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SmartGrowth
Building blocks to a better future

SmartGrowth Phase 2
Biophysical Constraints Research Brief:
Landscapes and Natural Features

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Executive Summary

This landscape constraints mapping project forms one 'layer' within the Phase 2 SmartGrowth biophysical constraints research project. The study has been undertaken by Boffa Miskell working from and updating the earlier Western Bay of Plenty and Tauranga District Landscape Assessments (1993 and 1995 respectively) as well as the Regional Coastal Landscape Assessment undertaken for Environment Bay of Plenty in 1993.

The project has involved mapping landscape constraints in relation to future urban residential development in three levels – high, moderate and low.

In areas of high landscape constraint – the outstanding natural features and landscapes and areas of high natural character within the coastal environment – extensive forms of urban residential development will generally be inappropriate. This is not to say any urban form of development should be avoided (or prohibited) as an outcome of this study. What it does identify are those areas where lower density or lower impact urban residential development may be able to be accommodated if these are managed carefully in relation to their potential effects on landscape attributes and values. This approach is consistent with Section 6 (a) and (b) of the Resource Management Act (RM Act) which also applies to these "highly constrained" landscapes.

In areas of moderate landscape constraint – those areas of high visual amenity and/or moderate natural character within the coastal environment and/or within the foreground of previously identified significant public viewpoints – more extensive forms of urbanisation, such as rural residential and rural lifestyle development, may be able to be accommodated given careful consideration of their impact and effects on the landscape attributes and values of the area. In general more intensive urban residential forms of development will not be appropriate unless they are contained in pocket locations where their effects can be managed or they are of such a limited scale, e.g. small-scale resort development or rural residential cluster housing, that their impacts are limited.

In areas where there are low levels of landscape constraint and future urban residential forms of development can be accommodated, but with a finer grained identification of the underlying pattern of the landscape and its values / sensitivities, structure planning is an appropriate mechanism for the consideration of such more finely grained landscape constraint recognition. Consideration of landscape constraints at this level also creates the opportunity to plan open space networks within and between urban areas and to establish and enhance the amenity of urban areas and the quality of the sub-regional environment.

It is the recommendation of this study that where any form of future urbanisation is considered throughout the sub-region (in areas of high, moderate or low landscape constraint) then a structured planning approach that includes the identification of landscape values, features and opportunities (as well as those other social and environmental values such as cultural, archaeological and ecological values) is adopted.

Quality of life and quality of the environment are becoming increasingly important to people in relation to the choices they make about where they live, work and play. Tauranga and the Western Bay of Plenty have a national reputation for their quality coastal environment and iconic landscape features, such as Mauao and the Kaimai Ranges. It is important that urban expansion does not degrade these landscape attributes and in doing so affect the quality of the area's future environment.

1.0 Introduction

This landscapes and natural features constraints report and map outputs have been prepared by Boffa Miskell for the SmartGrowth project. SmartGrowth is a strategy being developed to sustainably manage future urban residential growth in the Western Bay of Plenty sub-region (defined as the Tauranga and Western Bay of Plenty District Council administrative areas). The SmartGrowth strategy is being led jointly by Environment BOP, Tauranga District Council, Western Bay of Plenty District Council and Tangata Whenua.

This component of the SmartGrowth project forms part of the Phase 2, Biophysical Constraints Research, phase of SmartGrowth. The scope of the Biophysical Constraints research is to:

"Determine and assess the various biophysical elements which may be constraints to growth in a format suitable for later modelling and option development."

Most of the biophysical constraints research will be undertaken by the SmartGrowth partners using in-house information, skills and resources. However in some areas the necessary skills are not available in-house and hence the work is to be out sourced. The landscape and natural features mapping is one such area. The work undertaken by Boffa Miskell aims to provide the SmartGrowth team with a landscape constraints mapping layer including landscapes and natural features of significance to the Western Bay of Plenty sub-region.

This research has been undertaken through a review of existing landscape assessment information, field survey to identify recent changes in landscape character, refinement of existing landscape unit boundaries, identification of natural character values, and finally the mapping of landscape constraints in relation to future urban residential development.

The objective has been to provide SmartGrowth with a single landscape constraints factor map layer that identifies constraints to development as a result of landscape values across the sub-region. A three tier constraints mapping model has been adopted identifying those areas where:

i) potential future urban development is highly constrained due to landscape values (high constraint);

ii) potential future urban development is moderately constrained due to landscape values (moderate constraint);

iii) potential future urban development is slightly constrained due to landscape values (low constraint);

It is important to note that no areas of prohibition on development are proposed as part of this study, that is it is recognised that even where high levels of landscape constraint have been identified some very limited forms of low impact urban development, such as resort/tourist accommodation or low density rural lifestyle development may be appropriate. At the same time, it is the case that landscape constraints exist throughout the sub-regional landscape, even in those areas identified as having low levels of landscape constraint. Wherever future urban residential development occurs within the sub-region landscape values will need to be addressed to ensure appropriate growth.

Such landscape constraints or issues can be seen as positives within the development process providing the opportunity for landscape elements and landscape character to influence the nature of the residential environment that develops thereby assisting in creating distinctive neighbourhoods and communities that benefit from a strong physical identity. It is recognised that 'place' is important to individuals in relation to their choice of living environment. Landscape attributes are one important factor in creating distinctive living environments. The opportunity to develop distinctive residential communities should form part of the SmartGrowth objectives / outcomes.

