Boffa Miskell	
<b>Tauranga</b> PO Box 13373, 3141 +64 7 571 5511	
<b>Dunedin</b> PO Box 657, 9054 +64 3 470 0460	

# Memorandum

Wellington PO Box 11340, 6142 +64 4 385 9315

П	Auckland
ш	PO Box 91250, 1142
	+64 9 358 2526

Christchurch
Level 1
141 Cambridge Terrace
PO Box 110, 8140
+64 3 366 8891

Hamilton
PO Box 1094, 3240
+64 7 960 0006

Queenstown PO Box 1028, 9348 +64 3 441 1670

Attention: Rob Enright, Chair of Proposed East Coast Beach Vehicle Bylaw Hearing

Company: c/o Marlborough District Council

Date: 13 December 2021

From: James Bentley

Message Ref: Landscape and Natural Character Assessment: Eastern Marlborough Coast beaches

Project No: BM211120

#### East Coast Beach Vehicle Bylaw - Landscape & Natural Character Assessment

Boffa Miskell Ltd (BML) and specifically, James Bentley, the author of this memorandum, was approached via Procedural Minute 5, dated 3 December 2021, which was issued by the Commissioners hearing the proposed Bylaw concerning vehicle use on the eastern beaches, to provide the following information:

'(6) Commissioners have asked that James Bentley address natural character as well as landscape related effects of motor vehicle access within the area that is subject to the proposed bylaw. Our amended request to Mr Bentley is shown (<u>underlined</u>) below:

(a) That Council request James Bentley to provide a written report to explain his opinion that enabling continued vehicle access within the proposed Bylaw area does not adversely affect the Outstanding Natural Landscape values identified in the Proposed Marlborough Environment Plan for the Limestone Coast. In providing this opinion, Mr Bentley should certify compliance with the Environment Court Expert Code of Conduct. For clarity we do not require a lengthy report, but the ONL status is clearly relevant to the proposed Bylaw, and the options under consideration. In addition, we request that Mr Bentley provide an opinion as to whether, and to what extent, motor vehicle access within proposed bylaw areas may affect natural character values for the Limestone Coast (being values identified in the proposed Marlborough Environment Plan). Mr Bentley's statement to be provided by 20 December 2021. If more time is required, then Commissioners will consider that further and make any consequential changes to the timetable'.

It is understood that the hearing concerns ongoing use of vehicles using the eastern coast beaches of Marlborough, especially post the 2016 Kaikoura earthquake, which has accelerated use due to beach uplift and constriction points being more accessible post this event.

#### Background

The author of this memorandum provided some provisional comments (via emails¹) to Marlborough District Council in June 2019, however, was unaware that the content of the emails was to be used as the basis of a landscape position in Council's Technical Reporting².

Within the East Coast Beach Vehicle Bylaw Technical Report, dated July 2021, a description of the landscape is made, as well as references to the Outstanding Natural Landscape (ONL) overlay within the

<sup>&</sup>lt;sup>1</sup> Emails dated 12 June 2019 and 26 June 2019.

<sup>&</sup>lt;sup>2</sup> Marlborough District Council East Coast Beach Vehicle Bylaw Technical Report, dated July 2021

Proposed Marlborough Environment Plan (PMEP). The ONL references were extracted from the Boffa Miskell Marlborough Landscape Study, 2015, of which the author of this memorandum was a key contributor.

Section 3 of the Council's Technical Report<sup>3</sup> outlines the effects on the east coast environment following the 2016 Kaikoura earthquake, as well as observations of vehicle use. At page 20, landscape effects are briefly discussed. These effects were derived from the emails that the author of this memorandum provided to council in 2019. This information was edited and read:

'Following the Technical Workshop, Council staff have consulted with James Bentley, a landscape specialist at Boffa Miskell, on whether the area of Outstanding Natural Landscape (ONL) identified in the Proposed Marlborough Environment Plan (PMEP) has changed or been impacted by the 2016 Kaikōura earthquake. He was also asked to comment on whether the multiple vehicle tracks that are now present on the beach from increased vehicle traffic between Marfells Beach and 18km south of Cape Campbell/Te Karaka have any impact on the ONL. He comments; "essentially the biophysical change occurred due to a greater level of visibility of the intertidal areas. Nothing was specifically destroyed or added during that process that wasn't already captured in some way in the values. The main values are contained within The Limestone Coast ONL and the mapping extends sufficiently into the sea that all of these are already captured. Reference is made to the ongoing geological and tectonic forces that have moulded and sculpted the landform, and I am happy that this is still relevant." He also agrees that vehicle tracks will affect the landscape values but not to a degree that it will affect the ONL status. The key values that underpin this area are listed in Appendix 12 and mainly concern the areas broader geomorphological and ecological values. The usage of the beach by vehicles will certainly affect the local legibility and visual coherence of the beach, and potentially its local ecology, but the ONL encompasses quite a broad area that cumulatively contains a variety of features and values that when read as one, meet the ONL threshold'.

