

DR MICHAEL STEVEN

Landscape Architect | Landscape Planner
Making Sense of the Land

NATURAL CHARACTER ASSESSMENT OF CLOVA BAY

Prepared for:

Clova Bay Residents Association

Prepared by:

Dr Michael Steven

Landscape Architect | Landscape Planner

2 February 2018

Introduction

1. Clova Bay Residents Association (CBRA) has sought professional landscape planning advice in support of submissions on the Marlborough District Council's Proposed Marlborough Environment Plan (PMEP).
2. The specific matter of concern addressed by this report is the existing and potential natural character of the marine component of the coastal environment at the head of Clova Bay, the area identified as Clova Bay CMZ1 in Figure 1.



Figure 1: the head of Clova Bay, Pelorus Sound, showing the CMZ 1 zone - a zone from which marine farming is normally precluded by the provisions of the MSRMP. Marine farming permit U140566 has been issued for Site 8553 within this CMZ1 area (see Figures 2 & 3). The spat farm is not apparent in the aerial photograph, but its location is shown in Figures 2 & 3.

3. I also comment on; the adverse effects of the spat farm on the natural seascape of Clova Bay, the adverse amenity effects of the spat farm, as experienced by local residents and visitors, the issue of cumulative effects of the spat farm on natural character and landscape/seascape, and the potential for the restoration of natural character within the CMZ1 zone.
4. As Figures 2 and 3 illustrate, the Clova Bay CMZ1 is occupied by an 8.1 hectare marine farm (site 8553), granted by the Marlborough District Council (U140566) to the Marine Farming Association as a controlled activity on 31 January 2017, and confirmed by the Environment Court [2017] NZEnvC197, 7 December 2017. The term of the consent is for 20 years.
5. The marine farm is ostensibly used for the seasonal catching of mussel spat. As stated in the decision of the Marlborough District Council, between 1 August and 14 January each year the floats and spat catching ropes are removed and the backbones and warps are sunk to the sea floor. This was the state of the spat farm on the day of my site visit (20 December 2017) when the panoramic photographs (Graphic Attachments Figures 1-3) were taken.
6. The CBRA is concerned about the adverse effects of the re-consented farm on the natural character of an area identified in the MSRMP as CMZ1. Such zones are areas within which marine farming is normally precluded. The level of natural character within this part of Clova Bay has not been determined by an authoritative, detailed assessment. While an assessment of the natural character of the Marlborough Coast was undertaken by Boffa Miskell Ltd (2014) throughout the Marlborough Sounds, only those areas rating High, Very High and Outstanding have been mapped.
7. The natural character maps included in the Proposed Marlborough Environment Plan (PMEP) provide no natural character rating within the terrestrial or marine components of the Clova Bay coastal environment, suggesting that both marine and terrestrial environments are considered to rate less than High.

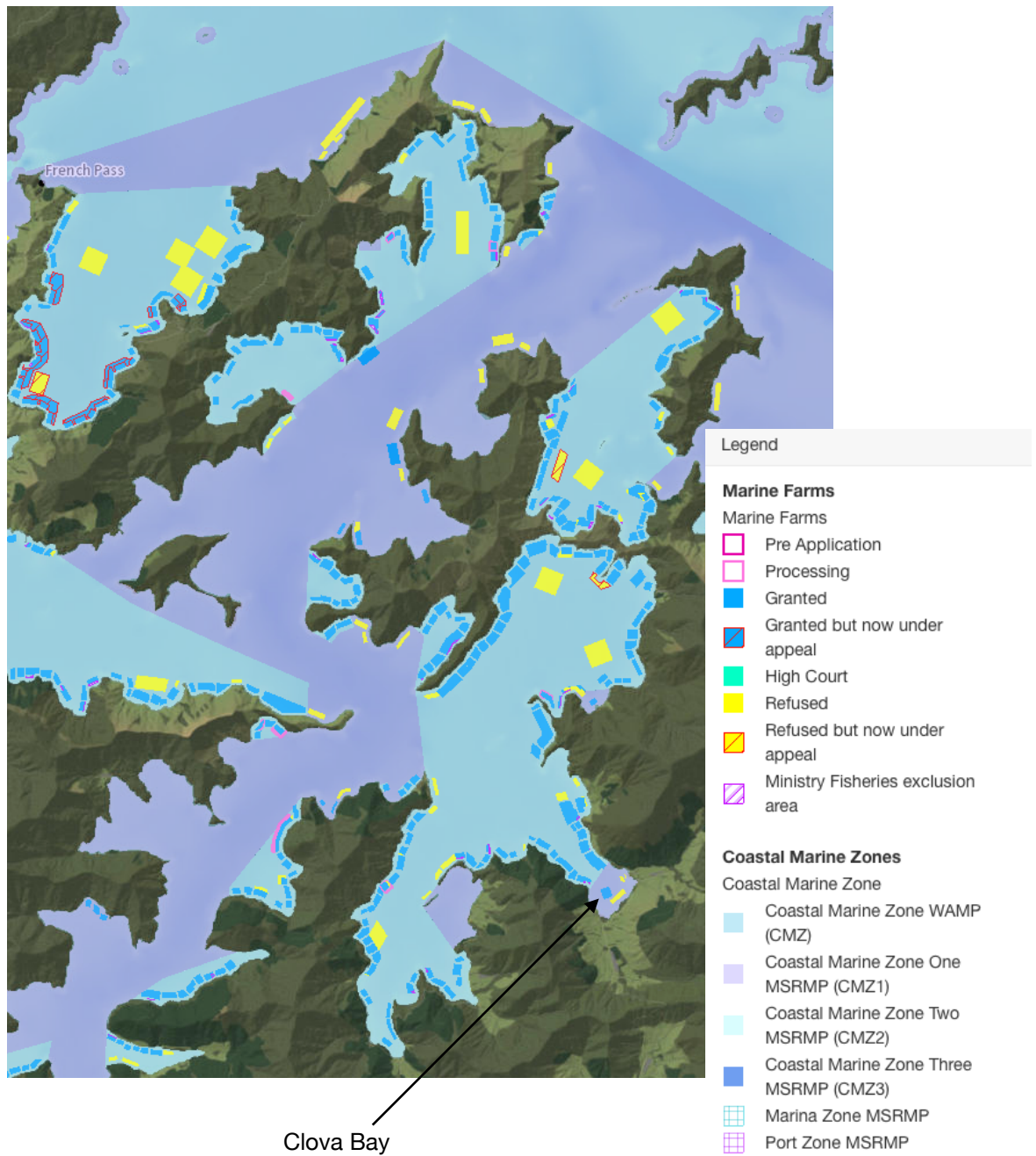


Figure 2: Part of the MDC Smart Maps series showing Coastal Marine Zones and marine farm locations within the outer Pelorus Sound, including Clova Bay (lower right of graphic)¹