2.0 Methodology

The project brief for this part of the biophysical constraints mapping required the consultant (Boffa Miskell) to collate, using a methodology agreed between the client and themselves, a landscape constraints mapping layer for the SmartGrowth information area, including landscapes, natural features and scientific features of significance to the Western Bay of Plenty sub-region.

The starting point for the project was the landscape resource assessment documents (refer section 3) previously prepared by Boffa Miskell for the project partners: Environment BOP, Tauranga and Western Bay of Plenty Districts.

The methodology proposed and refined for the study included:

- Accept the previously identified landscape types of the two districts (Tauranga and Western Bay of Plenty) as essentially unchanged.

- Review the landscape unit boundaries throughout the two districts and make any required adjustments (including the identification of new landscape units) based on the landscape change that has occurred since the original studies were undertaken. Landscape units define areas of homogeneous landscape character based on landform, landcover and landuse. It was anticipated that landuse change in the intervening years would have affected where unit boundaries should lie and/or would require the creation of new landscape units.

- Review the visual quality (VQ) ratings for the landscape units (and attribute visual quality ratings to any new landscape units identified) using component values for 'vividness, intactness and coherence'.

- Review the visual absorption capacity (VAC) ratings for the landscape units (and attribute visual absorption capability ratings to any new landscape units identified) using component values for 'degree of modification, topography and vegetation cover/pattern'.

- Confirm the outstanding natural features and landscapes identified in the earlier District landscape resource studies.

- Delineate a natural character contextual boundary around the Tauranga Harbour and along the coast. This boundary would define the area within which natural character would potentially comprise a constraint on future development or landuse change.

- Within the 'coastal environment/natural character' area (CENCA) delineated, develop and apply a rating system to identify the relative extent of natural character along the coast using a 'high, medium, low' rating system for natural character.

- Develop through combination of the assessed factors (VQ, VAC and CENCA) an overall landscape constraint layer, relative to potential urban and rural residential development.

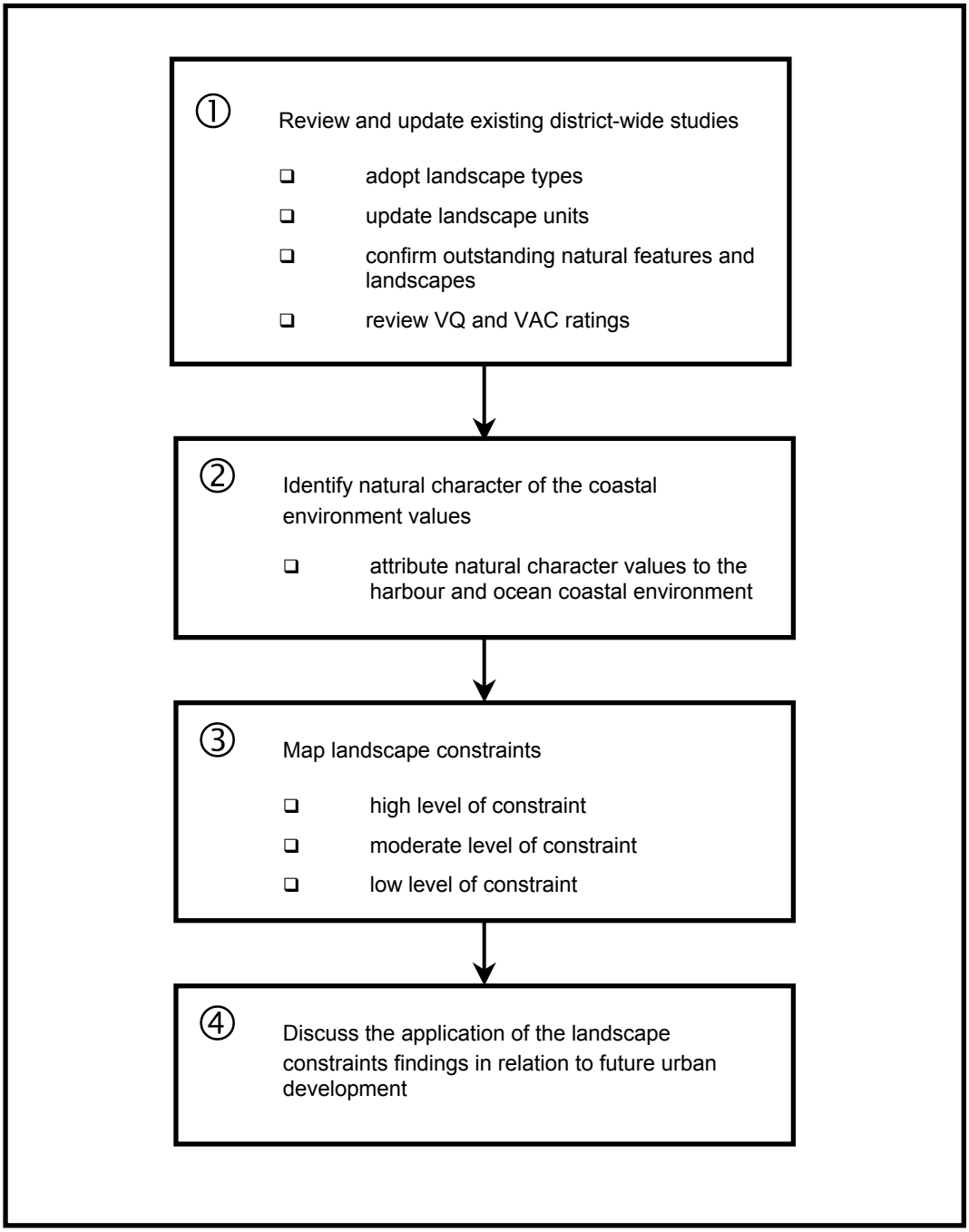
- Map the overall landscape constraint layer, and its various rankings, onto hard copy maps (using NZMS 260 series base maps) for digitising as an electronic GIS layer, compatible with the intended GIS format required by the SmartGrowth Project Manager.

