aggregation of values into areas of highest value density. While ground-truthing may follow GIS analysis for the purpose of

⁷ e.g.:

C15/2009, *Friends of Pelorus Estuary Inc. v Marlborough District Council* at [37]

[2011] NZEnvC 387 *High Country Rosehip Orchards Limited v Mackenzie District Council* at [74]

[2012] NZEnvC Port Gore Marine farms v Marlborough District Council at [78]

⁸ CIV-2014-404-002064 [2015] NZHC 767 *Man o'War Station Ltd v Auckland Council*, at [10]

refining landscape and feature boundaries, it is my opinion that the process should commence with the real-world experience of landscape, not end with it.

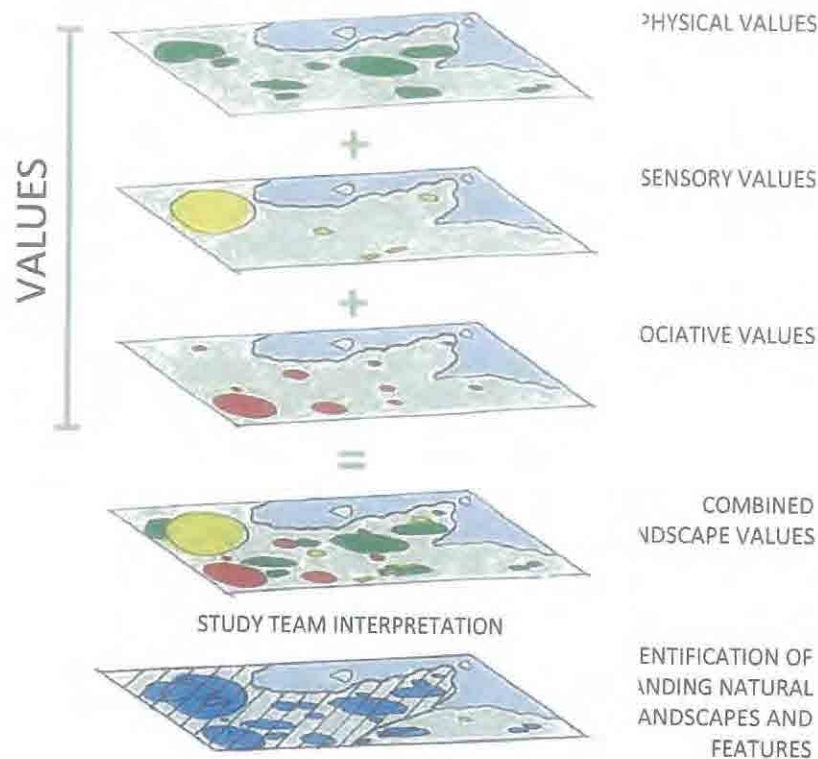


Figure 3: Diagrammatic representation of the GIS-based process applied to the mapping of landscape 'values' and the delineation of ONFL (Source: Boffa Miskell Marlborough Landscape Study (2015), p. 21)

76. In my opinion, the 3 stage, top down approach is a more appropriate response to the concept of landscape, as given in the definition above: an area, **as perceived by people**. The top down, or landscape approach begins with the holistic perception of a landscape, then asks the questions; is it a natural landscape, and if a natural landscape, is it outstanding? In my opinion, this approach must begin with the real world perception of landscapes *in the field*.
77. If a top down, landscape approach were undertaken in the case of the Marlborough landscape study, it is my opinion that the spatial composition of landscapes would be markedly different to those identified in the BML report and mapped in the MEP on the basis of a bottom up, values-based approach. The difference is between a landscape, understood as an area perceived by people, as distinct from a landscape defined by the computer-based analysis of values distribution.

High Amenity Landscape

78. The concept of High Amenity Landscapes (HAL) is introduced on p.167 of the BML landscape study, from which the following passages of text have been selected :

Written Comment No: 0598

As outlined within Section A of this study, landscapes and features that do not reach the threshold of being determined an ONF or ONL but that hold high amenity and environmental characteristics and values are determined as Landscapes and Features with High Amenity within this report.

...

The amenity and environmental quality focus of these investigations has been visual amenity. The study team has addressed the important visual amenity features or characteristics that occur outside the areas identified as outstanding.

...

For the Marlborough Sounds, it was confirmed through the consultation period that the entire area should be a 'significant landscape' under Section 7 of the RMA, and that within this landscape, there are numerous Outstanding Natural Landscapes and Features that 'nest' within it.

