

NATURAL CHARACTER ASSESSMENT

OF THE

CENTRAL HAWKE'S BAY COASTAL ENVIRONMENT

Prepared by Hudson Associates Landscape Architects for Central Hawke's Bay District Council

January 2019





Prepared by

Hudson Associates

Registered Landscape Architects

PO Box 8823 Havelock North

Ph 06 877-9808

john@hudsonassociates.co.nz

www.hudsonassociates.co.nz

For

Central Hawke's Bay District Council

January 2019



This Report is intended to be printed and read in duplex format

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Introduction

Central Hawke's Bay (CHB) District Council is currently in the process of undertaking a District Plan Review. As part of this process, Hudson Associates Landscape Architects have been engaged to provide a Natural Character Assessment of the District's coastal environment. This engagement is undertaken in light of the requirements of the New Zealand Coastal Policy Statement (2010) (NZCPS), RMA s6(a) and the Hawke's Bay Regional Policy Statement.

The purpose of the assessment is to provide the following information for the District Plan;

- 1) The extent of the Coastal Environment
- 2) Mapping of areas of high and outstanding Natural Character within the Coastal Environment, as required by the NZCPS
- 3) Description of the characteristics and values for areas within the Coastal Environment

Framework

The reference term 'Coastal Environment' is frequently used throughout the NZCPS, despite neither the NZCPS nor RMA providing a definition of the Coastal Environment. Policy 1(2) of the NZCPS does however provide guidance on what is included within the Coastal Environment. It is therefore considered that determining the extent of the Coastal Environment is the most prudent first step. Hawke's Bay Regional Council has defined a Coastal Environment in the Regional Coastal Environment Plan (RCEP). This will be used as a benchmark against which the CHB coastline will be assessed at the District scale. The extent of the Coastal Environment will then be mapped for CHB. This will be followed by a qualitative assessment of the of natural character values that are contained within defined coastal environment sectors.

It is generally accepted that the Coastal Environment consists of the Coastal Marine Area and land adjacent to the beach. As this is a District Council assessment, only the terrestrial area will be assessed as the Regional Council takes responsibility for the Coastal marine Area. Policy 13 of the NZCPS specifically relates to the preservation of natural character, however natural character is not specifically defined. Policy 13(2)¹ does however identify a number of matters that could be considered under 'natural character'. When determining the level of natural character, the following definition² is commonly used;

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¹ Appendix 1 - NZCPS Policy 1(2)

Natural Character and the NZCPS 2010, Department of Conservation, Marlborough Workshop, 6.1

The degree of natural character within an area depends on:

- 1) The extent to which the natural elements, patterns and processes occur;
- 2) The nature and extent of modification to the ecosystem and landscape/seascape

The highest degree of natural character (greatest naturalness) occurs 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.

Methodology for Assessing Natural Character

Methodologies from a number of natural character studies have been considered as a background to undertaking the assessment for CHB, including assessments from Auckland, Western Bay of Plenty, Marlborough, Horowhenua, Manawatu, Waikato and Hastings, along with material from two workshops³.

The extent of the coastal environment for Central Hawke's Bay District Council is less than some of these other areas referred to, with some being Regional and some being District Councils. The former is responsible for marine and terrestrial, while District Councils are limited to a terrestrial jurisdiction. The approach adopted has therefore been at a finer scale that focuses on the coastal area above Mean High Water Springs (MHWS).

The inland extent of the Coastal Environment has been defined in the Regional Coastal Environment Plan, although the RCEP does provide for District Council's to vary this for s6 matters. The approach used in this assessment has also employed techniques used in the New Zealand Institute of Landscape Architects (NZILA) Best Practice Note 10.1⁴ and Area-Based Assessment techniques from the Quality Planning Website⁵.

The assessment of natural character of the Central Hawke's Bay Coastal Environment has adopted the following methodology;

- a. Identification of the purpose of the assessment
- b. Research relevant background information, aerial photography, technical research and site visits
- c. Mapping of the physical extent of the Coastal Environment
- d. Mapping the Coastal Environment Sectors based on their distinguishing characteristics
- e. Describing the characteristics of these sectors and ranking these on a seven-point scale
- f. Drafting the Assessment Report using a defined assessment matrix to evaluate the specific factors within each Coastal Sector
- g. Identifying areas of High and Outstanding Natural Character

- 4 Best Practice Note Landscape Assessment and Sustainable Management 10.1
- 5 http://www.qualityplanning.org.nz/index.php/planning-tools/land/landscape/landscape-assessment

³ Appendix 2 – Natural Character Assessment reference list

ZONE A: CMA and Active Coastal Interface \leftarrow — — — — — — — — — — — — — — — — — — —	\leftarrow ZONE B: Coastal Dominance \rightarrow	CONE C: Coastal Context	→