- Take account of relevant outcomes from the Tangata Whenua resource protection study, which is also being completed as part of Phase 2.

This methodology was refined through the progression of the project as on the ground and application issues were experienced and adapted to.

Landscape Constraints

SmartGrowth landscape constraints mapping process diagram



3.0 Background Landscape Assessments

There have been three broad scale landscape resource assessments undertaken in the Western Bay of Plenty sub-region since the advent of the Resource Management Act 1991 (RM Act). These studies have fed into the preparation of the relevant Regional (RPS and Regional Plan: Coastal) and District Plans. These studies have formed a starting point of landscape resource information for this SmartGrowth landscape constraints project and have been updated as a result of the project.

The existing relevant landscape assessment studies are:

- **A Landscape Assessment of the Bay of Plenty Coastal Environment**

  This assessment was undertaken by Boffa Miskell for Environment Bay of Plenty in 1993. The study was commissioned to:

  - *Define the Bay of Plenty coastal environment in landscape terms*
  - *Delineate and describe the components (landscape character types, units and areas) of the landscape of the Bay of Plenty coastal environment.*
  - *Attribute landscape values to the individual units which comprise the Bay of Plenty coastal environment.*
  - *Identify the outstanding and regionally significant natural features and landscapes of the Bay of Plenty coastal environment.*
  - *In conjunction with the Bay of Plenty regional and district planners, formulate objectives and policies for management of the Bay of Plenty coastal landscape.*

- **Western Bay of Plenty District Visual Landscape Evaluation**

  This assessment was undertaken by Boffa Miskell for the Western Bay of Plenty District Council in 1993. The study included the following:

  (i) *Confirmation and refinement of landscape types previously identified in the Regional Coastal Study.*

  (ii) *Delineation of landscape units within landscape types undertaken as a desk top study.*

  (iii) *Description of the inherent character of each landscape unit in terms of its landform, vegetative cover and land-use.*

  (iv) *Identification of significant natural features and landscapes.*

  (v) *Verification of landscape unit boundaries and assessment of visual quality (VQ) and visual absorption capability (VAC) for each landscape unit. Identification of enhancers and detractors within each landscape unit.*

  (vi) *Assessment of the relative visibility of each landscape unit from roads and public places.*

  (vii) *Assessment of the overall visual sensitivity of each landscape unit*

- **Tauranga District Landscape Study**

  This assessment was undertaken by Boffa Miskell for the Tauranga District Council in 1995.

  The study followed a similar approach to that used in the Western Bay of Plenty District. This included reviewing the landscape types identified previously, delineating and describing discrete landscape character areas and landscape issues within each area, and delineating outstanding natural features and landscapes within the District.

  This study, due to its more urban context, delineated discrete areas within the urban residential areas of the city.

As part of this SmartGrowth landscape constraints project the map information from each of these earlier landscape resource assessments have been combined to form a base for further assessment and refinement. This has included the review of the landscape unit boundaries, visual quality and visual absorption values identified in the earlier assessments as well as the identification natural character values, and landscape constraints on development related to this current project.

4.0 Landscape Types and Landscape Units

The five landscape types represented within the sub-region and their delineations, as identified within the earlier District/Regional landscape assessments, are confirmed.

Landscape types are delineated based primarily on geomorphology with areas of homogeneous geomorphology included within a single landscape character type. The landscape types within the Western Bay of Plenty sub-region are:

(i) *Ranges*

(ii) *Foothills*

(iii) *Plateau*

(iv) *Harbour*

(v) *Plains*

The landscape units within these landscape types have also, in the majority, remained unchanged, a small number of new and/or adjusted units have been created as part of this SmartGrowth project. Landscape units are delineated based on a combination of their landform, landcover and landuse.

Changes to the boundaries of landscape units and the creation of new landscape units have occurred due to the following:

(i) The extension of the urban landscape units around the periphery of Tauranga City due to continued urban residential growth and committed urban zoning as outlined in the Proposed District Plan.

(ii) The rationalisation of landscape units across the boundary between Tauranga and Western Bay of Plenty Districts. The earlier studies extended to the relevant District boundary whereas this study ignored the boundary, some rationalisation of units across the boundary was therefore required.