79. The first paragraph quoted above adopts the conventional practice in RMA-based landscape assessment of attributing amenity value (sometimes referred to as Visual Amenity Value, or VAL) to landscapes that fall below the significance threshold for being classified as ONFL.
80. What follows however, appears to be justification for identifying the entire Marlborough Sounds, including ONL and ONF as being a High Amenity Landscape as well. However, the justification for a further overlay over and above the ONFL overlay is difficult to understand. The matter is complicated further by the fact that the ONFL and High Amenity overlays cover significant areas of the Sounds that are also subject to the coastal natural character overlay.
81. As the same factors that are used for the identification of ONFL are also used (but with a lower threshold) for the identification of HAL, and as these factors are scarcely indistinguishable from the factors used for the identification of natural character (particularly given the consideration of 'experiential' factors in natural character assessments, there would appear to be a significant level of 'double dipping' and redundancy evident in the extent of the MEP natural character and landscape overlays. From the lay community viewpoint, I would find it almost impossible to differentiate the characteristics and qualities that are addressed in each overlay.
82. I am unable to see the policy advantages of the double classification. As HAL were assessed as being those landscapes that fell short of the threshold for outstanding classification, it is reasonable to understand that all areas of ONFL also have high amenity (by definition), and the overlay is redundant insofar as it covers areas of ONFL.
83. From a pragmatic interpretation point of view, the graphic representation of HAL by cross hatching makes the interpretation of the landscape overlay maps difficult through the introduction of unnecessary graphic 'noise'.

Language and terminology

84. An important aspect of plan preparation to emerge from the NZKS Supreme Court decision is the importance of "...objectives and policies that are clearly expressed and say what they mean"⁹.
85. I consider the language and terminology applied in much landscape assessment practice and plan drafting to be obscure and opaque, and with respect to some terms, simply incorrect. A significant consequence is what I understand to be a very high level of confusion in the minds of the community as to the concepts being addressed through landscape and natural character provisions, and how these are to be commonly understood.
86. I regard this as a significant issue with respect to the MEP and its credibility as a planning document, at least insofar as landscape and natural character is concerned. This problem is not aided by the absence from the MEP of key landscape terms from the Definitions section of Volume 2. There is no definition of *landscape*, *feature*, *natural character* or *values* (be they natural values, natural character values, associative values, sensory values, experiential values or perceptual values - all terms used in the MEP). The community could be forgiven for a degree of bewilderment or confusion concerning just what is being preserved and protected through landscape and natural character provisions of the plan.
87. The manner in which values are understood and addressed in the Boffa Miskell landscape study raises significant questions as to the validity of the assessment framework, and its credibility from a community perspective. How for instance, is one to understand the concept of 'non-visual sensory values' and the contribution they (whatever they are) may take to outstandingness?
88. Given that such everyday terms as erosion, farming, marina and park are defined, it cannot be argued that the terms landscape, natural character and values, for instance, are terms for which there is a common understanding. This problem is aggravated by the absence of any definition of landscape and natural character in the RMA and NZCPS, and the failure of the Boffa Miskell landscape and natural character studies to define these terms.
89. While a failure to define terms that are fundamental to an understanding of the landscape and natural character provisions of the MEP is a significant issue, the erroneous use of some terms creates further confusion and misunderstanding. For example, the term *values* is widely and uncritically misused throughout the Boffa Miskell (2014 & 2015) studies, and within the landscape and natural character provisions of the MEP. Whether used alone, or in association with natural character, experiential, sensory, or perceptual (or in various other combinations), the manner in which values is generally applied is incorrect. Values are not inherent in the biophysical environment, in the landscape, or landscape features, or in the natural attributes of landscape. Values have their origin in shared community or societal beliefs, or professionally informed judgements. Value refers to the 'worth, merit or

⁹ Nolan, D. and J. Gardner Hopkins, (2014) *EDS v New Zealand King Salmon — the implications* Resource Management Journal, November, 2014

importance' of something. Values cannot be observed directly but only through their expression in the form of attitudes and behaviours.¹⁰.

90. Throughout chapters 6 and 7 of the MEP, and in Appendix 1 (*Values contributing to areas with outstanding natural features and landscapes and areas with high amenity value*) and Appendix 2 (*Values contributing to high, very high and outstanding coastal natural character*), there are frequent references to 'values' in various combinations with other terms. In all cases the meaning of values in such contexts is obscure, and in no sense do the terms "say what they mean".
91. For landscape evaluation purposes, the aspects to be investigated through the process of landscape assessment, for protection by way of objectives, policies and rules in the MEP, are characteristics and qualities of the environment *that are valued by the community, or a particular community of interest*. For the purposes of s6(b) and NZCPS Policy 15, these characteristics and qualities are attributes of landscapes and landscape features that can be identified and described by the assessor, but their evaluation (the attribution of value) is a separate exercise.
92. The assessment of natural character is a descriptive process and does not require an evaluative stage. It is incorrect to speak of natural character values. The concern of the assessment process is for describing differing expressions of natural elements, natural patterns and natural processes, the extent of modification to these, and then rating these expressions according to whether more or less natural character is apparent. Natural character within the coastal environment is valued at whatever level it is assessed.
93. In the interests of transparency, and a clear and unambiguous community understanding of chapters 6 and 7 and their related appendices, I recommend as follows:
 - 93.1. The concepts of *landscape*, *feature*, and *natural character* (at least) should be defined in the Definitions section of the MEP.
 - 93.2. All references to values, either alone, or when used in association with another term, where the term refers to some aspect of the landscape or environment, should be replaced with characteristic or quality, according to whether the reference is descriptive or evaluative.
 - 93.3. Reference to vague and indeterminate characteristics or qualities of the landscape or coastal environment, such as experiential, perceptual, sensory, or associative values, should be supported by definitions in the MEP, or replaced with plain English equivalents comprehensible to the community. This is particularly important in instances where these terms are associated with objectives and policies that provide for protection and preservation.