¹ The full map is available at:
<http://maps.marlborough.govt.nz/viewer/?webmap=6af1f32120314f569f780dafba2647cf&s=marinefarms>

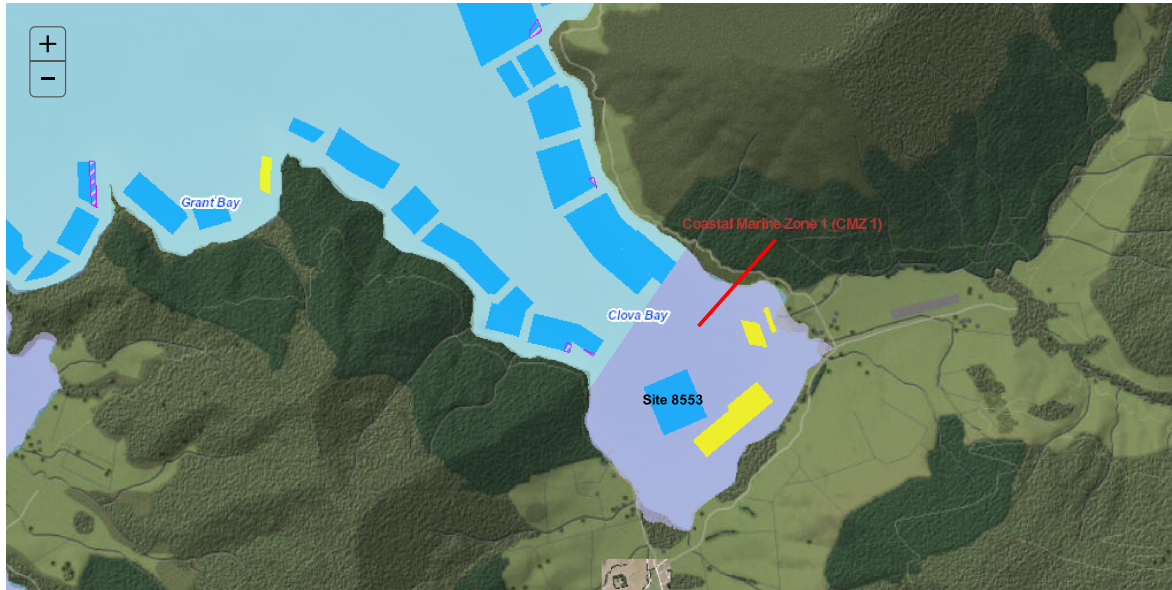


Figure 3: Enlarged section of Figure 2 showing zoning of Clova Bay CMZ1 and the mussel spat farm, site 8553. The yellow areas are marine farming applications that have been declined (see Legend, Figure 2).

8. An alternative explanation is that the Clova Bay CMZ1 area has not been subject to a detailed natural character assessment at level 5 spatial scale as part of the Marlborough Coastal Study (2014), and that the natural character rating that applies has been determined for Clova Bay as a whole, at the Level 4 scale.
9. In the absence of an authoritative natural character assessment at the scale of the Clova Bay CMZ1 area (Level 5), this document reports on an assessment of the natural character of the existing coastal (including marine) environment.

The assessment of the natural character of the coastal environment

10. The assessment of the natural character of the coastal environment is undertaken in response to the NZ Coastal Policy Statement Policy 13:

Policy 13: Preservation of natural character

1. To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development:
 - (a) avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character; and

- (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;

including by:

- (c) assessing the natural character of the coastal environment of the region or district, by mapping or otherwise identifying at least areas of high natural character; and
- (d) ensuring that regional policy statements, and plans, identify areas where preserving natural character requires objectives, policies and rules, and include those provisions.

11. Significant differences of opinion exist between landscape professionals on the matter of operationalising NZCPS Policy 13. Issues include disagreements over precise definitions of natural character, and how Policy 13(2)(a)-(h) are to be interpreted for assessment purposes. A more broad ranging discussion in such issues is included as Appendix A.

12. I adopt the following succinct operational definition as valid, and I consider it 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 agency².

13. This definition is consistent with guidelines issued by the Department of Conservation, and has been applied in the preparation of expert evidence on natural character in many Environment Court matters.

14. 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.

² 'modification' or 'intervention' could be used as an alternative to 'agency'.

15. Natural character is an aspect of the wider concept of landscape character³. Both phenomena are the product of a reasoned, descriptive analyses of a landscape or an area of the coastal environment. Natural character assessment provides a method 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.
 - 15.1. 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.
 - 15.2. 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.
 - 15.3. 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, and evidence of human modification and intervention to these attributes. There is nothing more.
16. It is generally accepted now that natural character may be rated with reference to a 7-range scale (Figure 4):

³ 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.” Differences come down to matters of description, while questions of “better or worse” are an evaluative matter.

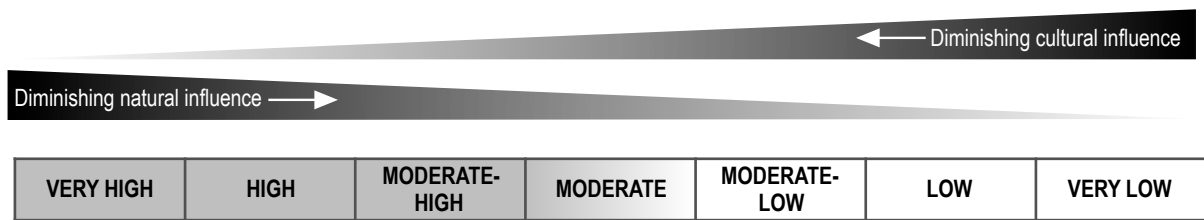


Figure 4: 7-point scale of natural character for the assessment of the degree of natural character exhibited by a landscape or the coastal environment. The shaded part of the scale is the range within which natural processes become dominant over cultural processes, and represents the range within which 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.

17. Since the NZCPS (2010) came into effect, a number of conventions for the assessment of the natural character of the coastal environment have emerged in landscape assessment practice.
18. First, it is generally agreed that natural character varies according to the scale of assessment. Accordingly, natural character assessments are undertaken with respect to specific spatial scales. An approach with some utility for the Sounds was developed by Boffa Miskell Ltd and applied in their Marlborough Coastal Study (2014) - see Appendix B, Natural Character Assessment Scales. By this approach, Level 5 is the smallest area - the most detailed scale - of the coastal environment that can be subject to natural character assessment. The area of the Clova Bay CMZ1 zone corresponds to Level 5, as understood in the Marlborough Coastal Study (2014).
19. Second, the terrestrial and marine components (the Coastal Marine Area, or CMA) of the coastal environment are assessed separately. There are significant methodological problems involved in determining average ratings that apply to the coastal environment generally, given the significantly different contexts of the terrestrial and marine components. Further, as the CMA includes the water column to the sea floor, specialised expertise is required for assessing the natural character of the CMA.