This memorandum has been prepared to specifically comment on the query raised by the commissioner, as set out above.

As requested, the author of this memorandum (James Bentley) has read the Code of Conduct for Expert Witnesses issued as part of the Environment Court Practice Notes. The author agrees to comply with the code and is satisfied that the matters addressed in this memorandum are within the area of expertise of the author. At the time of writing, the author is not aware of any material facts that may have been omitted that might alter or detract from the opinions expressed within this memorandum.

#### **Description of the East Coast Landscape**

The eastern coast beaches extend from the Awatere River in the north to the Waima (Ure) River in the south. The beaches in the north are dominated by the Awatere River and are backed by shallow cliffs, constantly being eroded by the high energy wave environment. Mixed sand and gravel dominates the outer coast with gravels forming the majority of beaches. Scattered mudstone reefs and outcrops fringe the southern shores of Clifford Bay, flanked by more extensive offshore reefs at Cape Campbell and to a lesser extent, Mussel Point. Mudstone platform reefs are incised with channels and indented with shallow pools. Reefs at Cape Campbell are backed by 60m high limestone bluffs and extend offshore and into the subtidal zone for several hundred metres.

Intertidal sand/gravel beaches support a relatively low diversity and abundance of marine life. Further offshore, the more stable sand, silt and gravel habitats are home to a suite of shellfish and mobile invertebrates typical of much of the east coast of the South Island. Greatest coastal biodiversity occurs at and in the lee of Cape Campbell. The intertidal platforms/reefs are habitat to an array of species representative of moderate-high wave swept conditions, including various limpets, chitons, topshells, mussels and barnacles.

South of Cape Campbell, the coast is very exposed to southerly and easterly storms. Large waves from onshore winds and oceanic swells are common. High turbidity and poor water clarity are also notable

\_

Marlborough District Council East Coast Beach Vehicle Bylaw Technical Report, dated July 2021

features. The coast is dominated by sand/gravel beaches of variable size intermingled with rocky headlands, platforms, outcrops and reefs, onshore and offshore. Intertidal platform/reef communities are typical of very exposed wave-swept conditions. Moderate numbers and diversity of plants and animals occur with greatest diversity within channels, pools and partially sheltered areas.

Pods of Hector's dolphins are present along this coast. Dusky dolphins pass through during their seasonal migrations between the Kaikoura coast and the top of the South Island. Humpback whales also migrate past on their northward winter migration.

Backing the marine environment, especially south of Cape Campbell, are strongly undulating and steeply dissected hills with numerous small peaks and hollows which are subject to extensive erosion. The Chancet Rocks display traces of ancient fossils through their weathered faces and are identified as a site of international scientific importance in the Geopreservation Inventory. Much of this area experiences extremely low rainfall so the grass-covered hills regularly have a soft, golden-brown appearance.

The coast from Cape Campbell to the Waima/Ure River is little modified and highly expressive of its geological formation. Places of particular interest include Cape Campbell/Te Karaka, which marks the southern extent of Cook Strait, Ward Beach and the Chancet Rocks and Needles Point and the ephemerally wet Lake Elterwater/Okainga. The main rivers in the area are Flaxbourne River, Waima River and Blind/Otuwhero River.

The land cover in this landscape is predominantly pastoral grassland with small pockets of cropping on the better soils and vineyards gradually extending into the hills, changing the landscape character. Native shrublands occupy many of the gullies in the coastal hills.

Archaeological sites, particularly ovens and middens, found along the coast around Cape Campbell and south of Ward Beach, indicate the importance of the coast to Māori who lived in and travelled through the area.

There is a small coastal reserve at Marfells Beach from where it is possible to walk to the historic lighthouse at Cape Campbell.

#### **Outstanding Natural Landscape**

ONL Review Process

The Limestone Coast from Marfells Beach to the Waima (Ure River), including an approximately 2km offset from the coast into coastal waters, is classed as an Outstanding Natural Landscape under the Proposed Marlborough Environment Plan (PMEP).

Within the Operative Wairau Awatere Resource Management Plan (WARMP), the limestone coast (terrestrial component only), from Cape Campbell to the Waima River is classified as an Outstanding Natural Landscape<sup>4</sup>.