Aesthetic value

94. The assessment of outstandingness has been conducted with reference to the three broad categories of assessment factors outlined in the NZILA (2010)

¹⁰ Kellert, S. 1980. *Knowledge, Affection and Basic Attitudes Towards Animals in American Society*. US Government Printing Office: Washington DC, USA.

Best Practice guidelines: biophysical aspects, sensory aspects, and associative aspects. These are essentially a reorganising of the Pigeon Bay factors into three higher level categories.

95. The label 'sensory aspects' is, in my opinion, a further example of obfuscation through the application of jargon to landscape assessment. In straightforward terms, this category concerns the assessment of aesthetic quality, or aesthetic value. The role of aesthetic quality is acknowledged in the BML (2015) landscape study, but rather than being regarded as but one of the sensory aspects assessed, it is, in my opinion, the only relevant aspect. The BML study refers to aesthetic quality in the following context (p.15):

Sensory aspects, which involve aesthetics, natural beauty, transient matters as well as distinctive smells and sounds. This part of the analysis involves judgmental and subjective interpretations of a landscape's or feature's aesthetics;

96. The BML landscape study considers aesthetic quality from the very limited assessment framework of *memorability*, *naturalness*, *vividness* and *coherence*. These are described as follows (p.16):

Memorability: the way in which experience of a landscape remains in the memory. Highly memorable landscapes comprise a key component of a person's recall or mental map of a region or district. This is also often related to a landscape's legibility and beauty.

Naturalness: natural features and landscapes appear largely uncompromised by modification and appear to comprise natural systems that are functional and healthy. Naturalness describes the perception of the predominance of nature in the landscape. A landscape may retain a high degree of aesthetic naturalness even though its natural systems are modified. Similarly, landscapes that have high ecological values may not necessarily display high qualities of visual naturalness.

Vividness: vivid landscapes are widely recognised across the community and beyond the local area and remain clearly in the memory; striking landscapes are symbolic of an area due to their recognisable and memorable qualities, including their landform.

Coherence: coherence describes the way in which the visual elements or components of any landscape come together...

97. These factors are, in my opinion, a grossly inadequate framework to apply to the assessment of aesthetic quality. The inadequacy of this framework can be understood in part from the following considerations:

97.1. Memorability and vividness are, as described above, essentially one and the same thing: the way a landscape "...remains in the memory", or remains "...clearly in the memory". The application of these factors - in fact just a single factor as they are described above, is highly speculative, as, to my knowledge, no tests of memorability have ever been conducted. It is neither a valid nor a reliable indicator of aesthetic quality.

97.2. Naturalness is a largely irrelevant factor, given that all landscapes and features that are candidates for outstandingness will already have passed the threshold of naturalness, and can be regarded as natural landscapes and natural features.

98. In simple terms, aesthetic value¹¹, as it applies to the natural environment, may be understood as the capacity of a landscape or landscape feature to elicit feelings of pleasure or displeasure.
99. While such feelings derive from a number of properties of the environment, these properties are not determinative, in the sense that if a landscape or feature possess properties x, y, and z, it is therefore an aesthetically pleasing landscape, or a landscape with aesthetic quality. This is not the case.
100. In simple terms, when experiencing a landscape the feelings of pleasure (or displeasure) come first, and this may be followed by an analysis to establish the basis for these feelings of pleasure. The Boffa Miskell landscape study appears to reverse this process and assume that landscapes that possess certain (flawed) attributes are necessarily aesthetically pleasing landscapes.
101. This is a similar issue to that which I have raised with respect to the landscape assessment generally - the assessment begins with a consideration of factors at an 'atomistic' level in the expectation that value, or significance will derive or emerge from that process. It is the reverse of the process implied by the notion of landscape, as an area perceived by people.
102. The BML (2015) assessment of aesthetic value appears neither valid nor reliable. The properties or attributes applied to the assessment of aesthetic value are certainly not valid. Reliability cannot be determined as the study provides no indication of the spatial distribution of aesthetic value - aesthetic quality does not appear to have been mapped (p.20):