Figure 1: Components of Natural Character

Components of Natural Character		
Marine (excluding estuaries)	Water surface and body of the CMA along the coastline including surf breaks and landforms (e.g. rocks, reefs, stacks, channels); marine habitats, biota and natural processes, excluding estuaries and water-bodies above MHWS. Assessment Considers: The degree of modification such as changed landforms, earthworks, dredging and presence of built structures (e.g. moorings, jetties, marine farms, and navigation structures). Note: This area (CMA) is not within the scope of this District wide Assessment. The area below MHWS is within the Regional Council's jurisdiction.	
Landform	Natural coastal landforms such as dunelands, estuary margins, lakes, wetlands and salt marsh. Assessment Considers: Physical intactness and modifications, such as road cuts, earthworks, reclamation. Excludes built structures.	
Vegetation/ Habitats	Terrestrial and aquatic vegetation and habitats, including estuarine vegetation. Assessment considers: Vegetation composition, distribution, and health, including the proportion of indigenous/exotic species, intactness of indigenous communities, and restoration potential of indigenous vegetation.	
Biodiversity	Terrestrial and aquatic flora and fauna, including biodiversity of estuarine areas. Assessment considers: Expression/appearance of natural processes ranging from dominant to non-existent; and diversity of species and habitat, degree of indigenousness of flora and fauna.	
Natural Systems and Processes	Degree that uninterrupted physical coastal processes, such as wind, aeolian, and tidal processes, continue to shape the coastal landscape. Assessment considers: The expressiveness of coastal processes, and ability of coastal forces to continue to shape the land.	
Structures/ Settlements	Buildings, roads, carparks, fences, infrastructure such as pylons, masts. Seawalls, jetties, marinas and coastal armouring works. Assessment considers: The extent scale and impact of these elements	
Perceptual	Overall appearance and feel of an area (i.e. visual aspects, smell, visual, sounds, sense of wilderness, remoteness, isolation); and also ephemeral human activity, such as recreation, fishing, commercial activities, vehicles, and the presence of horses, people, dogs, boats, and jet skis. Assessment considers: How natural does the location feel and look?	

Table 1: Components of Natural Character (Source - Boffa Miskell Ltd)

This assessment is an expert based approach and has not included consultation with the community or landowners. Also, a separate document will be produced in relation to the assessment of Outstanding Natural Features and Landscapes, which address NZCPS Policy 15, RMA s6(b), the Regional Policy Statement and the Regional Coastal Environment Plan. These two assessments (natural character and landscape) are independent of each other, as they have different assessment criteria. The landscape assessment covers the entire district, which includes the coastal area addressed by the natural character assessment, while the natural character assessment for the CHB Plan Review covers the coastal environment. There is overlap in the factors considered by both, but one essential difference between the two is that Natural Character does not consider associative values, which landscape does.

Defining the Coastal Environment

The landscape that we typically associate with the 'Coast' is a complex system that is predominantly identified by both active and remnant geomorphological processes in proximity to the margin between land and sea. While the NZCPS (Policy 1) lists a number of matters⁶ that can be included within the Coastal Environment, it is noted that the extent and characteristics of the Coastal Environment can vary throughout New Zealand.

NZCPS Policy 1 (1) – Recognise that the extent and characteristics of the coastal environment vary from region to region and locality to locality; and the issues that arise may have different effects in different localities.

In order to clearly describe how this assessment will define the extent of Central Hawke's Bay Coastal Environment, reference can be made to a currently applied interpretation of what defines the 'Coastal Landscape'. This interpretation has been developed by Boffa Miskell and is outlined in a Department of Conservation publication⁷. The overall Coastal Landscape cross-section is illustrated on Figure 1 and can be broadly described as consisting of three separate Zones. These include (Table 1);

Zone A – The Coastal Marine Area (CMA)

Zone B – The Coastal Dominance Zone and Active Coastal Interface

Zone C – The Coastal Context Zone.

In a number of natural character assessments undertaken throughout New Zealand, the Coastal Environment is considered to consist of Zone A and Zone B. This would be the case for a Regional Council assessment, but as a District Council's jurisdiction only covers the terrestrial area, land above Mean High Water Springs (MHWS) and within Zone B has been assessed as comprising the Central Hawke's Bay Coastal Environment⁸. Zone C is considered to lie inland of the Coastal Environment due to the reduced levels of coastal significance.

⁶ Appendix 1 - NZCPS Policy 1(2)

 ⁷ Natural Character and the NZCPs 2010 – DoC, Marlborough Workshop, Summary of discussions and outcomes
 8 RCEP (Para 1.2.4.16)

[&]quot;The major responsibility of TLAs within the coastal environment is the area landward of mean high water springs. TLAs are responsible for managing the use of this land, controlling the emission of noise, and controlling the effects of activities on the surface of water not within the coastal marine area. TLAs are required to prepare a district plan to assist them in carrying out these functions. District plans cannot be inconsistent with the New Zealand Coastal Policy Statement, the Hawkes Bay Regional Policy Statement or any regional plans, including this Plan."

In determining the extent of the Coastal Marine Area (CMA), the landward boundary is defined by the MHWS location. This demarcation can be dynamic and have varying location, but for the purposes of this assessment, the location of MHWS has been defined by the Hawke's Bay Regional Council in the RCEP⁹. To determine the inland extent of the Coastal Environment, consideration was given to several factors; the line defined in the RCEP, the inland extent of the coastal margin as defined in the CHB Operative District Plan, the inland extent of Zone B as assessed in the Natural Character Assessment, case law which suggest the inland extent corresponds to the crest of the nearest coastal ridgeline. After considering these factors, it was concluded that the RCEP line was an appropriate location for the inland extent, generally aligning with our own assessment of Zone B and the nearest coastal ridgeline.