The PMEP reviewed the ONL mapping within the WARMP. This updated mapping and schedule of values in the PMEP commenced in 2009 and was finalised during 2012/2013 following extensive engagement with affected landowners. All updated maps were contained within the notified PMEP in 2017. No changes were sought during the hearing process, and the panel hearing the PMEP confirmed the extent of the Limestone Coast ONL in the Decisions Version (DV) of the PMEP in February 2020. No appeals were sought on the Limestone Coast ONL following the DV of the PMEP.

It was noted during the re-mapping of the Limestone Coast ONL that vehicle use was apparent on the beach during 2009-2013, however, this was, as appeared to the author at the time, infrequent and for a relatively short duration. This apparent low-level use did not preclude the area retaining its ONL status or its seaward extent.

4

<sup>&</sup>lt;sup>4</sup> WARMP, Volume 3, Map 225 (Clifford Bay)

#### Limestone Coast ONL values

The specific list of landscape values are contained in full within **Appendix 1** of this memorandum.

The limestone coast is a unique and complex environment, with the land framing this area being strongly undulating. Due to its geological makeup, this area is also tectonically vulnerable and highly erosional, which together has created some spectacular geological features, including the Needles and uplifted platforms. As a result, the landscape is highly legible and clearly expresses its formative processes. Following the 2016 Kaikoura earthquake, the rocky intertidal platforms have become even more prominent. The area also supports a number of geopreservation sites, with the Chancet Rocks ranking as an international site of scientific importance.

Due to the climate and the variety of the underlying geology of this area and the fragility of the land close to the coast, the ecological and biological values are relatively unique. Rare and endemic flora is common in sheltered rocky areas of this landscape. Some species are endemic to only very small areas.

The landscape is predominantly pastoral, undulating grassland with limited structures, which improves its legibility and aesthetic value, especially during the summer months when the grass turns a golden colour. Due to the limited public access points, this coastline is one of the most remote in the region.

The spectacular rocky outcrops of the Needles and Chancet Rocks along the limestone coastline south of Cape Campbell are extremely memorable and display very high levels of naturalness. Cape Campbell itself is a visually interesting landmark peninsula and forms the southern extent of Clifford Bay. The incised form of the river mouths (including the Blind River and Station Creek) at the coastal edge also display a high level of naturalness.

Two ancient pa are known to have existed on the coast – Okainga to the east of Lake Grassmere and Te Karaka at Cape Campbell but after the 1830s the Awatere coastal area appears to have been used primarily for seasonal visits rather than permanent settlement (Mitchell & Mitchell, 2004). A number of Māori ovens and middens have also been located south of Needles Point. Further areas of archaeological sites are contained within Appendix 1 (Maps 1-3) of the Marlborough District Council East Coast Beach Vehicle Bylaw Technical Report, dated July 2021.

As a result of these values, the Limestone Coast is an ONL. Threats to these values, such as frequent and persistent continued vehicle use of the beach will erode the physical and sensory values.

### **Natural Character**

Coastal Natural Character extends from the inland extent of the coastal environment (i.e. the first major ridgeline and/or localised feature where elements, patterns and process are significant) out to 12 nautical miles. A list of the marine and terrestrial qualities and characteristics are contained within **Appendix 2** of this memorandum.

As noted within the PMEP, the marine component of the east coast (which extends from the mean highwater springs mark out to 2 kilometres) is rated as containing very high levels of natural character. Despite the apparent modification to the terrestrial component of the east coast landscape, several sections retain high or very high levels of natural character. These are the Awatere and Blind River mouths and the extent of coastline from Marfells Beach to the Waimea (Ure) River.

Through a separate evaluation, two areas are also classified as retaining Outstanding Natural Character. These are the marine environments around Cape Campbell and the coastal erosional features of the Needles and Chancet Rocks. This is due to their outstanding abiotic and biotic characteristics and experiential attributes including their impressive and unmodified form that harbours a variety of species on this high energy coastline.

The mean high water spring mark is typically located at the back of the beach; however, the precise delineation of this high tide mark hasn't fully been determined following the Kaikoura earthquake. As a result, and based on the fact that beaches are typically included within the intertidal zone, the beaches of concern

with regards to this bylaw are considered to be within the coastal marine area. The coastal marine area along this coast is rated as containing very high levels of natural character, with two areas retaining outstanding natural character.

Modifications are few and far between within the coastal marine area, which justifies the very high natural character rating.

#### Consideration of continued vehicle use

Vehicle use has the potential to directly affect landscape values and the condition of natural character, through physical disturbance caused to the beach by vehicle impacts. Adverse effects will also be caused to remote and wild values due to the presence of vehicles. The number and duration of vehicles will affect the landscape values differently based on where they travel, how long they are present on the beach and in what numbers. Noise and visual disturbance could also affect fauna and sensory/ experiential attributes.