The study team utilised the mapping of significant values on GIS to analyse where particular values overlap. Not all values were mapped (such as aesthetic values)...
103. An obvious question is, why not? As a consequence of the decision to not map aesthetic quality, or value, there does not appear to be any basis upon which the assessment of aesthetic quality within the Sounds - perhaps the single most important factor from a community perspective - can be validated.
104. The principle concern arising from this critique is that aesthetic value appears unlikely to have been assessed from the perspective of the community. Indeed, from the community's perspective I would regard the aesthetic quality of the Sounds as the predominant quality influencing outstandingness, and on this basis the BML (2015) assessment of aesthetic value cannot be regarded as credible, or even remotely adequate. In my opinion, the failure to identify areas of ONL within the inner Sounds can be attributed in part to a flawed framework for the assessment of aesthetic quality.

Regional or District comparator

¹¹ Aesthetic value is the value that an object, event or state of affairs (most paradigmatically an art work or the natural environment) possesses in virtue of its capacity to elicit pleasure (positive value) or displeasure (negative value) when appreciated or experienced aesthetically. (Levno Plato and Aaron Meskin (2013). *Encyclopedia of Quality of Life Research* . Springer)

Gobster et al.(2007) have described aesthetic experience as:

"...a feeling of pleasure attributable to directly perceivable characteristics of spatially and/or temporally arrayed landscape patterns"

105. I consider another assessment factor that may be influential in the failure to identify outstanding natural landscapes within the inner sounds can be found in the following statements:

The difficulty the study team faced during the landscape evaluation phase lay in determining whether these landscapes meet the threshold of being 'outstanding at a district level'.

The study team concluded that due to the complexity and diversity of the Marlborough Sounds, and its value nationwide, the entire Marlborough Sounds is considered an Outstanding Natural Landscape **at a national scale. At the more detailed regional/district scale**, however, the study team concluded that some areas within the Marlborough Sounds could not be identified as an ONFL. (p.61) [emphasis added]

106. These quotes raise the issue of the appropriate geographical frame of reference for the assessment of outstandingness: whether comparisons are to be made at a national, regional or district level.

107. The High Court, in *Man O'War Station v Auckland Council* stated at [47]:

...I am not persuaded that it is necessary to incorporate a "national" comparator (or even a regional or district one) into the consideration of "outstandingness". The Courts in which the jurisprudence has been developed have not been asking "is this a nationally significant outstanding natural landscape?" They have been asking simply "is this an outstanding natural landscape". That is the issue that they are required to consider, under the RMA.

108. This statement provides support for the assessment of landscape significance on the basis of an independent threshold of outstandingness that is not tied to a comparison of the the other landscapes in a district or region. By this approach, all landscapes that pass an outstandingness threshold are selected, such that the range includes the best, and also the 'best of the best' in any district or region, as long as they meet a threshold of outstandingness.

109. The approach adopted in the Boffa Miskell landscape study appears to be based upon the regional/district comparator model, which in my opinion is no longer a valid model for landscape assessment practice.¹²

110. There are significant implications for the application of the comparator model in Marlborough. Given the uniqueness of the Marlborough Sounds, there are grounds for regarding the Sounds in their entirety as an ONL - the Boffa Miskell (2015) study states this¹³, while the MEP (Chapter 7 Landscape) refers to the Sounds as "...an iconic and unique landscape with considerable scenic beauty". However, using the comparator mode for the identification of ONFL, each landscape or feature within the sounds is effectively compared with every other landscape or feature within the Sounds, with the implication that only the most outstanding landscapes and features make the cut.

¹² Since writing this report the Court of Appeal has issued its decision in *Man o'War Station Ltd v Auckland City Council*, CA422/2015 [2017] NZCA 24. In light of the Court of Appeals decision, I have added a postscript to this report.

¹³ "The study team concluded that due to the complexity and diversity of the Marlborough Sounds, and its value nationwide, the entire Marlborough Sounds is considered an Outstanding Natural Landscape at a national scale." (p.61)

111. The application of an outstanding threshold rather than a comparator approach, would ensure that all landscapes and features recognised as outstanding would be classified as such.

Summary

112. I have restricted this analysis and discussion to the validity, reliability and plausibility/credibility of the landscape and natural character overlay maps and the BML assessments that informed them. As discussed in this report, the mapping of outstanding natural landscapes and features, and the mapping of high, very high and outstanding natural character on the MEP overlay maps is characterised by inconsistencies and flaws that have their root cause in a failure to adequately define and operationalise the key concepts that underpin RMA-based landscape and natural character assessments.