It is recommended that the RCEP Coastal Environment inland boundary line is adopted as the new Coastal Environment inland boundary line for the Proposed District Plan and replaces the Coastal Margin in the Operative District Plan. It is understood that the Coastal Margin shown in the Operative District Plan was determined through a desk top exercise using available data at the time. The work undertaken as part of the RCEP and the current Natural Character Assessment is considered to give a more accurate result. Where the RCEP and Natural Character Assessment lines do not align, the RCEP provides for s6 matters to extend further inland¹⁰. For all intents and purposes, the coastal margin for the Proposed District Plan is the terrestrial portion of the coastal environment which extends from MHWS to the Coastal Environment landward boundary. This also aligns with the coastal margin as defined by the RCEP.

Other factors such as natural hazards and heritage (cultural and historic) have also been considered as part of this assessment. The RCEP Coastal Hazards Zones indicate a potential for erosion and inundation risk in a number of locations, primarily around settlements and river mouths. The Coastal Hazard mapping falls into several zones, with Zones 1 and 2 generally located around settlements and river mouths, while Zone 3 extends inland at several river outlets and along the flats of the (now modified) Porangahua dunelands. Coastal hazard Zones 1-3 are defined as (RCEP 1.3 Definitions):

Coastal Hazard Zone 1 (CHZ1)

means an area identified on the planning maps which is land assessed as being subject to storm erosion, short-term fluctuations and dune instability and includes rivermouth and stream mouth areas susceptible to both erosion and inundation due to additional hydraulic forcing of river or estuary systems. For the purposes of this Plan, it extends a distance of 200m seaward from its inland boundary.

"The inland boundary of the coastal margin and the coastal environment is a shown on the planning maps."

10 RCEP (Para 1.1.3.4)

⁹ RCEP (Para 1.1.3.3)

[&]quot;The Environment Court has held that the Coastal Environment is usually accepted as extending to the crest of the nearest skyline. In some cases, the coastal environment for the purposes of s6 and/or the NZCPS may extend inland of the coastal environment as shown on the planning maps. However, the provisions of this Plan only apply seaward of the 'inland coastal environment boundary' shown on planning maps."

Coastal Hazard Zone 2 (CHZ2)

means an area identified on the planning maps which is land assessed as being potentially at risk up to 2100 due to long term rates of coastal erosion and at some locations, may also include areas assessed as being potentially at risk of sea water inundation in a 1 in 50year combined tide and storm surge event. It includes allowance for sea level rise but does not include land within Coastal Hazard Zone 1 or Coastal Hazard Zone 3.

Coastal Hazard Zone 3 (CHZ3)

means an area of land assessed as being potentially at risk of sea water inundation in a 1 in 50 year combined tide and storm surge event, and includes allowance for sea level rise, but does not include land within Coastal Hazard Zone 1 or Coastal Hazard Zone 2.

No areas of cultural and historic heritage are identified in the RCEP, while the Operative District Plan maps and lists a Schedule of Archaeological Sites. These include midden, pit(s)/terraces (or house site(s)), midden or oven(s) or both with moa, artefact(s)/findspot. Mapping indicates a rich placement of activities of historic heritage along the coast, with archaeological concentrations around the areas now developed as Settlements, plus along the Porangahau Beach area. The location of areas of historic heritage (including archaeological sites) are both within and inland of the Coastal Environment as defined by the RCEP¹¹.

Although Historic Heritage is a RMA s6 matter (s6(f)), and can therefore cause the boundary of the Coastal Environment to be modified over that in the RCEP, the inland location of some archaeological sites is not considered sufficient to cause the coastal environment line to vary from that mapped by the RCEP. This is not to downplay the importance of such sites, as they will be recognised under the Landscape Assessment for the entire district. Rather, it is to give recognition to the physical processes apparent in Zone B (The Coastal Dominance Zone and Active Coastal Interface) as being the primary factor determining the inland extent of the coastal environment.

Describing the Coastal Environment

Central Hawke's Bay's coastal area has a temperate climate with warm summers and cooler winters, typically experiencing lower rainfall, higher sunshine hours and a higher average temperature, when compared to the western districts of the North Island. The southern part of area is also known for the strong prevailing winds, prompting investigations into wind farm potential in the adjacent Tararua District.

¹¹ RCEP Definitions Historic heritage *

⁽a) means those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, deriving from any of the following qualities:

⁽i) archaeological (ii) architectural (iii) cultural (iv) historic (v) scientific (vi) technological and (b) includes: (i) historic sites, structures, places, and areas and (ii) archaeological sites (iii) sites of significance to Maori, including wahi tapu and (iv) surroundings associated with the natural and physical resources.

Overall, the coastal margin and adjacent inland area have seen a significant amount of terrestrial land cover modification through human intervention, with the majority of native vegetation having been cleared. Almost all the original native vegetation within the coastal environment has been lost, settlements have been introduced, grazing has been developed, drainage patterns have been modified and in some places the dunes have been intentionally recontoured to assist irrigation and farming activities. These factors have diminished the natural character value from its natural state.

The eastern coastline of Central Hawke's Bay primarily comprises steep eroding mudstone /sandstone cliffs, separating a series of small coastal settlements located at road ends and adjacent to more sheltered sandy beaches. The jurisdiction extends from south of Waimarama to south of Whangaehu, a distance of approximately 70km. A short length of limestone cliffs and outcrops are located at and to the north of Kairakau, being the only such outcrop on the District's coastal edge.