The combination of geological forms and ecological habitats create a unique environment, amplified by the limited ability to gain access. Any sustained and continued vehicle use in this sensitive environment will, in the authors opinion, adversely affect the landscape values and reduce natural character qualities. Whilst it is considered that ongoing vehicle use will not remove the ONL overlay of the broader Limestone coast area, vehicle use on the beaches will affect the degree of naturalness of the landscape, directly affecting natural character. Sensitive ecological habitats that contribute to landscape and natural character quality have the potential to be directly affected.

#### Recommendations

The coastal environment extending from the Awatere River south to the Waima (Ure) River retains exceptional landscape values and a high, very high and outstanding natural character.

Whilst the Kaikoura earthquake has made the east coast beaches more accessible for vehicles, it is the presence and footprint of the vehicles that will erode these unique landscape and natural character values and qualities.

This memorandum therefore supports Council's attempt to limit vehicle use on these beaches.

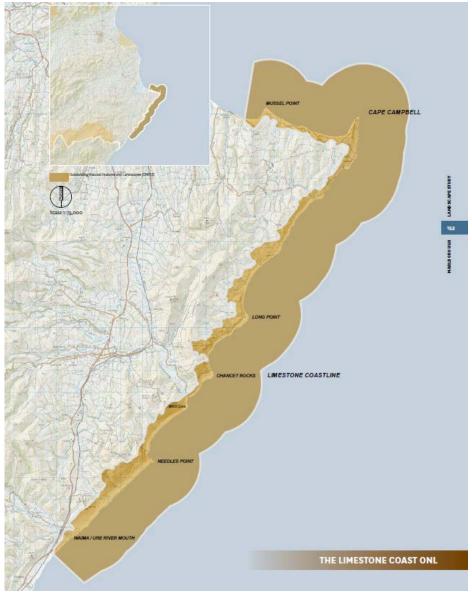
# <u>Appendix 1: Excerpt of Volume 3, Appendix 1 of the PMEP – Landscape Schedule of Values</u>

Outstanding	Natural Landscape 22: The Limestone Coast
Biophysical	Geomorphology of limestone coastline includes several coastal geopreservation sites: Needles Point Cretaceous-Tertiary boundary, Flaxbourne River folds and thrusts, and the Chancet Rocks.
	- Broad and deeply incised mudstone shore platforms and offshore reefs characterise the marine environment around Cape Campbell.
	- Colonies of New Zealand fur seals at Chancet Rocks and the Needles.
	<ul> <li>Coastal platforms and ecological values of importance, with Marlborough endemic flora common, rocky areas (including the Marlborough rock daisy) and gullies.</li> </ul>
	<ul> <li>All of these features are interlinked by beaches, cliffs and back dunes and hill country, which share the same geology and erosional and tectonic forces, culminating in an extremely impressive and legible coastline that clearly expresses its formative processes</li> </ul>
Perceptual	Unencumbered, predominantly pastoral land retains a high level of visual coherence.
	- Highly expressive coastline from the slender Cape Campbell to Waima/Ure River.
	Complex geology creates spectacular landforms and features that are particularly scenic along the coastline.
Associative	- A number of Māori archaeological sites are associated with this area, including two ancient pa sites on the coast, as well as a number of ovens and middens.
	- Possible European associations relating to the limeworks at Chancet.
	- High recreational values, particularly at Marfells Beach and Ward Beach.
Evaluation	Based on the above values, The Limestone Coastline has been identified as an ONL due to the exceptional biophysical and associative landscape values and very high perceptual landscape values.
	The Limestone Coastline provides the greatest visual drama in the south Marlborough landscape. The spectacular rocky outcrops of the Needles and Chancet Rocks along the Limestone Coastline south of Cape Campbell are extremely memorable and display very high levels of naturalness. The State Highway 1 coastal road from the Waima Bridge to the southern point of the District contains high scenic values.
	The coastline of this ONL is largely unmodified and very exposed. The area has remote values and access is limited to a few locations, including Ward Beach and a small number of points south of the Waima River. Walks along the sandy shoreline to the impressive limestone outcrops of the Needles and Chancet Rocks are backed by steep terrain where views towards the open ocean are gained. Views from Cape Campbell lighthouse are spectacular, where panoramic vistas of the sweeping curve of Clifford Bay and the southern shores of the North Island are evident. Other than farm-

related activity on the land, this coastline is unmodified, with no aquaculture or jetties/wharves. The area, once visited, is extremely memorable.