113. In my opinion, the concepts of natural character, landscape and feature have been inadequately defined and erroneously interpreted, such that the proposed plan provisions fail to give adequate effect to the NZCPS. In particular:

113.1. The ambiguous, uncritical interpretation of the concept of natural character, and the manner in which NZCPS Policy 13(2) has been interpreted has created a situation I consider will create considerable confusion through the failure to sufficiently differentiate natural character from landscape, as Policy 13(2) requires.

113.2. The way in which landscape has been conceptualised and investigated is, in my opinion inconsistent with accepted definitions of landscape as a perceptual phenomena. It is not credible to maintain, as the Boffa Miskell (2015) landscape study does, that the scale of the Marlborough Sounds is such as to preclude the identification of outstanding natural landscapes within the inner sounds.

113.3. The understanding of what constitutes a feature, as it should be understood in the context of NZCPS Policy 15, is flawed, leading to the identification of terrestrial features in circumstances where landscape/seascapes should be recognised, particularly within the inner Sounds.

113.4. Seascapes appear to have been assessed only from the perspective of how they might contribute to the perception of terrestrial landscapes, which appear to be the dominant focus of assessment and planning provisions, particularly within the inner Sounds. The BML landscape study has erred in not regarding landscape and seascape as an holistic conceptual entity. As a consequence, undue attention has been focussed on terrestrial features and the marine component of inner Sounds landscape/seascapes are inadequately recognised and protected.

113.5. The concept of outstanding natural character (NZCPS Policy 13) has not been clearly articulated, nor is the method of its identification transparent, valid and reliable. Many inconsistencies and unexplained discrepancies are apparent in the mapping of ONC on the planning overlay maps.

- 113.6. Aesthetic quality - perhaps the most significant quality of the Sounds - has been misinterpreted and incorrectly evaluated.
- 113.7. The adoption of a regional/district comparator model for the assessment of ONFL - now recognised by the High Court as inappropriate - works against the classification of many worthy Sounds landscapes and features as ONFL.
114. I have not commented on the specific policies and objectives of Chapters 6 & 7 of the MEP, nor the appendices of landscape and natural character values, other than to refer to problems associated with language and terminology. The lack of definitions relevant to the natural character and landscape provisions of the MEP, and the lack of clarity of meaning through the use of a range of terms best regarded as jargon, creates a planning discourse in which it is difficult, if not impossible, to understand what is being protected or preserved, and why.
115. Given that provisions for managing marine farming have yet to be written for Chapter 13, *Use of the Coastal Environment*, and given the ongoing pressure to expand marine farming operations in the Sounds, the almost total absence of high, very high and outstanding natural character classification and ONL classification for seascapes within the inner Sounds is cause for concern.
116. Had the Boffa Miskell studies established themselves as credible works, marked by validity and reliability, then the absence of ONL from inner Sounds seascapes might be considered plausible. However, as I do not consider this to be the case, it is possible that the reasons for the absence of seascape ONL may be found elsewhere. In which case, the words of the High Court in *Man o'War Station v Auckland Council* may be pertinent to this situation¹⁴:

[59] It is clear from the fact that "the protection of outstanding natural features and landscapes" is made, by s 6(b), a "matter of national importance" that those outstanding natural landscapes and outstanding natural features must first be identified. The lower level documents in the hierarchy (regional and district policy statements) must then be formulated to protect them. Thus, the identification of ONLs drives the policies. It is not the case that policies drive the identification of ONLs, as MWS submits.

[60] As identified by the Council, the RMA clearly delineates the task of identifying ONLs and the task of protecting them. These tasks are conducted at different stages and by different bodies. As a result it cannot be said that the RMA expects the identification of ONLs to depend on the protections those areas will receive. Rather, Councils are expected to identify ONLs with respect to objective criteria of outstandingness and these landscapes will receive the protection directed by the Minister in the applicable policy statement.

ML Steven

¹⁴ The decision of the High Court on this issue has been confirmed by the Court of Appeal in *Man o'War Station Ltd v Auckland City Council*, CA422/2015 [2017] NZCA 24.

2 March 2017

Addendum: Regional or District Comparator?

In the section headed Regional or District Comparator (p.23) I cite the High Court in suggesting that the use of District or Regional comparators for the identification of ONFL are no longer relevant. The High Court stated at [47]:

...I am not persuaded that it is necessary to incorporate a “national” comparator (or even a regional or district one) into the consideration of “outstandingness”. The Courts in which the jurisprudence has been developed have not been asking “is this a nationally significant outstanding natural landscape?” They have been asking simply “is this an outstanding natural landscape”. That is the issue that they are required to consider, under the RMA.

Since the High Court’s decision, the Court of Appeal has issued a decision in *Man o’War Station Ltd v Auckland District Council*. The CA was addressing several questions of law, including:

Was the High Court correct to find that in assessing whether or not a landscape is an outstanding natural landscape there is no need to incorporate a comparator — that is, a basis for comparison with other landscapes, nationally or in the relevant region or district? ☐

On this question the CA found:

In assessing whether or not a landscape is an outstanding natural landscape a regional council should consider whether the landscape in question is outstanding in regional terms.