Remnants of a coastal sand dune system exist at Porangahau/Parimahu, a wide sweeping beach nearly 15km long. Drained and flattened, much of the dune area has been converted to pasture, although remnant forms and inter-dunal wetlands and vegetation still remain to a limited extent on the northern aspects of the beach. This sand dune system is also part of an area that was recognised by the Department of Conservation as a Recommended Area for Protection¹², although its merits may need to be re-evaluated in light of its current condition.

A review of aerial photography taken in 1972 shows quite extensive elongated dunes driven by easterly winds and running directly inland from the beach towards Black Head Road. Farming activities have since flattened some areas, allowing the introduction of a pivot irrigator. Drainage through the excavation of ditch drains has also taken place, affecting the wetter areas that typically occur behind dunes. Grazing and cropping is located across the flats behind the remaining narrow stretch of dunes that line the river and inland edge of the beach, changing the natural processes that would once have occurred in this area and reducing the natural character for much of this area of coastal environment that has been assessed.

Assessment Matrix

The assessment matrix used for the Central Hawke's Bay Coastal Environment references a number of other assessment matrices undertaken by other practices, including work undertaken by Boffa Miskell Limited for the Natural Character Assessment of the Thames Coromandel Coastal Environment for the Waikato Regional Council and also their assessment for the Horowhenua District Council. The CHB evaluation will rank each of the seven identified natural character components against a 7-point scale (Very High, High, High-Moderate, Moderate, Low, Low, and Very Low) to determine the extent of modification that has occurred. An expert interpretation and weighting will then take place based on the combined scores of each coastal sector.

¹² The Protected Natural Areas Programme (PNAP) was led by the Department of Conservation from 1980s to early 2000s, with the primary intention to identify and protect representative examples of the full range of indigenous biodiversity in NZ. <u>https://catalogue.data.govt.nz/dataset/doc-recommended-areas-for-protection-raps</u>

Mapping the Coastal Environment

Central Hawke's Bay District Council (CHBDC) is responsible for managing subdivision and land use activities landward of MHWS through their district plan. CHBDC is not responsible for managing activities within the CMA, as this is managed by the Regional Council and the Department of Conservation on behalf of the Minister of Conservation. Therefore, this assessment excludes the CMA and focuses on the portion of the Coastal Environment landward of MHWS. It is very useful to include the identified areas of the Coastal Environment as map overlays within planning documents, so that it is clear to all those interpreting and applying provisions under the District Plan framework. While this can be relatively straight-forward for the coastal areas immediately adjacent to the ocean, it can be problematic when identifying the landward extent, as the demarcation between the coastal and inland environments is not always clear. Thus the importance of defining the Coastal Environment.

The application of the identified coastal landscape zones (Zone B) has generally resulted in the Coastal Environment extending inland to the nearest ridgeline. This generally coincides with the RCEP line, which is therefore accepted as representing the Coastal Environment for both the Regional and District Plans.

The approach used in this assessment to evaluate natural character is to map those areas that fall within the Coastal Environment. The individual Coastal Environment sectors identified form the basis for an evaluation of natural character, and are based on a land-typing approach. This allows the Coastal Environment to be spatially defined and referenced. It is considered that the following identified Coastal Sectors are a fair reflection of distinct areas along the Central Hawke's Bay Coast that have common characteristics. The Coastal Sectors are listed below, while within each are the identified of high or very natural character. Additional to these areas of high and very high are the settlement areas and the balance of the land within the coastal environment.

Mapping

The GIS mapping of the Coastal Sector boundaries has been completed to a fine scale in order to be of most use when combined into the District Plan mapping, while the hard copy maps incorporated within the Natural Character Report are reproduced at varying scales depending on the length of coast being represented. Within each of the Coastal Sectors, the localised areas of natural character vary, with only the High and Very High being mapped. Other areas are not separately identified or discussed, as this is not required by the NZCPS. Within the length of the coast are the coastal settlements, being: Kairakau, Mangakuri, Pourerere, Aramoana/Shoal Bay, Blackhead, Piramahu, Porangahau Beach, Whangaehu.

Evaluation of the Natural Character within the Coastal Environment

The following work sheets contain the natural character evaluation for each of the 9 Coastal Sectors, along with an identification map and aerial photograph. The natural character rankings for each feature within each Coastal Sector are indicated on the maps, while the work sheets contain a discussion about each and a short summary of the natural character values associated with that Coastal Sector.

Identification of Areas with Outstanding Natural Character

The assessment worksheets have identified a number of areas within each coastal sector with a 'Very High' level of natural character that warrant consideration for an 'Outstanding' qualification. This report has carefully considered these areas and determined that none of them would qualify as an outstanding natural character area. This is due to the amount of landform and land cover modification that has occurred within these areas and includes modifications such as flattening of dunes, farming activities, forestry, vegetation clearance and exotic vegetation colonisation, which all reduce the natural character level from an outstanding natural state.

Threats to Natural Character in the Coastal Environment

The scale of the escarpments and dynamic nature of the coastal processes are such that only major changes will affect the natural character of features within the sectors of the coastal environment. These are pine plantations, earthworks, drainage and buildings.

Pine plantations have the ability to cover and hide the exposed geomorphology, which is a key perceptual characteristic due to its prominent light grey colour, steep imposing cliffs and demonstration of active coastal processes. Conversely, pines can hold the land and limit erosion, which may be beneficial for the near shore marine environment. Consideration could be given to promoting the establishment of native vegetation as an alternative to pines along the eroding coastal escarpments. This would increase land stability and the natural character rating, also negating potential erosion problems that could result from pine harvesting.