(iii) The creation of new separate landscape units around existing settlements in Western Bay of Plenty District, such as Katikati, Te Puke and Omokoroa to be consistent with the landscape units delineated in Tauranga District related to urban patterns of settlement.

With these amendments 54 landscape units have been delineated within the Western Bay of Plenty sub-region. A list of these landscape units by landscape type is outlined in Appendix 1. The landscape types and landscape units are depicted on Map 1. The ratings for visual quality (VQ) and visual absorbtion capability (VAC) for each landscape unit are attached as Appendix 2.

5.0 Outstanding Natural Features And Landscapes

This SmartGrowth landscape constraints identification study has adopted a methodology that sees a high level of landscape constraint applied to those areas identified as 'outstanding natural features and landscapes' (Section 6(b) RM Act).

The earlier Western Bay of Plenty District landscape assessment study (1993) identified twenty eight (28) significant natural features and landscapes whilst the Tauranga District landscape assessment study (1995) identified ten (10) outstanding natural features and landscapes. Rationalisation of these outstanding natural features and landscapes of each District as a part of this SmartGrowth study (for example where these natural features and landscapes have overlapped) has resulted in a total of thirty five (35) outstanding natural features and landscapes being identified throughout the Western Bay of Plenty sub-region.

The visually significant outstanding natural features and landscapes of the two Districts tend to be either:

- Dominant landform features such as peaks and ridgelines which provide a visual focus and/or enclosure or:
- Sharp transitions between landform types such as the boundary between land and water.

The characteristics that make these areas 'outstanding' in terms of Section 6(a) of the RM Act also mean that they are the more highly constrained areas (features and landscapes) in terms of their potential to accept future development including more urban forms of residential development.

The 35 outstanding natural features and landscapes have been mapped on Map 2 attached. These have then been carried through on Map 4 as one component of the areas identified as having a high level of landscape constraint in terms of future urban residential development.

A list of the outstanding natural features and landscapes of the Western Bay of Plenty sub-region is attached as Appendix 4.

In the Western Bay of Plenty District not all the outstanding natural features and landscapes identified in the original landscape assessment report (Boffa Miskell 1993) were carried through Council's District Plan preparation processes and incorporated into the District Plan.

One example of an outstanding natural feature/landscape identified in the original Boffa Miskell landscape assessment report but not carried through into those outstanding natural features and landscapes identified in the District Plan schedules is Mt Misery (O4). For the purposes of this landscape constraints mapping exercise the original outstanding natural features and landscapes identified in the landscape assessment study have been mapped as the outstanding landscapes of the sub-region.

In addition the Tauranga Harbour was identified as an outstanding landscape in the earlier studies but not carried through into this constraints mapping project. The Harbour waters are outside of the area of future urban residential development. The landscape values of the Harbour margins (included in the Tauranga Harbour outstanding landscape) have been addressed in this study through the natural character assessment. Small islands, such as Motuopae, located in the Harbour should be recognised as outstanding although not within the potential development area.

6.0 The Natural Character Of The Coastal Environment

The brief for this SmartGrowth landscape constraints project includes identification of natural character values within the coastal environment and the translation of these in terms of landscape constraints on future urban and rural residential development.

The understanding of what natural character embraces has evolved in the past 10 years since the introduction of the Resource Management Act 1991 (RMA). An early, relatively simplistic interpretation emphasising 'product of nature' and appearance of 'naturalness' has evolved into an understanding that natural character occurs on a continuum from the pristine to the totally modified.

Boffa Miskell (Christchurch) is currently undertaking a project for the Ministry for the Environment (MFE) to determine environmental performance indicators (EPI) for natural character. Stage 1 of this project involves agreeing a definition of natural character for use in the EPI. The definition currently agreed is as follows:

> ***Natural character is a term used to describe the naturalness of all coastal environments. The degree or level of natural character within an area depends on:***
>
> ***1. The extent to which natural elements, patterns and processes occur***
>
> ***2. The nature and extent of modifications to the ecosystems 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 the natural character of an area varies with the context, and may be perceived differently by different parts of the community.***

The three components: natural elements, natural processes and natural patterns are now frequently used to describe, in an objective description, the extent to which any particular location retains natural character. In addition, this description is frequently split in relation to landform or water bodies (abiotic features), vegetation and land cover (biotic features) and structures, buildings and utilities.

The table on the following page summarises the way in which these elements contribute to greater or lesser natural character.

Environments with the greatest natural character are those entirely composed of natural elements (in the absence of built elements) functioning under unmodified physical and ecological processes and where the natural patterns are unmodified by signs of human intervention.

The level of modification to the appearance of naturalness will usually be expressed in terms of visual pattern – greater naturalness where organic patterns occur such as a natural water surface, wetland or forest, and less naturalness where there are artificial or utilitarian patterns such as buoys on a marine farm or rows of trees in a commercial forestry block. In natural character terms these patterns are independent of visual amenity or landscape quality.