20. Third, the terrestrial environment be further divided in to a coastal significance zone and a coastal context zone. These zones are illustrated in the diagram from the Boffa Miskell Marlborough Coastal Study (2014, p.9) included as Figure 5. I endorse this approach.

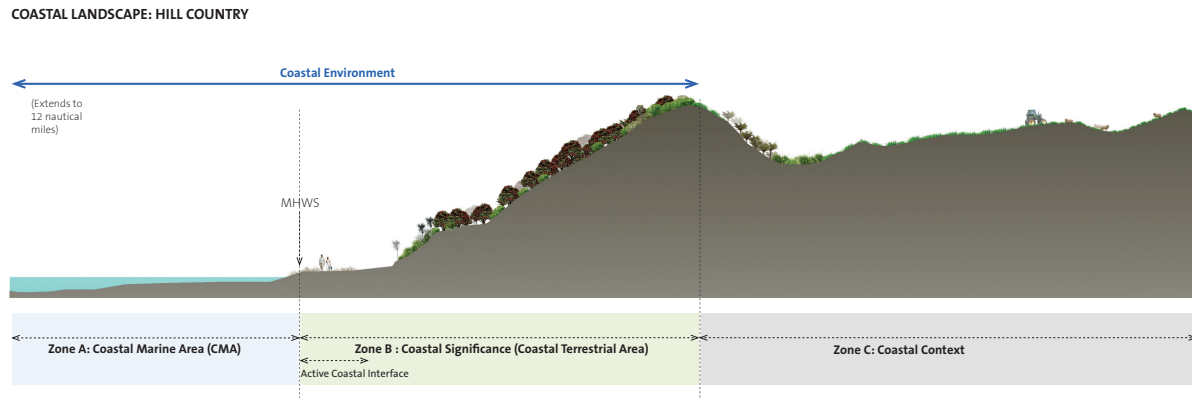


Figure 5: Diagrammatic representation of assessment zones within the coastal environment (hill country) for the purposes of assessing coastal natural character (From Boffa Miskell Ltd (2014) Marlborough Coastal Study (p.9).

21. Applying the zoning suggested by this diagram, two zones are of relevance in the assessment of the natural character of Clova Bay: Zone A, the coastal marine area and Zone B, the coastal significance zone. These are described in the BML (2014, p.8) Marlborough Coastal Study in the following terms:

Zone A: This zone includes the **Coastal Marine Area (CMA)**. Within the statutory context the CMA means the foreshore, seabed and coastal water and the air above the water to twelve nautical miles (or the territorial sea boundary.) Inland, the CMA extends to the mean high water spring (MHWS). The CMA includes the rock beach, coastal lagoons and lakes below MHWS. The CMA extends approximately 1km upstream a river or to a point that is calculated by multiplying the width of the river mouth by five.

Zone B: The **Coastal Significance Zone** includes the Active Coastal Interface (land above MHWS) and generally includes land up to the summit of the first coastal ridge/ crest or escarpment (with the width of this zone varying depending on the topographic environment). The Active Coastal Interface (ACI) is generally a slender component of the Coastal Significance Zone, where the sea is the dominant element and the primary or significant influence on landform, vegetation and peoples's perception. This zone is where coastal processes are significant and may include cliffs, modified dune lands, farm land, settlements

and coastal forests. For the purposes of the natural character study this zone is known as the Coastal Terrestrial Area.

22. While the assessment of much of the coastal Marine Area (CMA) is outside the expertise of landscape architects, I consider it reasonable for landscape experts, when making assessments of the natural character of the coastal environment, to reach inferences regarding the natural character of the marine environment based upon available knowledge and informed observations. 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.
23. Another 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):
 2. The natural character of the coastal environment and freshwater bodies is comprised of a number of key elements which include:
 3. ...
 4. Indigenous flora and fauna, and their habitats;
 5. ...
24. I concede that the most accurate assessment of the natural character of the coastal marine area must come from experts in the marine sciences. Evolving practice may see assessments undertaken for NZCPS Policy 13 and 14 move towards addressing natural character with two separate ratings: one reflecting the natural character of the terrestrial environment, the inter-tidal zone and the sea surface, while the other rating addresses the natural character of the water column, sea floor and marine life and ecosystems.
25. For the purposes of this assessment I have taken into account the natural character of the terrestrial environment, the inter-tidal zone and the sea surface, but I also discuss the implications on the natural character of the water column and benthic area arising from the submerged mussel farming infrastructure.

Recent assessments of natural character: the Boffa Miskell Ltd (2014) Marlborough Coastal Study

26. The Boffa Miskell Ltd (2014) study of the natural character of Marlborough's coastal environment represents an attempt to assess the natural character of the district according to the provisions of the NZCPS Policy 13:

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

27. The study assesses natural character across a range of spatial scales (see Appendix B to this report). Pelorus Sound as a whole conforms to the Boffa Miskell Level 3 scale and is assessed as having an overall natural character rating within the Coastal Marine Area of Moderate-High (Boffa Miskell 2014, pp.70-74). Within the Beatrix Bay-Clova Bay-Crail Bay area, no parts of the CMA are assessed as having natural character greater than Moderate-High at Levels 4 - 5. The specific natural character rating for the CMA of Beatrix Bay-Clova Bay-Crail Bay is not given, and there is no indication within the report as to whether the Moderate-High rating applied to Pelorus Sound generally, also applies to the CMA of these bays individually.
28. The Boffa Miskell Ltd (2104) Marlborough Coastal Study informed the preparation of the Proposed Marlborough Environment Plan (PMEP), currently progressing through the plan review hearings phase. Many aspects of the natural character provisions of the PMEP have been the subject of public submissions, as has the Boffa Miskell (2014) study that informed the plan.
29. I have concerns regarding the validity and reliability of the natural character assessments undertaken by Boffa Miskell Ltd. In particular, a lack of transparency in the application of assessment factors has lead to a number of inconsistencies. Areas which, on the face of it appear alike and comparable in their natural character are not in fact rated comparably. For instance, East Arm (D'Urville Island) (see BML Marlborough Coastal Study, pp 105-107), rates High, while the Two Bay Point area (Greville Harbour) rates Very High. Both terrestrial areas appear characterised by similar levels of development for pastoral farming. Yet similar areas of pastoral farming within Clova Bay are apparently rated Moderate High or lower. While my own rating of natural

character within the terrestrial environment of Clova Bay is only Moderate, I fail to understand how similar areas of pastoral farmland can rate High, and even Very High in other parts of the Sounds. Such inconsistencies raise concerns over the method applied by Boffa Miskell Ltd to rating natural character, and the reliability of their study.