Earthworks of a large scale can adversely affect features such as remnant dunes, flattening these to create more usable areas of pasture for farming practices. This negatively affects the natural landform. Similarly, drainage of dune areas has an adverse effect on biodiversity, vegetation habitat and perceived naturalness. Earthworks are not anticipated to occur on the steep escarpments due to accessibility issues, but if they did occur, they could be a threat to perceived naturalness, particularly on areas such as the limestone or bare mudstone escarpments.

Buildings can detract from the perceived naturalness of the coastal edge due if placed directly along the escarpment top by introducing a built form near an area where natural processes are clearly dominant. A suitable set back from the edge and limitations on building height would help reduce this effect.

Conclusion

The Central Hawke's Bay coast forms part of a unique and extensive landscape. This assessment has identified nine Coastal Sectors which collectively span the length of the District's coast. While there are no areas of outstanding natural character, the much of the District's coastline is considered to have (at least) high natural character values. Settlement areas are considered to have moderate-low natural character, with much of the remaining balance of coastal environment (excluding settlements and areas with a high or very high rating) having moderate natural character. The natural character value in the cliff areas is largely due to the expressive formative landform processes, while the natural character value in the dune area is due to the remaining dune landform and inter-dune vegetation patterns and absence of built structures/elements.

The coastal environment has natural character ranging from a Moderate-Low to Very High ranking due to a combination of its key characteristics which are perceptions of ruggedness, clear visibility of its exposed underlying geomorphology, expressiveness of its formative processes, dominance of natural processes, higher biodiversity values in regenerating areas and limited human modification. Where settlements occur, these are confined in extent and located in recessed bays where beaches and road ends occur along the coast. They are sufficiently small to not affect the overall perception of the key coastal characteristics. Threats to these characteristics are screening of natural landform and exposed underlying geomorphology through pine plantations, drainage and earthworks in dune areas, buildings in dune areas and buildings on or along the top of the coastal escarpments.

Assessment Worksheets

Sectors

Sector 1	Huarau- Taupata
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- Sector 2 Waimoana- Kairakau
- Sector 3 Paonui Point- Pourerere
- Sector 4 Aramoana- Te Angiangi
- Sector 5 Pohutapapa- Blackhead
- Sector 6 Porangahau
- Sector 7 Mt Pleasant
- Sector 8 Whangaehu
- Sector 9 Collection of individual Settlements along the coast
- Sector 10 Overall length of coast which is neither High nor Very High Natural Character



Map Scale (A4) = 1:10,000

COASTAL SECTOR 1: Huarau - Taupata		
Component	Evaluation	Rank
Landform	Two similar but distinct landform types, distinguished by their degree of erosion and slope of the coastal cliff. Both comprise eroding escarpments, with the northern Huarau feature comprising highly eroded mudstone sloping back at approximately 20° angle of repose, while the southern Tuapata cliffs comprise fragmented limestone. This limestone rock type gives the cliff greater stability, allowing a steeper angle of repose at approximately 45°. These cliffs clearly display their underlying geology, with the Huarau feature constantly susceptible to change through erosion and the Taupata feature more stable but crumbling and broken due to the fragmented nature of the limestone.	Very High
Vegetation Habitat	Pasture covers much of the more stable surfaces on the both features, but recent planting of pine plantation on the Huarau feature will soon suppress this and form a dense exotic treed cover. There are small patches of regenerating native coastal shrubland in firmer areas of the Huarau feature and more on the Taupata feature.	Low -Mod
Biodiversity	Biodiversity value is limited to patches of regenerating native shrubland which includes ASNCV 36. Pasture and exotic plantations reduce biodiversity.	Low -Mod
Systems/ Processes	Deep gully erosion on the cliff face with mudflows of softer sedimentary material flowing down the valleys and reaching the beach, while limestone ridges in the Taupata feature retain their form to create a highly diverse surface texture & profile.	Very High
Structures/ Settlement	The structures within this sector are limited to rural fencing which has a minimal impact on natural character.	Very High
Perceptual/ Experiential	This is a rugged landform that is very expressive of the underlying geology and highly legible. The soft materials in the northern part of the sector have the characteristic whiteness of the light grey mudstone, giving a gleaming appearance in the morning sunlight. Much of this will eventually be covered by a pine plantation which has already been planted. The steeper cliffs at the southern part of the sector reflect the coherence of the overlying limestone rock type. They are clothed in areas of sparse grass cover and some native revegetation in the more stable slopes, with their verticality and overhanging tops being the distinguishing aspects of the feature. This is a relatively small area of coastal limestone, with the only other coastal limestone area within the District being immediately to the south. The verticality and yellow of the limestone contrasts with slumping and whiteness of the mudstone to the north.	High

Natural Character: High

Summary: The Huarau-Taupata Sector has a High natural character ranking due to the dominance of the underlying topography and expressive formative processes. Perception of the expressiveness will reduce as the pine plantation grows over the mudstone, having the benefit of controlling erosion but the disbenefit of hiding the legibility of the underlying rock type that characterises the CHB coast. Threats to key characteristics are pine plantation cover of expressive formative processes.