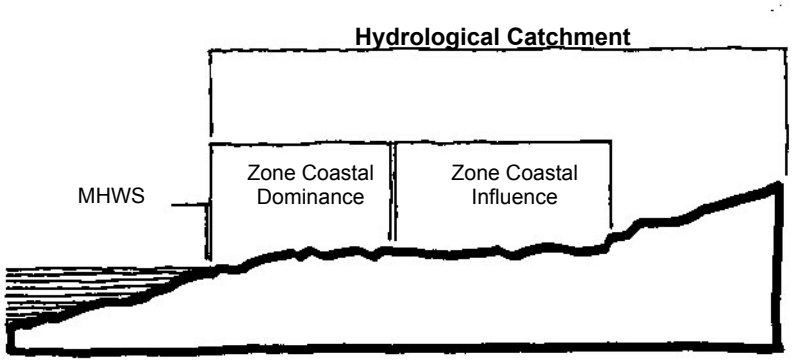
Landscape Constraints

	Natural Elements	Natural Processes	Natural Patterns
Increasing Natural Character	No earthworks No utilities No structures	Naturally functioning coastal deposition and accretion Natural hydrology Intact endemic vegetation	Patterns resultant from natural environment and vegetation succession No apparent manipulation of the natural patterns of the landscape
	Minimal well integrated earthworks Utilities primarily underground Limited well sited and integrated structures set into the landscape	Minor coastal erosion works Limited drainage works Some exotic species and productive landuses	Some modification to natural patterns of landform Some modification to natural patterns of landcover Some introduced development patterns
Decreasing Natural Character	Extensive modification to natural landform Extensive above ground utilities Predominant built environment	Substantial coastal protection works Extensive modification to natural hydrology Predominantly exotic and managed vegetation cover	Natural pattern of landform highly modified Landcover dominated by patterns of human landuse

No definitive or nationally accepted delineation of the landward extent of the coastal environment has been promulgated to date, however it is generally accepted that based on the nature of the landform and distance two broad 'zones' can be defined. The coastal environment can, therefore, be defined in terms of the following cross section.

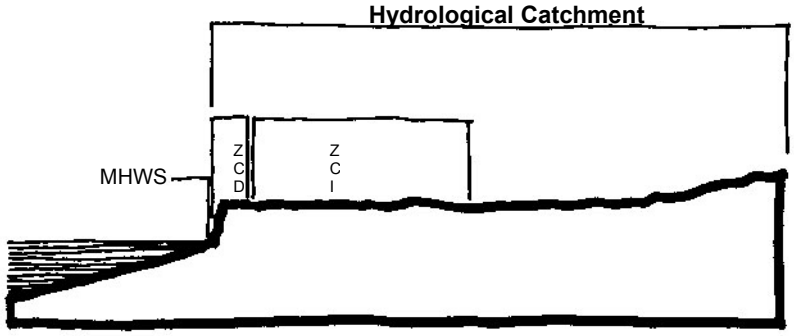
This illustrates a series of 'zones' back from MHWS extending in the extreme to encompass the full hydrological catchment. The zone of coastal dominance, where the coastal environment forms a dominant component of landscape character is backed by the zone of coastal influence, where the coastal environment contributes to landscape character but to a lesser degree. It is activities within the 'zone of coastal dominance' that have the greatest potential to affect the landward component of natural character.

Landscape Constraints

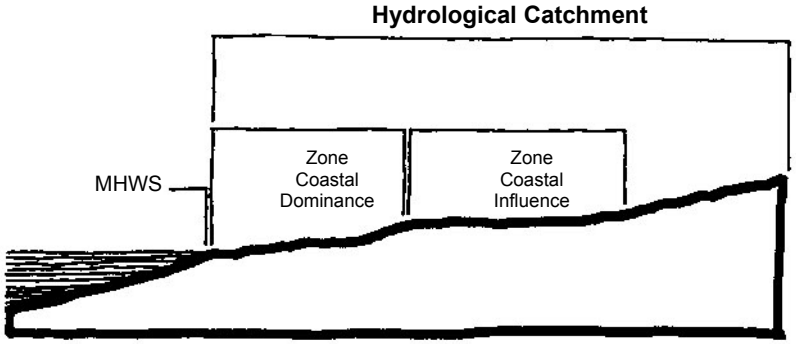


Definition of the Coastal Environment

The physical extent and nature of the 'zone of coastal dominance' is strongly influenced by the nature of the adjoining landform. Where a coastal escarpment exists (such as for example at Kauri Point) the 'zone of coastal dominance' is more limited and can be delineated within a relatively short distance from the top of the escarpment – in the order of 50 metres back from the edge of the escarpment. By contrast where the landform is more gradual such as within a coastal plain or foothills situation (such as along the Papamoa Dunes) the zone of coastal dominance is more extensive and relates more to distance and the extent of visibility over distance. The following diagrams illustrate these concepts.



Where a coastal escarpment exists the zone of coastal dominance (ZCD) is reduced in its landward extent.



Where the landform adjoining the coast is flatter or slopes more gradually, the zone of coastal dominance encompasses a wider landward area influenced by distance and visibility.

Landscape Constraints

The methodology used to define the natural character of the coastal environment in this sub-regional landscape constraints project has adapted a methodology developed by Boffa Miskell to delineate natural character within the Banks Peninsula District (Akaroa and Lyttelton Harbour Landscape Review December 2000) in the South Island. This methodology applies a value – on a three point gradation (high, moderate, low) – for the natural character of the water component of the coastal environment (below mean high water springs (MHWS) and a second value (also on a three point scale) for the landward component of the coastal environment.