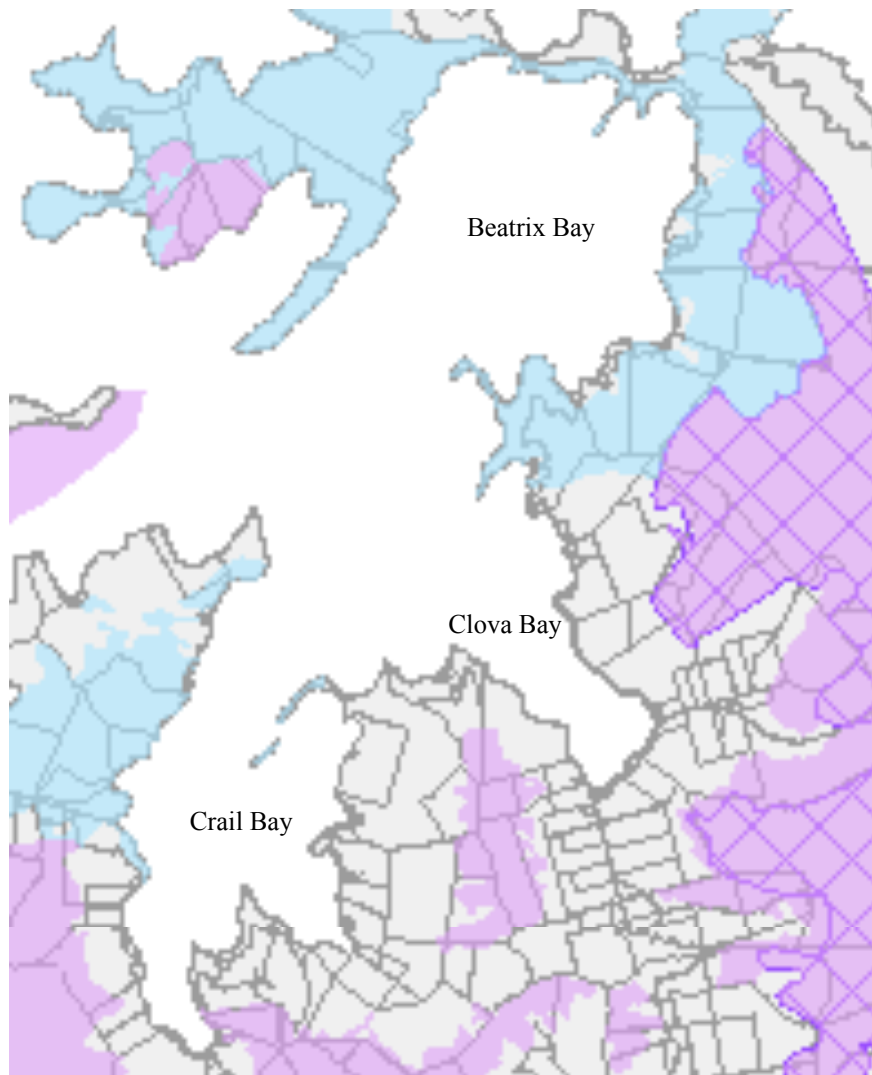


Figure 6: Part of the coastal natural character map published with the Proposed Marlborough Environment Plan, showing natural character ratings within the Beatrix Bay, Clova Bay and Crail Bay areas, assessed at Levels 3 (Pelorus Sound) and Levels 4-5 (individual Bays - see Appendix B to this report). Areas coloured blue are assessed as having High natural character, while those coloured pink have Very High natural character. No terrestrial or CMA areas within Clova Bay are assessed as having natural character in the ranges High and above, but the assessed level of natural character is not stated.

Natural character assessment of the Clova Bay CMZ1 area

30. My assessment of the natural character of Clova Bay is based upon 1 day of field work undertaken on Wednesday 20 December 2017. I was aided in my assessment of Clova Bay by views from the air upon arrival and departure, a tour of the bay by boat, and an inspection by land from Manaroa Rd, Clova Bay Rd, and Totaranui Rd.
31. I have prepared panoramic photographs illustrating the Clova Bay CMZ1 area, and these are included as a graphic attachment to this report.
32. Applying the coastal natural character assessment conventions outlined earlier in this report, my assessment of natural character follows.

Coastal Significance Zone

33. My assessment of this area covers only the terrestrial area around the periphery of the Clova Bay CMZ 1 Zone (Totaranui to Manaroa).
34. This area of the terrestrial environment is characterised by pastoral farming, with areas of logged forestry in the south west, and some regenerating manuka scrubland on steeper hill country in the north and to the east above 300m. Farm buildings, permanent dwellings and holiday baches, subdivision of fields and pasture improvement exert a relatively strong cultural influence on the natural character of this area.
35. I understand that regenerating *Pinus* seedlings within the area of logged forestry to the south west have been sprayed with herbicide and the area is to be permitted to regenerate into indigenous bushland⁴.
36. I assess the natural character of this area as Moderate, with the potential to rise to Moderate-High over the next 5-10 years as indigenous colonisation and succession on areas of logged forestry proceeds.

⁴ Personal communication, Mr Trevor Offen, Clova Bay.

Coastal Marine Area

37. While the outer waters of Clova Bay (within the CMZ2 zone) are occupied by a high density of marine farming structures, at the date of the assessment, the surface of the CMZ1 area was free of such structures (backbone lines and floats). I understand these to be sunk to the sea floor pending the re-establishment of spat catching activities in mid-January. Until the resumption of spat catching activities, the water column within CMZ1 is also free of droppers. Apart from jetties at Manaroa and Totaranui, the coastal edge is largely undeveloped, and there are no apparent influences to natural tidal flows and current.
38. The head of Clova Bay has been identified as an Ecologically Significant Marine Site (Site 3.14) in the Marlborough District Council Significant Marine Sites Inventory Report (2011)⁵. The area identified is illustrated in Figure 7.



Figure 7: Ecologically significant Marine Site 3.14, Clova Bay (from Marlborough District Council Significant Marine Sites Inventory Report, 2011, Part 3, p.79)

⁵ <https://www.marlborough.govt.nz/environment/coastal/coastal-ecosystems/significant-marine-sites-inventory-report-2011> (Accessed 1 February, 2018)

39. The significance of the site is discussed in the following excerpt from the report (Part 3, p.87):

3.14 CLOVA BAY (intertidal and Subtidal)

Clova Bay is situated between Beatrix and Crail Bays, 39 km by sea from Havelock. it has 7.8 km of coastline and an area of 335 ha. The mouth of Clova Bay is approximately 1.7 km wide. At the head is a tidal estuary with sand flats, salt marsh and sea grass beds. Some fringing terrestrial plants border the tidal flats particularly in the eastern edges of the tidal flats around Totaranui Stream. There are horse mussels and scallops in the shallow subtidal area off Totaranui Stream.