Map Scale (A4) = 1:10,000

COASTAL SECTOR 2: Waimoana - Kairakau

Component of Natural Character	Evaluation	Degree of Natural Character
Landform	A short section of coast between the settlements of Waimoana and Kairakau, characterised by steep limestone cliffs and exposed limestone outcrops. Slopes are more eroded in the northern part of the sector, with broken surface slopes exposing the colour and texture of the limestone base, while the southern portion has less eroded slopes and tops with exposed faces and a distinctive overhanging edge.	Very High
Vegetation Habitat	Areas of native regeneration on the firmer faces and behind the Kairakau Settlement. The rest of the cover is mainly pasture, although bare areas where erosion is more concentrated towards Waimoana.	Moderate
Biodiversity	Limited biodiversity within the pasture but greater variation of species types within the areas of revegetation.	Moderate
Systems and Processes	Colluvium runoff as the limestone has eroded has led to a smooth coastal escarpment towards Kairakau, while coastal erosion processes have eaten away at the toe of the cliffs towards Waimoana. This has caused portions of the cliff face to become unstable, with the exception of several patches of regenerating native vegetation that currently survive on firm ground.	Mod-High
Structures/ Settlements	Waimoana settlement lies to the north of the feature, while Kairakau lies in the lee of the cliffs at the southern end of the feature. Numerous sites of cultural significance within the local area and adjacent to the coastal environment, particularly around Mangakuri Gorge.	Low-Mod
Perceptual/ Experiential	Strong dominance of Kairakau settlement by the over towering cliffs behind, with their verticality and exposed limestone frontage reinforcing their legibility and expressiveness. The continued height and exposure to the north, coupled with the smoothness of the pasture covered colluvium runoff, give the sea front cliffs a clean and stable appearance, highly coherent and completely dominant over the settlement and adjacent beach.	Very High

Natural Character: Very High

Summary and key characteristics: The Waimoana-Kairakau Sector has a Very High natural character ranking due to a combination of its clearly perceived underlying geology and formative processes, areas of ecological value, perceptual coherence and sites of cultural importance. Threats to these would be earthworks in the southern portion and pine plantations in either portion that hide these characeristics, plus buildings or pine plantations along the top of the southern escarpment.





Map Scale (A4) = 1:10,000

COASTAL SECTOR 3: Paonui Point - Pourerere		
Component of Natural Character	Evaluation	Degree of Natural Character
Landform	A dramatic piece of eroding mudstone just north of Paonui Point, with the unstable nature of the underlying rock type clearly visible due to its bareness and highly eroded nature. Paonui Point is a prominent headland, also with exposed eroded mudstone but alternating with sandstone, giving the smooth appearance of the escarpment. This continues around the point, with steep eroded light grey cliffs before reaching mudstone again toward Pourerere.	Very High
Vegetation Habitat	Generally bare of vegetation due to ongoing natural erosion processes.	High
Biodiversity	Good biodiversity within limited patches of vegetation.	Moderate
Systems and Processes	Active erosion processes underway, particularly in the mudstone due to its softness. Coastal erosion processes eating away at the base of the escarpments	Very High
Structures/ Settlements	Settlement of Pourerere south of this area and is beyond the influence of the feature. No other structures apparent.	High
Perceptual/ Experiential	Dramatic appearance of highly eroded slopes north of Paonui Point, clearly visible due to the light grey colour and lack of vegetation cover. Very expressive of formative processes. Also dramatic headland, with eroded cliffs of harder sandstone, again reflecting the formative processes and illustrating the difference between the underlying rock types.	Very High
Natural Character: High and Very High		
Summary and key characteristics: The Paonui Point-Pourerere Sector has areas of High and Very High natural character ranking due to a combination of the key characteristics of its underlying geology highly varied to pography correctiveness of formative processor and limited by		

natural character ranking due to a combination of the key characteristics of its underlying geology, highly varied topography, expressiveness of formative processes and limited human modification. These would be threatened by hidding of the geology through exotic planting. Pine plantations would be the major threat to the perception of the geology, but vegetation cover of these exposed slopes would have the counter benefit of erosion control.





Map Scale (A4) = 1:11,000

COASTAL SECTOR 4: Aramoana - Te Angiangi

Component of Natural Character	Evaluation	Degree of Natural Character
Landform	River estuary and adjacent wetland at Aramoana are expressive of the river/coastal interface landform. Tall sea cliffs south of Shoal Beach are also representative of an intact section of the coastal escarpment landform.	High
Vegetation Habitat	Pastoral land cover on the slopes, wetland grasses on the areas adjacent to the river estuary.	Mod-High
Biodiversity	Limited biodiversity on the slopes, greater diversity on the riparian edges.	Mod-High
Systems and Processes	Estuarine processes of flood across the riparian edges, with wetland process still in place to accommodate these.	Mod-High
Structures/ Settlements	Settlement of Aramoana and Shoal beach adjacent to the right bank of the Ouepoto Stream.	Mod-High
Perceptual/ Experiential	The estuary, although small and only exposed to the sea in very high tides, retains an appearance of naturalness due to the riparian vegetation and its width. Some degree of rarity in this coastal environment.	High

Natural Character: High

Summary: The Aramoana-Te Angiangi Sector has a High natural character ranking due to a combination of its underlying estuarine processes and vegetation, potential ecological value and limited human modification despite its proximity to the settlement. These would be threatened by earthworks and drainage to the riparian area and pine plantations would compromise the perception of the exposed coastal cliff geology.