The implications of this must be considered for the proposed MEP.

Marlborough is a unitary authority, and thus the correct basis for comparison should be the landscapes of the region as a whole. However, it is unclear whether this is the approach adopted in the BML (2015) study, as it includes a reference to *outstanding at the district level* (p.15), and [t]his *Landscape Study considers landscape at the finer district scale* (p.20).

There is no basis that I am aware of for understanding that a part of Marlborough as a region, can be separately defined as a district, although such an approach may be a carry over from the distinction made in the existing Wairau/Awatere and Marlborough Sounds Resource Management Plans.

It is possible that the reference to district scale in the BML (2015) study is a reference to the fineness of the analysis undertaken, rather than the application of a scale for the application of a comparator, although there is a reference to the ONFLs identified as being outstanding at both the regional and district scales. The validity and reliability of this approach - and the credibility of the study generally - is brought into question by the statement (BML 2015, p.106):

Within the Marlborough Sounds context (at the regional/district scale), there is only one Outstanding Natural Landscape and that is the Outer Sounds Landscape.

While the position on a scale of comparison taken by the BML (2015) study and the MEP is unclear, it is my opinion that the CA decision make it clear that the context for the identification of ONFL within the Marlborough Sounds is the Marlborough *region* as a whole. It is not correct to identify Marlborough Sounds ONFL only with regard to the landscapes and features of the Marlborough Sounds, as if the Sounds were a district.

Examples of inconsistencies and discrepancies in mapping: natural character

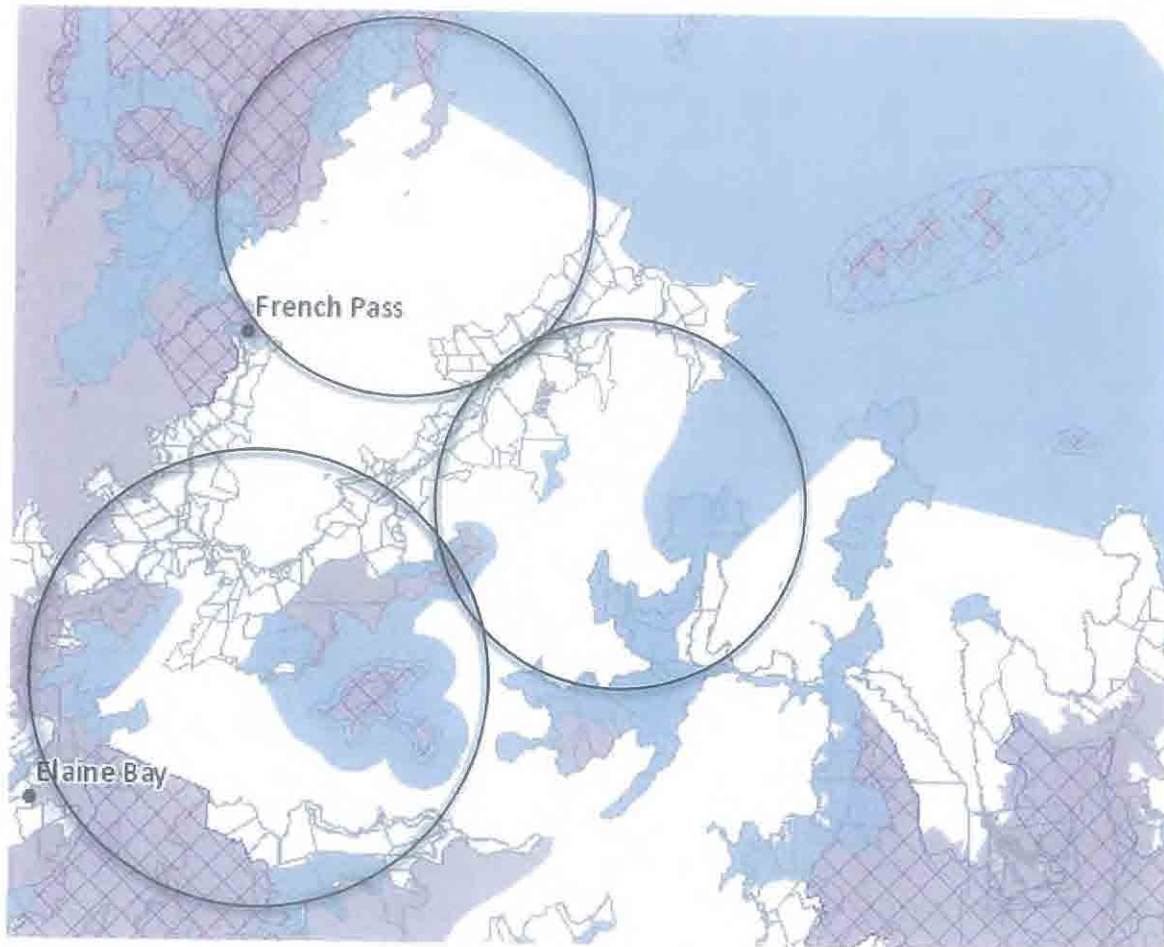


Figure 4: Example taken from MEP natural character overlay showing natural character ratings for outer Pelorus Sound