Assessment of ecological significance

The estuarine fringe and the intact subtidal habitats immediately off shore are a relatively uncommon combination in Marlborough and this is one of the best examples.

40. In assessing the natural character of the CMZ1 zone, in the interests of relativity it is useful first to consider the natural character of the CMZ2 area of Clova Bay - the mid-section and outer area of the bay currently zoned for marine farming. Drawing upon work I have undertaken in the nearby Beatrix Bay for the purposes of an Environment Court appeal (*RJ Davidson Family Trust v Marlborough District Council*), I rate the natural character of the Clova Bay CMZ2 CMA area as Moderate. This compares with the rating of Moderate-High that I have assessed the CMA of Beatrix Bay (see excerpt from expert evidence reproduced below). The lower rating of Moderate for Clova Bay CMZ2 can be justified by the relative size of Beatrix Bay and Clova Bay. While Beatrix Bay is densely occupied by mussel farms around the coastal edge, the larger size of Beatrix Bay relative to Clova Bay leaves a greater part of the Beatrix Bay CMA unaffected to any significant degree by marine farming activities⁶.
41. It is reasonable to expect that agricultural and forestry activities within the terrestrial Coastal Significance Zone may have some influence on the natural character of the benthic characteristics of the Clova Bay CMZ1 area. This is the likely outcome of silt-laden runoff resulting from forestry and nutrient flows entering the bay from agricultural activities. Beyond identifying these possible

⁶ I do not comment upon possible wider effects of mussel farming on micro-flora and fauna, water quality issues and benthic ecology, all of which are outside my expertise.

impacts it is beyond my expertise to factor them into a natural character rating. However, I acknowledge the ecologically significant rating given to the estuarine fringe and subtidal habitats and the head of the bay, and note the comment in the report (cited in paragraph 39, above) that such habitats are “... relatively uncommon combination in Marlborough and this is one of the best examples”.

42. While acknowledging the sunken backbone structures in Clova Bay CMZ1, the absence of surface floats (over an area of 8.1 ha) and droppers within the water column suggest a natural character rating of Moderate-High would be appropriate during the non-spat catching season. This rating would reduce to Moderate (as for the rest of the Bay) during the period of spat catching.
43. In circumstances in which the spat catching facility was completely removed from Clova Bay CMZ1, including the removal of all anchors and warps from the sea floor, I anticipate that natural hydrological processes influenced by tides and current, and natural biological processes within the benthic area, would resume, leading to a natural character rating within the High range of the scale. I cannot comment on the time scale required for this to occur. However, I note the intention to allow the recently logged area in the south west to regenerate, and this should assist in promoting a gradual increase in natural character within adjacent areas of the CMA.
44. I note the comments of Mr James Bentley in his S42A Hearings Report on Topic 5, Natural Character (p.53), concerning the natural character of Clova Bay:

Both Crail Bay and Clova Bay are recognised areas of Pelorus Sound where aquaculture is present. As a consequence of this, the marine environment of both of these bays is not rated at the Level 4 scale as holding high, very high or outstanding for natural character (however some parts may retain higher levels of natural character at the more refined scale of mapping at Level 5).

45. Mr Bentley’s comments acknowledge the potential for natural character assessments at the Level 4 spatial scale within Clova Bay to record High natural character ratings in the absence of aquaculture. This suggests the appropriateness of the removal of aquaculture infrastructure as a critical step in restoring natural character within the CMA.

46. As terrestrial and marine assessments are undertaken independently, the removal of marine farming structures from Clova Bay CMZ1 will have no effect on the natural character of the terrestrial Coastal Significance hinterland. However, as noted, regeneration of indigenous vegetation within the terrestrial environment will assist in the restoration of natural character within the CMA.

Natural character assessment of Beatrix Bay

47. For comparative purposes I have included an excerpt from my expert evidence on natural character before the Environment Court in *RJ Davidson Family Trust v Marlborough District Council*:

35. For the assessment of the natural character of the coastal environment, I note that the term 'coastal environment' includes, insofar as Beatrix Bay is concerned, the entire coastal marine environment, including the water column to the sea bed. The diminished state of natural character around margins of the bay affected by marine farm development must be considered in this wider context of unaffected (or at least less affected) coastal marine environment, beyond the marginal areas affected by marine farming.
36. While acknowledging modifications to the terrestrial and marine environments, it is my opinion that, overall, natural elements, natural processes and natural patterns remain dominant over evidence of on-going human intervention and management. I consider that expressions of natural elements, patterns and processes clearly dominate within both the terrestrial and the marine environments of Beatrix Bay although to different degrees in each context. I acknowledge limitations in the expertise of landscape architects to assess the natural character of the marine component of the coastal environment, and qualify my assessment by stating my assumption that while marine farms occupy some 15% of the water space of the bay (Evidence of Mr Glasson, paragraph 4.42), this leaves some 85% of the bay largely unaffected by marine farming activities.
37. Given the level of mussel farm development relative to the size of the bay, and the enclosed nature of the bay, I consider it is reasonable to conclude that the naturalness of the marine component of the environment may be lower than that of the terrestrial component. On this basis, with reference to the 7-range scale of naturalness presented in my appendices, **I rate the naturalness of the Beatrix Bay coastal environment as High with respect to the terrestrial component and Moderate-**

High with respect to the marine component⁷. I understand this assessment to be consistent with that undertaken by Boffa Miskell Ltd (2014) for Marlborough District Council.

38. If an overall, composite rating of natural character can be attempted for the coastal environment of Beatrix Bay as a whole, I would place this within the High range of the scale, given the perceptual dominance of the terrestrial environment over the marine environment.
 39. In my opinion, the category 'outstanding natural character' (Policy 13, NZCPS) is not evident within any part of Beatrix Bay.
48. Consistent with the Boffa Miskell Ltd (2014) assessment of Beatrix Bay, I note that, in my opinion, there is no outstanding natural character (ONC) present within Clova Bay.

Summary of natural character ratings, Clova Bay CMZ1

49. A summary of my natural character assessment is provided in Table 1.
50. As the table indicates, a rating of Moderate or Moderate-High (according to season) on the scale of natural character, indicates significant potential for the restoration of natural character within the Clova Bay CMZ1 zone.
51. I also note that a Moderate rating for the landscape/seascape of this part of Clova Bay is sufficient for the landscape/seascape to be regarded as a *natural* landscape seascape for NZCPS Policy 15 purposes.