Map Scale (A4) = 1:15,000

COASTAL SECTOR 5: Pohutapapa - Blackhead

Component of Natural Character	Evaluation	Degree of Natural Character
Landform	Steeply sloping mudstone cliffs eroded and exposed light grey base rock with escarpments of varying height. Southern extent ends at Blackhead Point with a small distinctive cliff of eroded sandstone.	Very High
Vegetation Habitat	A mixture of bare eroded surface along with areas of pasture and small areas of revegetation.	Moderate
Biodiversity	Limited biodiversity due to the lack of revegetation, with most vegetation cover being pasture.	Moderate
Systems and Processes	Coastal processes constantly nibbling at the foot of the escarpments, while surface erosion constantly ongoing on the step cliffs resulting in incised valley and extensive areas of bare mudstone.	Very High
Structures/ Settlements	No structures or settlements within the area, but Blackhead just beyond northern extent of the feature.	Very High
Perceptual/ Experiential	Representative of the CHB coastal character, with tall eroding cliffs and exposed light grey mudstone. Rugged appearance and very expressive of underlying rock type and coastal exposure.	High
	Natural Character: High and Very High	

Summary and key characteristics: The Pohutapapa-Blackhead Sector has areas of High and Very High natural character ranking due to a combination of its underlying geology and topography, expressiveness of its formative processes, perceptual values and limited human modification. Threats to this are pine plantation in terms of perception of these characteristics, but this may have the benefit of erosion control.





Map Scale (A4) = 1:50,000

COASTAL SECTOR 6: Porangahau

Component of Natural Character	Evaluation	Degree of Natural Character
Landform	An extended area of coastal dune land backed by rising land. Limited estuary of Porangahau River and riparian dunes. Dunes more apparent to the northern end.	High
Vegetation Habitat	Limited estuarine habitat in riparian areas, limited remnants of inter dunal wetlands and dune vegetation.	Mod-High
Biodiversity	Originally high biodiversity, but diminished over time as land use has changed. Formerly a RAP area, but would need re-evaluating now to see if it still merits this. Greater biodiversity towards the northern end where less disturbance has occured.	Mod-High
Systems and Processes	Dune/wetland processes originally high but diminished over time as landform modifications have occurred. Dynamic dune processes now quite limited, but less so along the riparian and beach edge and remnant dune forms remain apparent towards the northern end of the beach.	Mod-High
Structures/ Settlements	Farm buildings, fences, ditches, the original paper road and paper settlement of Parimahu at the northern end.	Moderate
Perceptual/ Experiential	Beach between MHWS and inner edge of narrow dune system has very high perceived naturalness values. River estuary and riparian/ coastal edge also has very high natural perception values. Dune flats at the northern end have high percieved naturalness due to the remnant dune forms and less modified land cover. Large areas to the south have reduced perceived naturalness values due to modifications to landform and drainage patterns.	Mod -High

Natural Character: High and Very High

Summary and key characteristics: The Porangahau Sector has a mix of Moderate, High and Very High natural character rankings due to a combination of its underlying topography, formative processes, ecological value and perceived naturalness. Areas reduced in value over time due to landform and drainage modifications. Areas to the north have landform and land cover values due to lack of modification. Presence of sites of cultural significance along the inland edge of the Coastal Environment and particulalry at the north near Parimahu. Threats to this sector include landform modifications and drainage. Pine Plantations would hide the landform and affect perceived naturalness and also biodiversity in the northern portion.







COASTAL SECTOR 7: Mt Pleasant

Component of Natural Character	Evaluation	Degree of Natural Character
Landform	Steeply sloping mudstone cliffs eroded and exposed light grey base rock with escarpments of varying height.	Very High
Vegetation Habitat	Areas of pasture on steep slopes, areas of bare mudstone and an area of plantation forestry planted over steeply eroding cliff.	Moderate
Biodiversity	Limited biodiversity of pastoral grasses and pines.	Low- Moderate
Systems and Processes	Erosion processes most apparent on bare faces of mudstone and sea eating away at the base of escarpments.	Very High
Structures/ Settlements	No settlements or structures in the area of the feature, Porangahau Beach settlement just to the north and Whangaehu to the south.	High
Perceptual/ Experiential	Representative of the CHB coastal character, with tall eroding cliffs and exposed light grey mudstone. Rugged appearance and expressive of underlying rock type and coastal erosion.	High

Natural Character: High and Very High

Summary and key characteristics: The Mt Pleasant Sector has areas of High and a small area of Very High natural character ranking due to a combination of its underlying geology and topography, formative processes, perceptual values of this geology and limited human modification. Threats to the perception of underlying geology would be pine plantation.





Map Scale (A4) = 1:10,000

COASTAL SECTOR 8: Whangaehu

Component of Natural Character	Evaluation	Degree of Natural Character
Landform	An extended length of steeply sloping eroding mudstone cliffs. Feature ends at district boundary, which lies just 5km north of Cape Turn Again with its very distinctive grey mudstone cliffs.	Very High
Vegetation Habitat	Large patches of regeneration, small areas of pasture, but mainly bare exposed mudstone.	High
Biodiversity	Some biodiversity due to regenerating vegetation and bird habitat.	Mod-High
Systems and Processes	Clear evidence of erosion processes with soft mudstone on coastal edge.	Very High
Structures/ Settlements	Small settlement of Whangaehu around the norhtern point and has minimal impact on the overall feature.	High
Perceptual/ Experiential	Representative of the CHB coastal character, with tall eroding cliffs and exposed light grey mudstone. Rugged appearance and expressive of underlying rock type and coastal erosion.	Very High

Natural Character: Very High

Summary and key characteristics: The has a Very High natural character ranking due to a combination of its underlying geology and resultant topography, expressiveness of formative processes, ecological value of regenerating vegetation and limited human modification. Threats are pine plantation that would limit perception of the feature and possibly affect biodiversity.