Refer to Appendix 3 for criteria used to determine the application of high, moderate, low natural character values.

Map 3 of the mapped data sheets depicts the natural character rankings for both the coastal edge (below MHWS) and the landward context within the Western Bay of Plenty sub-region. For the purposes of this mapping exercise the landward context line is drawn at a width of 100 metres from MHWS. Whilst the coastal environment extends a variable distance beyond this notional line for the purposes of this constraints mapping study this consistent width has been adopted. It will be important when considering any appropriate form of future urban residential development that the more particular landform character of the locality and thereby the landward extent of the coastal environment is identified and measures taken to ensure the preservation of the natural character of the coastal environment in that particular location.

For example, this means that when in the future the appropriateness of urban residential development in proximity to an area of identified high natural character is being considered, one factor will be the nature of the landward extent of the coastal environment. In locations where the coastal environment comprises a steep and sharply defined coastal escarpment urban residential development can be accommodated on top of the escarpment in relatively close proximity – in the order of 50 m± - to the edge of the escarpment. In areas of different physical landform where the land is relatively flat – such as in duneland / coastal flats, urban residential development will need to be set further back from the coastline and / or set at a reduced scale / density to avoid adverse effects on the natural character of the coastal environment. This level of more detailed analysis should be undertaken at the time more urban forms of residential development are considered.

It should also be noted that the mapped natural character ratings represent a relatively coarse assessment for the purposes of this sub-regional landscape constraints mapping study. Considerable variations in the degree of natural character will occur within these broad areas when each is assessed at a smaller more detailed scale. This level of more detailed assessment will be required prior to any coastal area being considered for any form of more urban residential development.

7.0 Constraints On Urban Residential Development Based On Landscape Values

Having worked through the rationalisation of landscape unit boundaries; undertaken a review of the visual quality (VQ) and visual absorbtion capability (VAC) ratings of the landscape units (particularly where these have undergone change in their landscape character since the time of the earlier regional and district studies – 1993 and 1995); refined and confirmed the outstanding natural features and landscapes within the sub-region; and undertaken an assessment of the natural character values of the coastal environment; a composite 'landscape constraints layer' map has been compiled.

Constraints on urban forms of residential development from a landscape perspective within the sub-region have been ranked as follows:

- **High** - outstanding natural features and landscapes.
  - coastal environment areas with "high" natural character
- **Moderate** - areas with high visual amenity values
  - coastal environment areas with "moderate" natural character
  - areas covered by view shafts identified in the WBOP District Plan
- **Low** - areas with moderate to low visual amenity values
  - coastal environment areas with "low" natural character.

The composite map showing landscape constraints areas within the sub-region have been mapped on Map 4.

The following sets out a description of the individual areas of high (7.1) and moderate (7.2) landscape constraint in relation to potential future urban residential development within the sub-region. At 7.3 those areas identified as having a low level of landscape constraint are discussed.

It is important to bear in mind that in relation to those highly constrained landscapes the study does not conclude that all forms of future urban development should be prohibited. Similarly within the areas of low constraint landscape values still exist and will require recognition and appropriate protection and enhancement should future urban development occur.

7.1 Landscapes With High Constraint for Future Urban Residential Development

The areas of high landscape constraint are comprised of the 'outstanding natural features and landscapes (Section 6(b) RM Act) and those areas of high natural character (Section 6(a) RM Act)

7.1.1 Outstanding Natural Features and Landscapes

- ***O1 Orokawa Bay Unit***

  This whole unit has been identified as regionally significant in the "Bay of Plenty Coastal Environment Landscape Assessment" prepared for the Bay of Plenty Regional Council. It includes a series of 'typical' Coromandel bays and rocky headlands, the only area of its type in the region and the district.

- ***O2 Hikurangi-Puketoki-Matangia knolls and ridgelines***

  This ridge extends from F.H.1 south to Hikurangi. The skyline profile of the ridge and eastern slopes down to a contour of 100 metres above sea level is considered to be significant due to its importance in providing a backdrop to the Waihi Beach, Bowentown, Athenree areas. It is highly visible from these areas and the Tauranga Harbour and coast. The land is a mixture of pasture, bush remnants and exotic forest.

- ***O3 The Minden Peak and main ridgeline***

  The area identified as visually significant extends from the high point, Minden Peak, of 286 metres (above sea level) and main ridgeline north of the road down to the 100 metre contour. This peak, ridgeline, and upper slopes provide the backdrop to Te Puna and are highly visible from the State Highway when travelling east.

- ***O4 Mt Misery Peaks and main ridgeline***

  This area extends from the Mt Misery Peak (478 metres above sea level) and includes two adjacent lower peaks and the slopes facing west down to the 300 metre contour but east of Ohaiutu Road. This area is highly visible from Pyes Pa Road and school and areas around Tauranga. It lies adjacent to O6 the Wharetetarakehe-Otawa bush covered knoll.