⁷ My assessment of the natural character of the marine environment is subject to the qualification regarding expertise expressed in paragraph 36. I also have some reservations regarding the use of a 7-range scale for the marine environment, as is becoming standard practice when assessing natural character in the terrestrial environment. I defer to the expertise of marine scientists over the issue of whether a 5-range or a 7-range scale would be more appropriate for use in the marine environment. The number of ranges, or 'points' within a scale is determined by the capacity of the assessor to discriminate differences. I cannot state with any authority whether 7 degrees of difference in natural character can be discerned within the marine environment. However, I remain of the opinion that 7 degrees of difference can be discerned in the terrestrial environment and landscapes.

Coastal Environment Context (after Boffa Miskell (2014), Marlborough Coastal Study)	Natural Character Assessment (with spat farm)	Natural Character Assessment (without spat farm)
Clova Bay CMZ1 Coastal Influence Zone (terrestrial)	Moderate	Moderate
Clova Bay CMZ1 Coastal Marine Area (CMA)	Moderate (spat catching period) Moderate-High (non-spat catching period)	High
Clova Bay landscape/seascape	Moderate	Moderate (with potential to increase to Moderate-High)*

Table 1: Summary of natural character assessment for Clova Bay CMZ1 area

* Consistent with Mr Bentley's comments cited in paragraph 44, the natural character of the Clova Bay landscape/seascape potentially could potentially rate High in complete absence of marine farming within the CMZ1 and CMZ2 zones. As Mr Bentley notes in his S42A report (Topic 5 Natural Character): "Aquaculture, along with other modifications, has dictated the extent of natural character mapping, including the effect they have cumulatively". (p.54)

NZCPS Policy 14: Restoration of natural character

52. The enhancement of natural character is provided for in NZCPS Policy 14:

Policy 14: Restoration of natural character

Promote restoration or rehabilitation of the natural character of the coastal environment, including by :

- (a) identifying areas and opportunities for restoration or rehabilitation;
- (b) providing policies, rules and other methods directed at restoration or rehabilitation in regional policy statements, and plans;

53. In my opinion, the Proposed Marlborough Environment Plan does not give effect to the NZCPS in failing to identify areas suitable for the restoration of natural character. I consider the CMZ1 zone of Clova Bay to represent a prime

opportunity for the restoration of natural character, and this process should commence with the eventual removal of the spat catching facility.

54. To optimise the potential for restoration of natural character within the Clova Bay CMZ1 area, the removal of marine structures associated with spat catching should be accompanied by changed management practices within the terrestrial environment such as are indicated by NZCPS Policy 14(c):
- (iv) rehabilitating dunes and other natural coastal features or processes, including saline wetlands and intertidal saltmarsh; or
 - (v) restoring and protecting riparian and intertidal margins; or
 - (vi) reducing or eliminating discharges of contaminants;

NZCPS Policy 15: Natural features and natural landscapes

55. The protection of natural features and natural landscapes within the coastal environment is provided for in NZCPS Policy 15:

Policy 15 Natural features and natural landscapes

...

- (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;

including by:

- (c) identifying and assessing the natural features and natural landscapes of the coastal environment of the region or district, at minimum by land typing, soil characterisation and landscape characterisation and having regard to:

...

56. As my Figure 4 (p.7) indicates, the Moderate range of the natural character scale is the range within which a landscape/seascape may be regarded as a natural landscape/seascape for the purposes of NZCPS Policy 15. On this basis, the CMZ 1 zone of Clova Bay may be regarded as a *natural* seascape, within which adverse effects are to be avoided, remedied or mitigated.
57. The removal of surface lines and buoys from the spat farm during the non-spat catching period may be regarded as a legitimate approach to mitigation, but it is an approach that only mitigates adverse effects for the non-spat catching

period. The spat catching season coincides with the period of greatest visitation and recreational use of this part of Clova Bay, and during this period of spat catching activity, adverse effects on natural character, landscape and amenity can not be remedied nor mitigated. In my opinion, avoidance is the appropriate course of action.

Amenity effects of CMZ1 spat farm

58. Relevant references to amenity values are included in Policy 1 and Policy 18 of the NZCPS:

Policy 1 Extent and characteristics of the coastal environment

...

Recognise that the coastal environment includes:

...

- (f) elements and features that contribute to the natural character, landscape, visual qualities or amenity values;

Policy 18 Public open space

Recognise the need for public open space within and adjacent to the coastal marine area, for public use and appreciation including active and passive recreation, and provide for such public open space, including by:

- (a) ensuring that the location and treatment of public open space is compatible with the natural character, natural features and landscapes, and amenity values of the coastal environment;

59. Amenity values are defined in the RMA as:

those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes.

60. The Boffa Miskell Marlborough Landscape Study noted (p.19) that:

'High Amenity Landscapes' [HAL] tend to be more culturally modified landscapes, where their aesthetic and scenic values are high.

61. While HAL, as defined by the Boffa Miskell study may be "more culturally modified landscapes" it is my opinion that the natural character of such areas is a significant contributing factor to their aesthetic appreciation.

62. The Marlborough Landscape Study (2015) addresses the maintenance and enhancement of amenity by way of a High Amenity Landscape (HAL) overlay.

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. (p.166)

63. The Marlborough Landscape Study (2015) and the PMEP identifies all of the Marlborough Sounds as HAL, and notes (p.168) that all of the Marlborough Sounds exhibits aesthetic quality at a very high level, but apparently below the level of outstanding.⁸
64. Applying as it does to the entire Marlborough Sounds, the HAL overlay includes Clova Bay. However, the predominance of marine farming structures is, in my opinion, antithetical to the idea that Clova Bay displays “aesthetic coherence” (as referred to in the RMA definition of amenity values). It is questionable too, whether the extent of marine farming in Clova Bay is compatible with the notion of pleasantness and the recreational attributes of the bay.
65. As the panoramic images included in the graphic attachments to this report illustrate, marine farming structures on the surface waters of the bay exert a strong adverse influence on the aesthetic appreciation of the bay - compare Figure 1, that includes foreground views of marine farming structures, with Figures 2 and 3.
66. In my opinion, the period of the year during which the spat farm is operational will be marked by a significant reduction in amenity qualities - particularly aesthetic quality - currently enjoyed by residents of Clova Bay and visitors to the bay.
67. The CMZ1 zone is adjacent to the greatest area of residential occupation, visitation and rural working environments within Clova Bay. I understand

⁸ There is some inconsistency in a blanket HAL overlay over the Sounds, extending as it does to cover areas of ONFL also. ONFL may be assumed to exhibit aesthetic quality at the level of outstanding, which suggests the need for an HAL overlay as well is redundant.

there to be 10 dwellings (permanent and casual) with a direct view of the spat farm, with a further and 7 dwelling sites under development.