COASTAL SECTOR 9: CHB Coastal Settlements			
	Location	Degree of Natural Character	
Settlements	 Kairakau, Mangakuri, Pourerere, Aramoana/Shoal Bay, Blackhead, Porangahau Beach, Whangaehu. 	Moderate-Low	
Natural Character: Moderate-Low			



Map Scale (A4) = 1:125,000

COASTAL SECTOR 10: Remainder of the CHB Coastal Environment

Evaluation	Degree of Natural Character
The Central Hawke's Bay coast forms part of a unique and extensive landscape. This assessment has identified a series of Coastal Sectors which collectively span the length of the District's coast. While there are no areas of outstanding natural character, much of the District's coastline is considered to have (at least) high natural character values. The remainder of areas within the coastal environment is typically assessed as having moderate natural character values, which are influenced by the topography, geomorphology and landcover. The topography is directly related to the underlying geology, with the softer mudstone being less steep and more prone to erosion. However, the natural character ranking on these areas is also influenced by the pastoral landcover which reduces the rating. Where there is a coincidence of expressive geomorphology, and native regeneration, such areas are typically elevated above a moderate ranking.	Moderate

Natural Character: Moderate

Summary and key characteristics: The remainder of the CHB coastal environment is assessed as typically having a Moderate natural character ranking due to a combination of its underlying geology, topography and pastoral landcover. Significant modification to the landform, such as may occur through mining or major earthworks, could threaten the aesthetic coherence of the coastline.



Appendix 1

New Zealand Coastal Policy Statement (2010)

Policy 1 (2)- Recognise that the coastal environment includes;

- a. the coastal marine area;
- b. islands within the coastal marine area;
- c. areas where coastal processes, influences or qualities are significant, including coastal lakes, lagoons, tidal estuaries, saltmarshes, coastal wetlands, and the margins of these;
- d. areas at risk from coastal hazards;
- e. coastal vegetation and the habitat of indigenous coastal species including migratory birds;
- f. elements and features that contribute to the natural character, landscape, visual qualities or amenity values;
- g. items of cultural and historic heritage in the coastal marine area or on the coast;
- h. inter-related coastal marine and terrestrial systems, including the intertidal zone; and
- i. physical resources and built facilities, including infrastructure, that have modified the coastal environment.

Appendix 2

Reference List – Natural Character Research

Boffa Miskell Ltd. (2012). Natural Character Assessment of the Horowhenua Coastal Environment: Prepared for Horowhenua District Council.

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Stephen Brown Environments Ltd. (2009). Natural Character Assessment Auckland Region: Prepared for Auckland Regional Council. Updated for Auckland Council 2015.

Expert Panel Workshop. (2014). Wainui Bay Landscape: Pohara Boat Club, Takaka. 22-23 September 2014.

Department of Conservation. (2012). Natural Character and the NZCPS 2010: Marlborough Workshop, Summary of discussion and outcomes.

Hudson Associates (2016). Natural Character Assessment of the Manawatu Coastal Environment. Prepared for Manawatu District Council.

Appendix 3

GLOSSARY

Aeolian Processes - pertain to wind activity in the study of geology and weather and specifically to the wind's ability to shape the surface of the Earth.

Coastal Environment – Comprises the Coastal Marine Area, Active Coastal Interface and the Coastal Dominance Zone (Ref. Figure 2 and Table 1).

Coastal Environment Sector – A defined portion of the wider Coastal Environment used to refine the assessment scale.

Coastal Landscape - Comprises the Coastal Marine Area, Active Coastal Interface, Coastal Dominance Zone and Coastal Context Zone (Ref. Figure 2 and Table 1).

Coastal Marine Area- Is the foreshore, seabed, and coastal water, and the air space above the water; of which the seaward boundary is the outer limits of the territorial sea, and of which the landward boundary is the line of mean high water springs, except that where that line crosses a river, the landward boundary shall be defined by the Regional Council.

Geomorphological – The structure, origin, and development of topographical features of the earth's surface.

Land Typing- The basis over which land cover, land use and association information are addressed as the basis for land characterisation.

Littoral Drift - The transportation of sediments, i.e. mainly sand, along the coastline due to the action of the breaking waves and the longshore current.

Natural Character- The expression of natural elements, patterns and processes in a landscape.

Parabolic Dunes - These are inverted U-shaped (parabola) or V-shaped dunes when viewed from the air. They have trailing arms that extend seaward, with a depositional lobe at the bottom of the U or V. They can be formed from blowouts or from the migration of sand at the landward end of a dune field where discrete lobes may form.

ABBREVIATIONS

CMA – Coastal Marine Area

CHBDC – Central Hawke's Bay District Council

HBRC – Hawke's Bay Regional Council

MHWS – Mean High Water Springs

NZCPS - New Zealand Coastal Policy Statement

RCEP – Regional Coastal Environment Plan

RMA – Resource Management Act

NZILA - New Zealand Institute of Landscape Architects