- ***O5 Papamoa knoll and ridgeline***

  This area has its northern boundary at the 60 metre contour on the ridge extending south to a high point of 224 metres (above sea level) and further south to the Wharetetarakehe Peak at 331 metres (above sea level). This high land is an important backdrop to the plains and coastal area between Papamoa and Maketu, and to Te Puke township, particularly when travelling along the State Highway towards Tauranga. On the eastern side it extends down to the 100 metre contour and to the west it follows the skyline ridge.

- ***O6 Wharetetarakehe-Otawa bush covered knoll***

  The area identified as visually significant includes the whole of unit F.H.7. It is predominantly contiguous bush and is important in segregating the Western Bay of Plenty district and is highly visible from a wide area.

- ***O7 Kaimai Ranges***

  The whole Kaimai Ranges unit is significant as it forms the main east-west divide between the Waikato and Bay of Plenty. The area is highly visible with extensive, contiguous native bush, rocky outcrops and large streams. The ranges provide a dramatic backdrop to the Tauranga Harbour.

Landscape Constraints

- ***O8 Takaurunga, The Summit and upper slopes***

  This area extends from the high point, Takaurunga (646 metres above sea level) to the State Highway and includes the upper slopes which are highly visible when travelling west from Tauranga before crossing the main divide.

- ***O9 Bowentown Heads***

  This landform was identified as significant in the Bay of Plenty Coastal Environment Landscape Assessment and includes the elevated volcanic cone landform. It extends from M.H.W.S. and around the water's edge to the summits and down to include the high duneland.

- ***O10 Unmodified dunes between Island View around Pio's Beach***

  This area extends from the south-eastern edge of the Island View subdivision to Bowentown Heads but excludes the developed land on either side of the road around Pio's Beach. These are the largest remaining areas of unmodified duneland in this area.

- ***O11 Tuapiro Spit***

  The area identified as visually significant extends north-west from the edge of the recent subdivision to the end of the spit. This natural feature extends into the harbour and is highly visible from Tanners Point.

- ***O12 Tanners Point***

  This area was identified in the Bay of Plenty Coastal Environment Landscape Assessment and includes the escarpment and undeveloped end of the point.

- ***O13 Ongare Point***

  This area was identified in the Bay of Plenty Coastal Environment Landscape Assessment and includes the escarpment and undeveloped end of the point.

- ***O14 Kauri Point***

  This area was identified in the Bay of Plenty Coastal Environment Landscape Assessment and includes the escarpment and undeveloped end of the point.

- ***O15 Omokoroa Point***

  This includes the undeveloped and well vegetated point at Omokoroa, which extends into the Tauranga Harbour.

- ***O16 Motuhoa Island***

  This area was identified in the Bay of Plenty Coastal Environment Landscape Assessment and includes the entire island landscape.

- ***O17 Rangiwaea Island***

  The area identified as visually significant includes the entire island landscape.

Landscape Constraints

- ***O18 Motungaio Island***

  The area identified as visually significant includes the entire island landscape.

- ***O19 Matakana Island afforested seaward portion***

  The area identified as visually significant includes the entire seaward portion of the island which is largely in pine forest. Its edge vegetation is particularly sensitive.

- ***020 Kaimai Mamaku Forest***

  The area encompasses the entire area of indigenous vegetation on the Kaimai Ranges.

- ***O21 Otanewainuku bush covered knoll***

  A prominent bush covered knoll located south of Otawa. It is particularly prominent from the east. The area covered extends from the summit at 645 metres above sea level down to the 460 metre contour.

- ***O22 Pareoterawahirua ridgeline and northern slope***

  This includes the skyline ridge and northern slope down to the 100 metre contour. These slopes are highly visible from State Highway 2, particularly when travelling towards Whakatane.

- ***O23 Maketu Estuary***

  Includes the water body of the estuary up to M.H.W.S. and its landward edge 40 metres inland.

- ***O24 Okurei Point and headland***

  The coastal edge and point of the headland was identified as regionally significant in the Bay of Plenty Coastal Environment Landscape Assessment. The area has been extended to include the escarpment and cliffs extending south-east along the coast and inland to the land edge of the Waihi Estuary (excluding Little Waihi).

- ***O25 Waihi Estuary***

  Includes the whole water body and inland 40 metres from M.H.W.S.

- ***O26 Pukehina Spit end***

  Includes the undeveloped north-western end of the Pukehina Beach spit.

- ***O27 Papamoa-Kaituna Coastal Dunelands***

  Includes the undeveloped foredunes north of Papamoa Beach Road and the area east of the developed extent of Papamoa to the Maketu Estuary.

Landscape Constraints

- ***O28 Mauao, Mt Drury, Moturiki Island and Motuotau Island***

  This area includes the combined landscape of Mauao (Mount Maunganui), Mt Drury, Moturiki Island, Motuotau Island, and the sandy beaches, natural and enclosing headlands associated with these. In addition, the intertidal area is an integral component of the scenic landscape.

  The reef system associated with these features is unique in this area and the prominent rocky forms of the Mount and the Islands are visible from locations throughout the District.

  Mount Maunganui is arguably one of New Zealand's nationally recognised landforms and is perhaps the best known symbol of Tauranga.

- ***O29 Airport Wetlands***

  In addition to the harbour edge (up to MHWS) the open space of the coastal edge to the airport is of landscape significance. This area has high natural values with a number of wetlands and associated wildlife values. It is also of visual significance from the city with views across to this area from the CBD.