68. During the non-spat catching season, views across the unobstructed surface waters of the CMZ1 provide a welcome counterpoint to the visual intrusion of marine farming structures within the CMZ2 zone - the greater part of the bay's surface waters. However, during the spat catching season, the natural character, aesthetic quality and amenity value of the surface waters will be significantly adversely affected.
69. It has been established through decisions⁹ of the Environment Court and Boards of Inquiry in hearings into wind farm applications, that amenity (in the context of RMA s7(c)) means more than residential amenity, and is certainly more than visual amenity. This is particularly so when amenity is considered in rural working environments, where the open fields of a farm are the farm workers "office". As such, it is not sufficient to consider the amenity of the environment as if it were enjoyed solely from residences.

Cumulative adverse effects

70. NZCPS Policy 7 Strategic Planning, requires regional policy statements and plans to identify processes, resources and values at risk from cumulative adverse effects:

Policy 7 Strategic Planning

...

- (2) Identify in regional policy statements, and plans, coastal processes, resources or values that are under threat or at significant risk from adverse cumulative effects. Include provisions in plans to manage these effects. Where practicable, in plans, set thresholds (including zones, standards or targets), or specify acceptable limits to change, to assist in determining when activities causing adverse cumulative effects are to be avoided.
71. Cumulative adverse effects, insofar as natural character is concerned, includes all developments or human interventions that diminish natural character, within an area of the coastal environment. In the case of Clova Bay, the consideration of adverse cumulative effects must factor in the combined effects

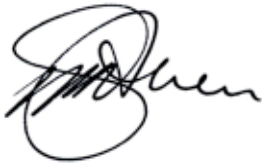
⁹See, for example, *Meridian Energy v Wellington City Council* W31/2007, Hauauru ma Raki Windfarm Board of Inquiry (2011); Turitea Windfarm Proposal Board of Inquiry (2011)

on natural character of marine farming, together with forestry and agricultural development.

72. In my opinion, Clova Bay as a whole, together with many other bays of the Marlborough Sounds, have reached the point of unacceptable cumulative adverse effects as a consequence of excessive marine farm development. The situation in Clova Bay is compounded by the combined effects of marine farm development, together with pastoral farming and forestry within the terrestrial part of the coastal environment.
73. As cumulative adverse effects diminish natural character, so to do they diminish landscape value and amenity derived from aesthetic appreciation of landscapes/seascapes.
74. Although required to do so by NZCPS Policy 7, the Proposed Marlborough Environment Plan does not identify areas within the Sounds at risk from cumulative adverse effects on natural character and landscape. In my opinion this is indicative of a significant failure in the strategic planning process for the Sounds.
75. In my opinion, the continued operation of the CMZ1 spat farm will result in unacceptable levels of cumulative adverse effects in circumstances in which the potential for the restoration of natural character is significant (potentially, raising natural character from Moderate to High, as indicated in Table 1). Given the density of marine farming within the Clova Bay CMZ2 zone, the CMZ1 zone offers a significant opportunity to provide a counterpoint of High natural character within the most ecologically and visually sensitive part of Clova Bay.
76. I consider that the continuing presence of spat farming within the CMZ1 zone of Clova Bay crosses the threshold of acceptable levels of cumulative effects on the natural character of Clova Bay generally, and the CMZ1 zone in particular. Interventions or modification that result in a reduction in natural character to the next lower level on the scale (or even lower) may be regarded as having passed that threshold. In other respects too, including landscape quality and

amenity, the threshold of unacceptable adverse effects may be regarded in - more colloquial terms - as being the point at which the straw breaks the camel's back. I consider this threshold to have been reached - and indeed passed - in the Clova Bay CMZ1 zone.

77. As Mr Bentley states in his S42A Hearings Report (Topic 5 Natural Character) at p.54; "Aquaculture, along with other modifications, has dictated the extent of natural character mapping, including the effect they have cumulatively". I concur with Mr Bentley regarding the effects of marine farming on the natural character of the Sounds. I have stated in expert evidence before the Environment Court that I regard many parts of Pelorus Sound as having reached the threshold of unacceptable cumulative adverse effects on landscape and natural character. I consider Clova Bay to be a clear example of this failure of strategic planning within the Marlborough Sounds.

A handwritten signature in black ink, appearing to read 'ML Steven', with a large, stylized initial 'M' and 'S'.

ML Steven

2 February 2018

APPENDIX A: THE CONCEPT OF NATURAL CHARACTER AND ITS ASSESSMENT

1. Natural character is an aspect of the wider concept of landscape character¹⁰. Both phenomena are the product of a reasoned, descriptive analyses of a landscape or an area of the coastal environment. Landscape character and natural character are not 'values' per se, although particular expressions of landscape character and natural character may be valued by the community.
2. 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 - and NZCPS Policy 13 - do establish a value for 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:

3. The NZCPS (2010) does not define natural character, but a definition is proposed in a Department of Conservation (DoC) publication¹¹ that resulted from a national workshop conducted by DoC, on the interpretation of the NZCPS:

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 processes occur

¹⁰ Landscape character is defined in the *Guidelines for landscape and visual impact assessment* (3rd ed., 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."

¹¹ Department of Conservation, 2012, *Natural character and the NZCPS 2010 National Workshop - Summary of discussion and outcomes*. p.19

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.

4. 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.

5. Natural character derives from the expression of natural elements, *and* natural patterns and natural processes.
6. Further, while the DoC definition refers to the influence of human modifications (*The nature and extent of modification to the ecosystems and landscape/seascape...*), specifically, it is modifications, or evidence of human agency on natural elements, natural patterns and natural processes that determines levels of natural character.
7. Rather than adopt the DoC definition - a definition that I understand has yet to receive explicit endorsement through the Court, I regard the following definition as being particularly robust:

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 agency¹².

8. Some current methods¹³ applied to 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

¹² 'modification' or 'intervention' could be used as an alternative to 'agency'.

¹³ For example, the method applied in the Boffa Miskell Ltd Marlborough Coastal Study (2014)

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.

9. What must be considered when determining the veracity of natural character assessments 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.
10. Natural character is a condition rather than a quality or value. RMA s6(a) and NZCPS Policy 13 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 landscape or area of the coastal environment. The material 'stuff' of natural character exists regardless of experiential or perceived attributes. 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 my opinion these are consistent with the definition I have stated, and the reference to elements, patterns and processes.
11. 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 areas 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 is presented in Figure 1.



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 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 (i.e., a natural landscape or natural feature). 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.

12. 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*¹⁴.
13. I consider the threshold of natural character required for RMA s6(b) and NZCPS Policy 15 assessments lies within the Moderate range of 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).
14. 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.
15. 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

¹⁴ Decision No [2011] NZEnvC 387, at paragraph [93]

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.

16. 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 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.