The circled areas contain examples of natural character ratings that are implausible, not credible. In particular, large tracts of the Coastal Marine Area (CMA) are rated less than High natural character in contexts where such an assessment is not credible. Lack of continuity of High or Very High ratings across areas of the CMA is not explained - for instance, within an area of the Tawhitinui Reach, an area of unclassified marine environment connects two areas identified as exhibiting outstanding natural character: Tennyson inlet and Maude Island. In other areas, while existing marine farm developments may diminish the natural character of the marine environment around coastal margins, the effects of marine farming do not extend into more open waters (e.g., Tawhitinui Reach, Waitata Reach, east of French Pass to Clay Point), yet such areas are rated less than High.

The application of the concept of Outstanding Natural Character defies understanding. A reasonable interpretation of outstanding is that it is a rating that exists above and beyond very high, yet ONC is attributed to areas of very high natural character, and also areas of high natural character. How an area of the coastal environment can be high or very high, and at the same time also outstanding, requires a more coherent explanation than appears in either the Boffa Miskell studies or the MEP. The MEP and BML studies appear to be in conflict concerning the admissibility of areas of high natural character to the outstanding category (see main text of report).

Examples of inconsistencies and discrepancies in mapping: ONFL

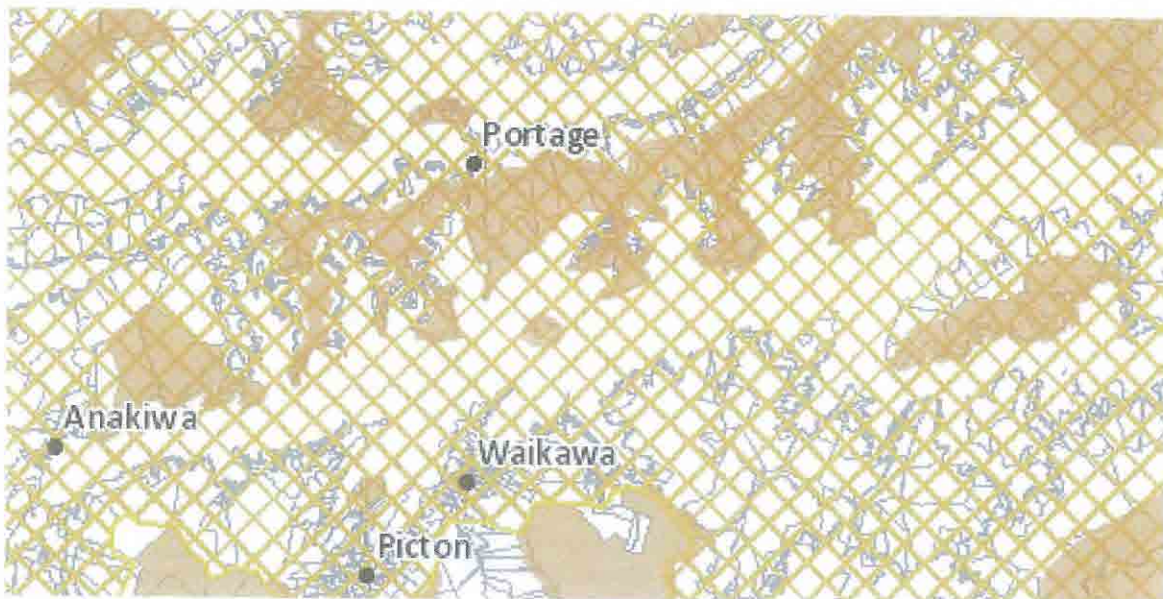


Figure 5: Part Boffa Miskell Map 17 Northern Lands of Inner Queen Charlotte Sound (top) and equivalent area from MEP ONFL overlay map

Within Queen Charlotte Sound, I consider it would be common ground within the community that the landscape/seascape is perceived as a coherent whole. It is not credible to propose the headlands on the northern side of Queen Charlotte Sound as a series of outstanding natural features, rather than a single landscape/seascape that also extends ONL protection to the seascape of Queen Charlotte Sound.

As noted in the text of the report, the visual 'noise' of the HAL cross hatching makes the maps difficult to interpret and is unnecessary/redundant within areas of ONFL.