Prominent reef areas in the north (including Cape Campbell), give way to extensive sand/gravel shores in the south and large offshore Macrocystis (kelp) beds are also present off this coastline. The coastal cliffs and escarpments have small low indigenous forest remnants and unusual, highly distinctive herbfields with nationally threatened species. The dunes and coastal flats also contain nationally threatened species. The Canterbury Gully dunefield, located just south of Cape Campbell, contains nationally threatened ecosystem types and plant species. The coastal scarps and flats have nationally significant ecosystems, including dunes and salt turfs, and good sequences of native coastal vegetation. Several areas are set aside for conservation of natural values through QEII National Trust covenants.

Modifications include: pastoral land, occasional fences, farm tracks, a gravel road leading to the lighthouse, a lighthouse and collection of small buildings (including a small overhead powerline), an airstrip, a small quarry, and the Ward beach buildings and road end. This area also includes the eastern extent of Marfells Beach Road.



Left: ONL as mapped in PMEP

# <u>Appendix 2: Excerpts from Volume 3, Appendix 2 of the PMEP – Coastal Natural Character Schedule of Values</u>

The extent of the East Coast Beaches extends from the Awatere River Mouth in the north to the Waima (Ure) River mouth in the south. The following mapped natural character areas are therefore relevant to this study area and are listed below and contained in full within this appendix:

#### **Coastal Marine Areas:**

Coastal Marine Area H1: Te Koko-o-Kupe/ Cloudy Bay & Clifford Bay

Coastal Marine Area I: Cape Campbell to Willawa Point

#### **Coastal Terrestrial Areas:**

Coastal Terrestrial Area 13: Awatere

Coastal Terrestrial Area 14: Blind

Coastal Terrestrial Area 15: Grassmere/ Kapara Te Hau

Coastal Terrestrial Area 16: Campbell

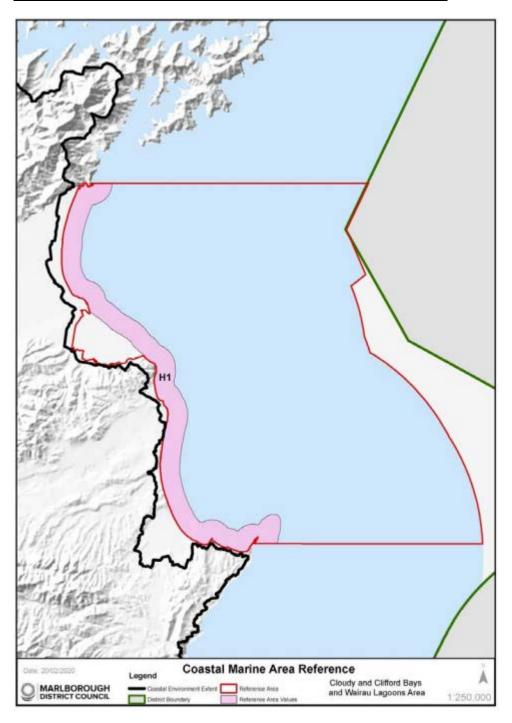
Coastal Terrestrial Area 17: Wharanui

### **Outstanding Natural Character:**

**ONC 15 Cape Campbell** 

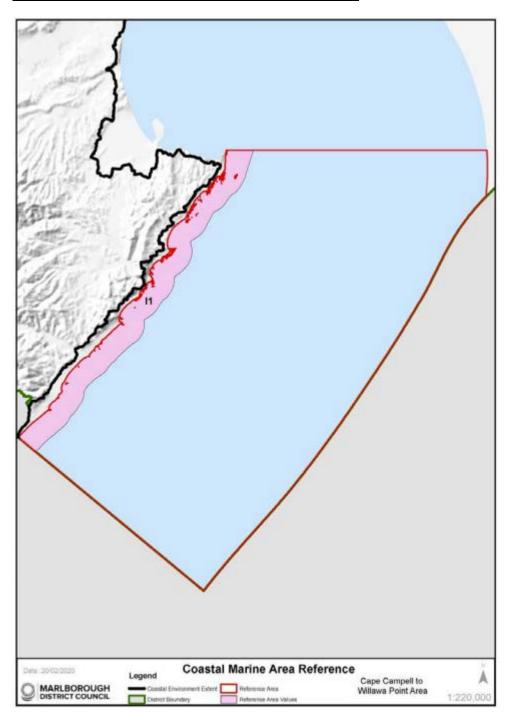
**ONC 16 Chancet Rocks and The Needles** 