7. In my opinion, these factors are entirely consistent with the definition of natural character I propose. However, some interpretation is required:

- 7.1. (a) is the the most relevant factor, in my opinion, and is consistent with the widely adopted definition of natural character I apply.
- 7.2. the factors given in (b) are examples of (a) - natural elements, natural patterns and natural processes.
- 7.3. the factors given in (c) are further examples of (a) - natural elements, natural patterns and natural processes.
- 7.4. (d) is an example of natural processes.
- 7.5. (e) and (f) are functions of the extent of human modification to the coastal environment, which again, relates to the definition I apply. Scenic attributes are not of themselves, a reliable indicator of natural character but areas with high levels of natural character may exhibit scenic qualities

- 7.6. (g) refers to the application of a scale of natural character, such as introduced above.
- 7.7. (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.
- 8. 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 B: NATURAL CHARACTER ASSESSMENT SCALES

FROM: BOFFA MISKELL LTD (2014) *MARLBOROUGH COASTAL STUDY*

Natural Character Assessment Scale

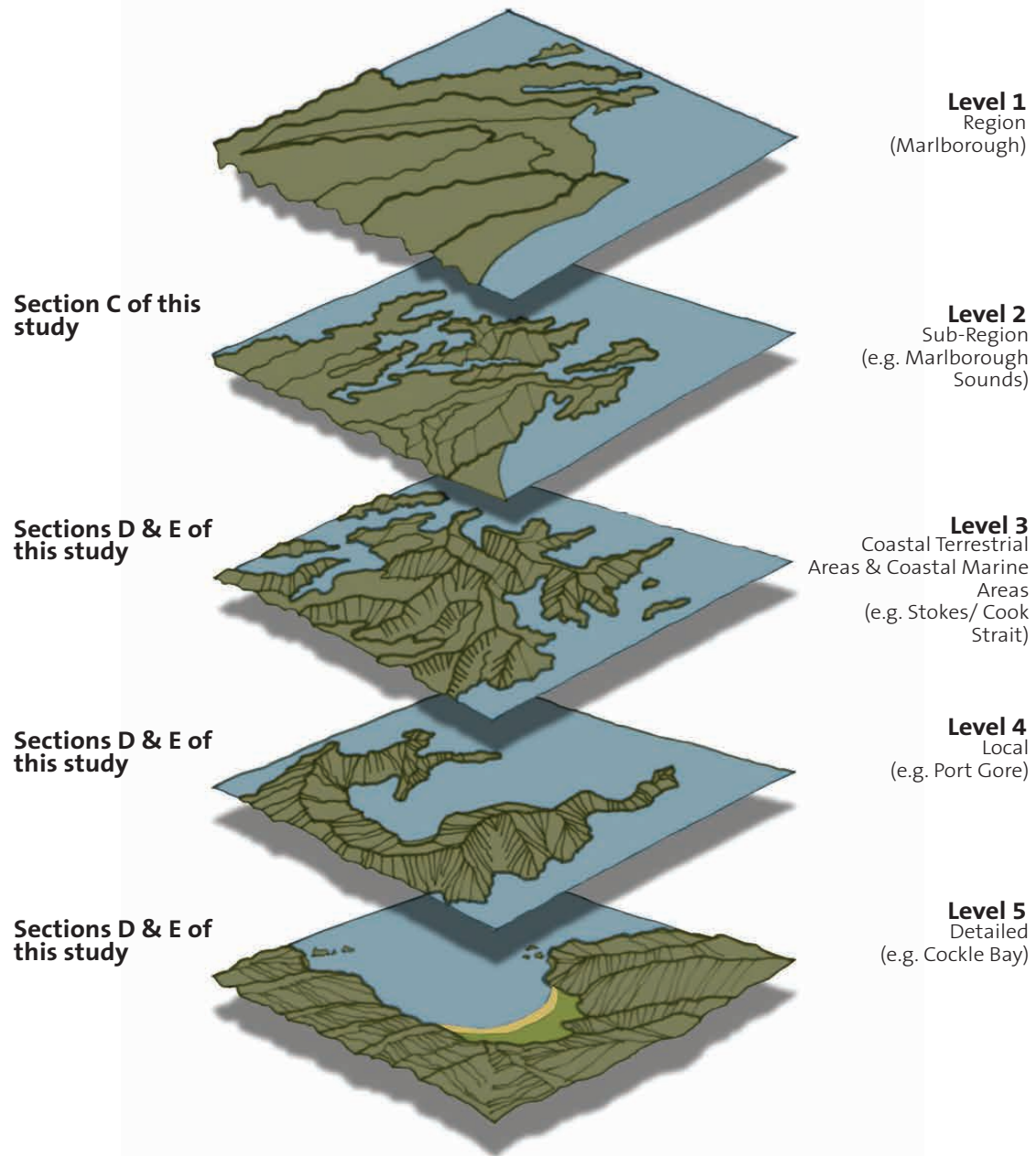


Figure 6: A diagram representing the range of scales used in this study. The study focuses on the Level 3 scale (Coastal Terrestrial and Coastal Marine Areas) and, where appropriate, comments on an area within the Coastal Terrestrial Area or Coastal Marine Area at the Levels 4 or 5 scale, such as 'Port Gore' and 'Cockle Bay' as depicted above. This diagram shows the 'nested hierarchy' approach to land systems and land form components used for this study.

NATURAL CHARACTER ASSESSMENT OF CLOVA BAY

Graphic Attachment

Prepared for:

Clova Bay Residents Association

Prepared by:

Dr Michael Steven

Landscape Architect | Landscape Planner



<p>Dr Michael Steven Landscape Architect and Landscape Planner</p> <p>Postal address: PO Box 314 Takaka 7142 NEW ZEALAND</p> <p><i>Making sense of the land</i></p>	<p>Figure 1</p> <p>View south-south east from Clova Bay Rd, across CMZ2 zone towards CMZ1 zone at the head of Clova Bay. The intrusive nature of marine farming structures are apparent in the foreground and middle ground of the view. The narrow form of Clova Bay results in marine farming structures on both sides of the bay being clearly visible from Clova Bay Road. This road is the access road to the DoC Waimaru campsite.</p>
---	---



Dr Michael Steven
Landscape Architect and
Landscape Planner

Postal address:
PO Box 314 Takaka 7142
NEW ZEALAND

Making sense of the land

Figure 2

View north west across the waters of Clova Bay CMZ1 zone from Clova Bay Road near the intersection with Hopai Rd. Mussel farming commences in the middle distance between the headlands protruding into the lake from left and right. While the spat farm is not yet in position, it will dominate the foreground of views from this area once operational.



Dr Michael Steven
Landscape Architect and
Landscape Planner

Postal address:
PO Box 314 Takaka 7142
NEW ZEALAND

Making sense of the land

Figure 3

View north across Clova Bay CMZ1 zone from jetty/landing, Hopai Rd. The spat farm, when operational, will dominate the foreground of views from this area, to the right of the jetty.