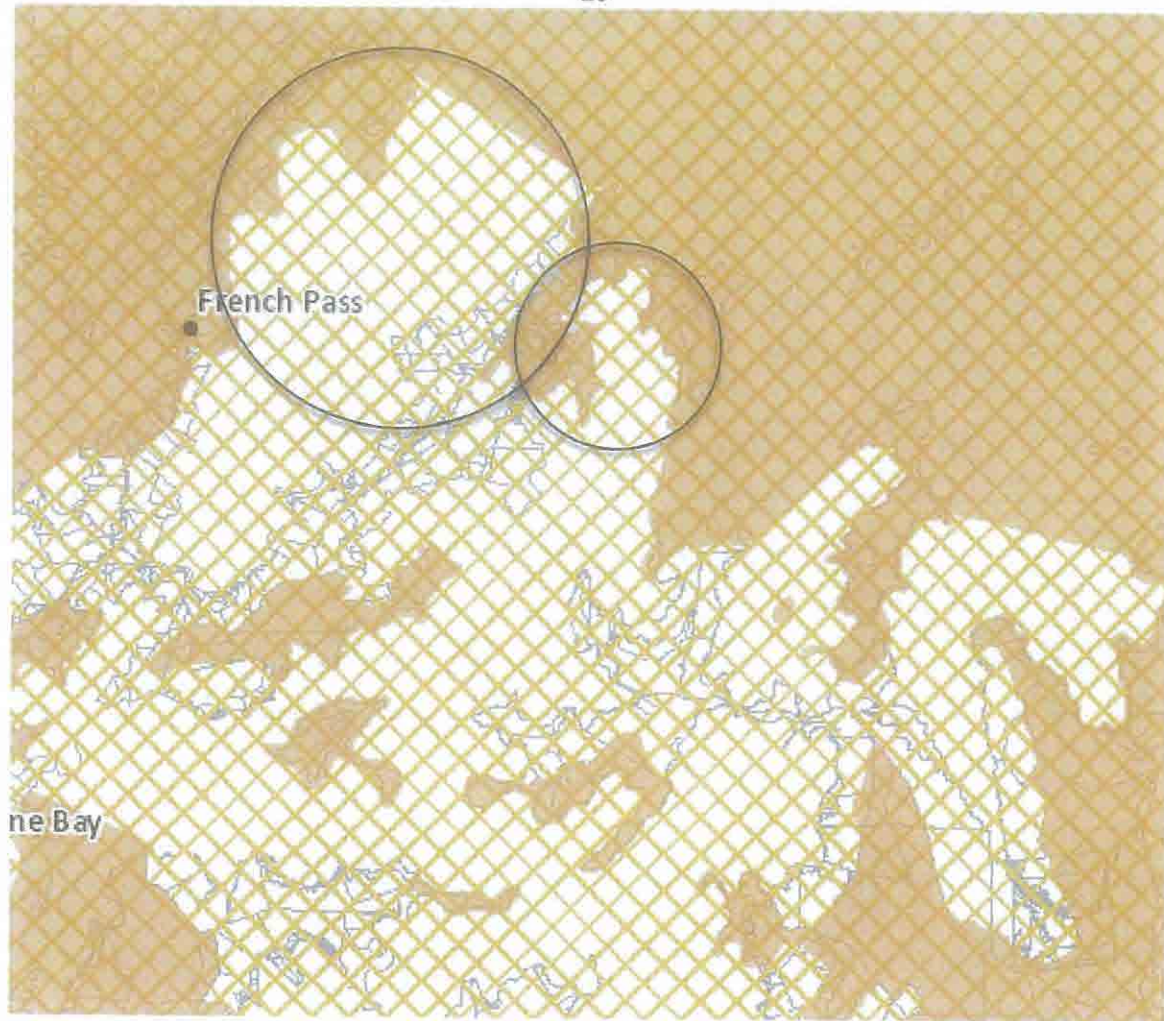


Figure 6: ONFL and HAL, outer Pelorus Sound. Orange areas are ONFL, cross-hatched areas are HAL.

The extent of ONFL appears to have been defined with reference to the areas of high and very high natural character identified on the natural character maps. If this is so, then the threshold of natural character for the identification of natural features and natural landscapes has been set at an unreasonably high level (High, on the 7-range scale of natural character presented in elsewhere in this report). Accepted practice is to regard landscapes and features as becoming sufficiently natural for section 6(b) and NZCPS Policy 15 purposes within the moderate range of the scale, and certainly within the moderate-high range. On this basis I would regard a very large extent of the seascape area of this map to be regarded as natural enough to be considered for outstanding classification. Among many areas, this would affect the classification of the area east of French pass (large circle) and the seascape of Port Ligar (small circle). The absence of an ONL connection across seascapes enclosed by terrestrial areas identified as ONFL is not explained - Port Ligar is but one of many such examples of this practice.