# Coastal Marine Area H1: Te Koko-o-Kupe/ Cloudy Bay & Clifford Bay



Map Reference	Sub Area	Key Characteristics	Additional Comments and noted modifications
H1	Cloudy and Clifford Bays (excluding Wairau Lagoons and Lake Grassmere/ Kapara Te Hau)	Largely unmodified and mostly exposed east coast South Island coastal environment extending over tens of kilometres from Rarangi to Cape Campbell. Very High levels of natural character.  Extensive sand/gravel shores.  Cape Campbell reef systems and patchy offshore Macrocystis beds.  Adjoins Coastal Marine Areas G and I.  Remote attributes.  Outstanding Natural Character overlays apply to this sub-area. Refer to Table ONC14 and ONC15 and accompanying Maps for further information	Certain offshore areas are commercially trawled; those grounds closer to shore are expected to be reasonably resilient to the effects of trawling.  Effects of the Blenheim sewage discharge on the outer coast are considered minor.  A large marine farm granted south of the Awatere River mouth, is excluded.

# Coastal Marine Area I: Cape Campbell to Willawa Point



Map Reference	Sub Area	Key Characteristics	Additional Comments and noted modifications
I1	Cape Campbell to Willawa Point	Largely unmodified and very exposed east coast South Island coastal environment extending south from Cape Campbell. Very High levels of natural character.  - Prominent reef areas in the north (including Cape Campbell) giving way to extensive sand/gravel shores in the south.  - Large offshore Macrocystis beds.  - Adjoins Coastal Marine Area H at Cape Campbell.  - High remote attributes.  Outstanding Natural Character overlays apply to this sub-area. Refer to Table ONC15 and ONC16 and accompanying Maps for further information	Certain offshore areas are commercially trawled; inshore areas are expected to be reasonably resilient to the effects of trawling.

## **Coastal Terrestrial Area 13: Awatere**



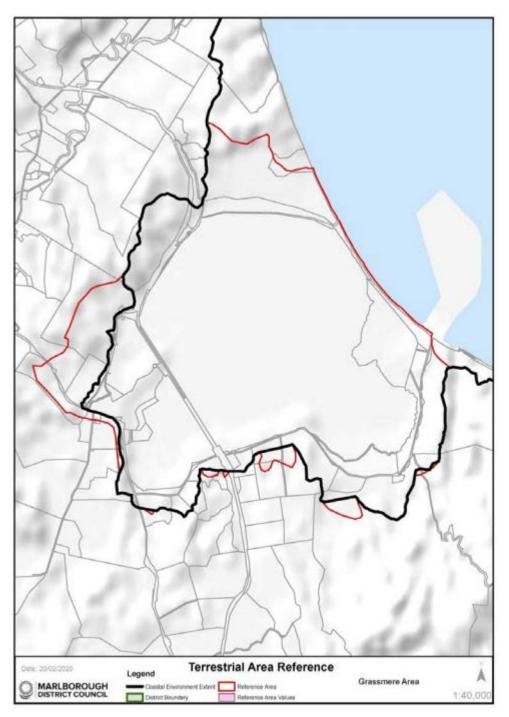
Map Reference	Sub Area	Key Characteristics	Additional Comments and noted modifications
13A	Awatere River Mouth	Incised gullies to river mouth containing ngaio, mahoe and harakeke forest.  Lower part of river important habitat for freshwater fish (bullies, galaxids, eels and torrentfish.	Contained by river cliffs.

# **Coastal Terrestrial Area 14: Blind**



Map Reference	Sub Area	Key Characteristics	Additional Comments and noted modifications
14A	Blind (Otuwhero) River Mouth and coastal cliffs	The most significant valley floor meandering floodplain-low terrace sequence occupies the Blind (Otuwhero) River valley, terminating in a small river mouth back swamp lagoon developed behind and inland of a coastal sand duneactive beach complex.  Remnant coastal escarpment forest support nationally threatened species [coastal treebroom].  The lower Blind River and lagoon habitat support banded dotterel, black shag, scaup and other waterfowl.	Contained by river cliffs.

## Coastal Terrestrial Area 15: Grassmere/ Kapara Te Hau

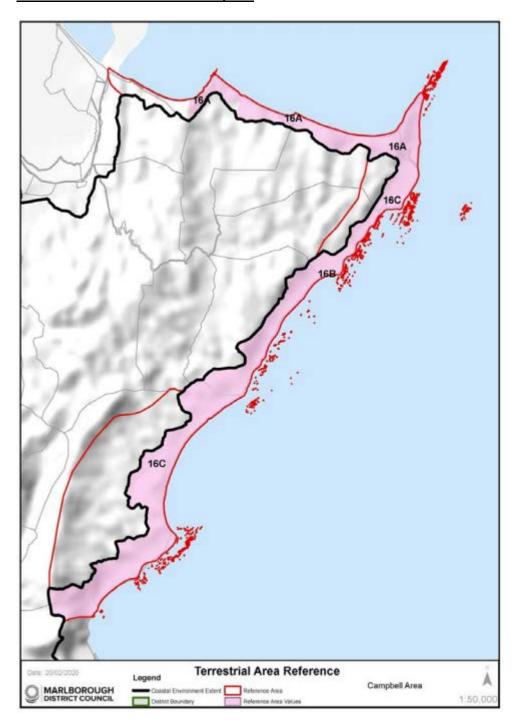


Map Reference	Sub Area	Key Characteristics	Additional Comments and noted modifications	
There are no specific areas within Coastal Terrestrial Area 15 with Outstanding, High or Very High Coastal				

page 16

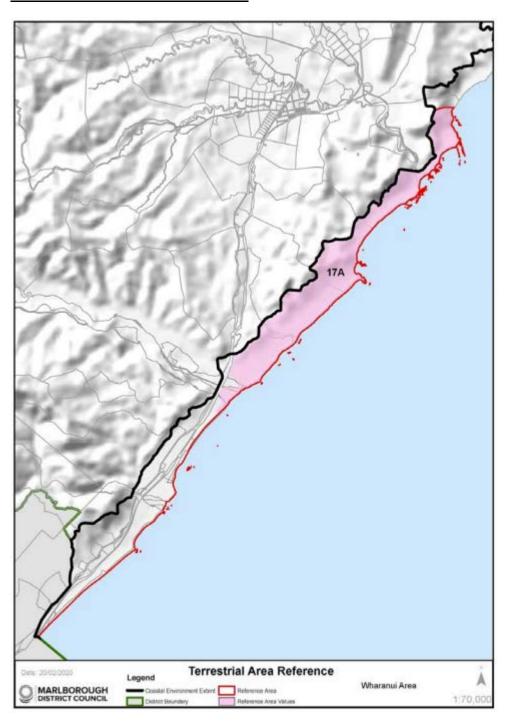
**Natural Character Characteristics** 

# **Coastal Terrestrial Area 16: Campbell**



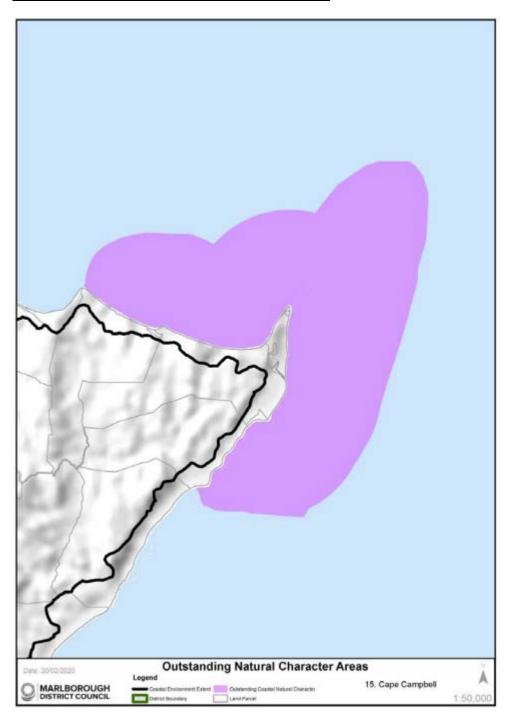
Map Reference			Additional Comments and noted modifications
16A	Coast west of Cape Campbell	The coastal cliffs and escarpments from Mussel Point to Cape Campbell have small low indigenous forest remnants and unusual, highly distinctive herbfields with nationally threatened species and retain very high levels of natural character.  The dunes and coastal flats also contain nationally threatened species and retains very high levels of natural character.  The upper slopes, which are grazed, retain high levels of natural character.  Views from Cape Campbell lighthouse are	
		spectacular, where panoramic vistas of the sweeping curve of Clifford Bay and the southern shores of the North Island are evident.  An Outstanding Natural Character overlay applies to this sub-area. Refer to Table ONC15 and accompanying Maps for further information.	
16B	Canterbury Gully mouth	Canterbury Gully dunefield contains nationally threatened ecosystem types and plant species and retains very high levels of natural character.	Does not include Lighthouse Road.
16C	Southern Coast, south of Cape Campbell	Modification is limited to light grazing and the occasional track, fence and small building.  The coastal scarps and flats have nationally significant ecosystems, including dunes and salt turfs, and good sequences of native coastal vegetation. Several areas are set aside for conservation of natural characteristics.	Occasional farm track evident.

# **Coastal Terrestrial Area 17: Wharanui**



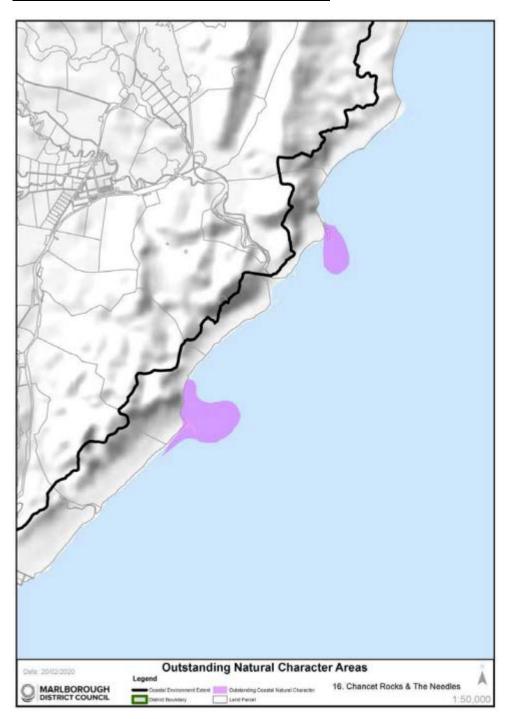
Map Reference	Sub Area	Key Characteristics	Additional Comments and noted modifications
17A	Chancet Rocks to Waima/ Ure River Mouth	The coastal zone contains localised endemic plants, nationally threatened plants and naturally rare ecosystems (calcareous bluffs, stacks and screes; dunes, gravel beaches, small wetlands and marine mammal haulouts). There are two NZ fur seal colonies (Chancet Rocks and Needles Point). There is also a ventifact field.	Light grazing dominates the land use.
		The coastline from the Chancet Rocks to the Waima River holds high experiential valuesattributes. The dramatic coast-sculpted limestone features of Weld Cone, the numerous coastal stacks as well as the wave cut platforms and reefs of Chancet Rock and the Needles are prominent features displaying limited modification, despite the agricultural land use.  An Outstanding Natural Character overlay applies to this sub-area, Refer to Table	
		applies to this sub-area. Refer to Table ONC16 and accompanying Maps for further information	

# **Outstanding Natural Character 15: Cape Campbell**



ONC 15: Cape Campbe	ell .
Impressive Cape retaining species.	ng a number of offshore reefs, platforms and rocks that harbour a variety of
Abiotic Characteristics	<ul> <li>This area is influenced by the cold Southland Current, and is frequently exposed to high energy swells and storms from the south and east.</li> <li>Broad and deeply incised shore platforms and offshore reefs characterise the marine environment in the vicinity of Cape Campbell.</li> <li>Mussel Point forms another prominent reef structure marking the western boundary of this area.</li> <li>High limestone cliffs extend between Mussel Point and Cape Campbell.</li> </ul>
Biotic Characteristics	<ul> <li>The reefs support moderate numbers and diversity of plants and animals with the greatest diversity located subtidally within channels, pools and partially sheltered areas of the reefs.</li> <li>Large offshore beds of giant kelp (Macrocystis pyrifera).</li> <li>Largely unmodified coastal marine environment.</li> </ul>
Experiential Attributes	<ul> <li>Access to this remote and rugged coastline is limited.</li> <li>The coast is largely unmodified with no aquaculture or jetties/wharves.</li> <li>The area, once visited, is extremely memorable.</li> </ul>

# **Outstanding Natural Character 16: Chancet Rocks**



ONC 16	Chancet	Rocks an	d The	Needles

Impressive coastal erosional features of The Needles and Chancet Rocks hold outstanding abiotic, and biotic characteristics and experiential attributes due to their location on this high energy coastline.

biotic characteristics and experiential attributes due to their location on this high energy coastline.	
Abiotic Characteristics	<ul> <li>This area is influenced by the cold Southland Current, and is frequently exposed to high energy swells and storms from the south and east. Inshore coastal waters are cloudy due to sedimentation from the Flaxbourne, Waiau-toa/Clarence and Waima (Ure) Rivers and erosion of the soft cretaceous rocks of this coast by wave action.</li> <li>The limestone features and wave cut platforms of the Needles and Chancet Rocks are unique to this coastline and have been identified as individual geopreservation sites due to their unique geological makeup.</li> </ul>
Biotic Characteristics	<ul> <li>There are colonies of NZ fur seals at Chancet Rocks and The Needles.</li> <li>Limestone reef communities.</li> </ul>
Experiential Attributes	<ul> <li>The wave cut platforms and reefs of Chancet Rock and the Needles are prominent features displaying limited modification.</li> <li>This coast is characterised by rocky reefs and stacks interspersed with sand or gravel beaches. Access is limited to only a few locations.</li> </ul>