- ***O30 Mangatawa***

  This feature is the remnant of a volcano and rises from the flat peat/sand lowlands adjacent to Rangatawa Bay. Locally the hill comprises prominent features, despite past quarrying and continuing water storage activities.

  Mangatawa is visible from Tauranga City across the harbour and together with Upuhue forms an important part of the entry to the district from the east.

- ***031 Upuhue***

  Upuhue is a remnant volcanic feature and is seen adjacent to Mangatawa when viewed from the north and east.

- ***O32 Otamataha***

  This remnant volcanic landform was a former Pa site and later Mission Station. It is a site of heritage significance both in Maori and European history. Visually the landform is locally dominant and its associated vegetative cover provides a strong natural contrast to its surrounding land uses. It occupies a prominent location toward the end of the Tauranga CBD peninsula and is a visual focal point from the surrounding main road pattern and bridge.

- ***O33 Waimapu Stream and Marshlands***

  This stream north of the State Highway forms an important open space connection to the upper harbour and separates Greerton from Hairini and Ohauiti Road. Its wetlands are also of ecological value and the area has value for recreation.

- ***O34 Matua Wetlands***

  This low lying area between the Matua headland, Otumoetai and the Bethlehem lowlands is an important ecological environment and visual open space / green belt separating development on higher land.

- ***O35 Wairoa River***

  The Wairoa River forms the western boundary to the District separating Tauranga from Western Bay of Plenty District.

  The river is of great significance to Ngati Kahu for whom it represents the life force of their people.

  The delineation of this area includes the river banks as well as the wetlands and surface of the river.

  As an entry point and District boundary, the river has the opportunity to be of greater visual significance to the District.

7.1.2 Areas of High Natural Character

The following are areas of high natural character within the coastal environment that are not already included in any of the above outstanding natural features and landscapes:

- ***The whole of the Tauranga coastal marine area apart from:***

  (i) the urban areas of Tauranga City from Matua in the west around to Welcome Bay in the east, and the area from the Tauranga Bridge in the south to the northern end of Pilot Bay;

  (ii) areas adjacent to existing settlements such as Athenree, Tanners Point, Ongare Point, Kauri Point and Omokoroa.

7.2 Landscapes with Moderate Constraints on Development

7.2.1 Areas with High Visual Amenity Values

A1 Wairoa River Valley

The flat land and side slopes that provide the visual context for the Wairoa River from the river mouth in the north to Tauriko in the south.

A2 Landscape Unit F6 (North of Mt Misery)

The balance of landscape unit F6, north and east of Mt Misery. This area provides an important visual backdrop and landscape context to the lower slopes extending south from Welcome Bay. It includes a visually prominent localised knoll, Kopukairua, located between Waitao Road and Rocky Cutting Road. This landform provides an important backdrop and is a feature when viewed from the area around Rangataua Bay.

A3 Landscape Unit C10 (Maketu)

This unit is visually prominent from both the coast and surrounding flat land. It also provides the context and backdrop for the existing settlement of Maketu.

7.2.2 Areas of Moderate Natural Character of the Coastal Environment

Areas with moderate natural character of the coastal environment include:

(i) the balance of the marine area;

(ii) the majority of the land adjacent to the Tauranga Harbour apart from areas of settlement such as Waihi Beach, Athenree, Tanners Point, Ongare Point, Kauri Point, Katikati and Omokoroa, Papamoa, Maketu and Pukehina Beach;

(iii) Tauranga City from Bethlehem to Welcome Bay; and

(iv) Mt Maunganui from the Port to Pilot Bay (within the harbour) and from the Mount to Papamoa Beach (ocean-side).

7.2.3 View Shafts Identified in the Western Bay of Plenty District Plan

Two areas were identified within the Western Bay of Plenty District landscape assessment (1993) as having visual significance as public view shafts worthy of protection.

These areas are the area directly below the public lookout on the Minden and the land between the State Highway and top end of the Tauranga Harbour on axis with the road alignment when travelling toward Tauranga from the Athenree Gorge.

These areas have been carried through into the landscape constraints mapping as areas of moderate constraint.

7.3 Landscapes with a Low Constraint on Development

A significant proportion of the land area within the SmartGrowth sub-region has been identified as having a low constraint, in landscape terms, in relation to future urban development.

This does not mean that these areas are ‘unconstrained’ in landscape terms. What it does mean is that appropriate future urban development can be promoted in these areas given proper identification and recognition, as well as enhancement, of existing landscape elements and values.

Where areas of ‘low’ landscape constraint adjoin ‘moderate’ or ‘high’ areas of landscape constraint the requirement for a ‘buffer’ or transitional area was discussed. It was determined, however, that in considering the landscape values and attributes of any area of ‘low’ landscape constraint that was planned for urban forms of development this consideration should also take account of the proximity of the higher valued adjacent landscape and provide for the recognition and protection of these values at the interface.

The desirable future approach to development, which will enable the appropriate recognition of these important landscape values, is a comprehensive one such as can be developed through a ‘bottom up’ structure planning process. Such an approach will enable landscape to be considered independent of ownership patterns and will assist in ensuring that desirable environmental and open space patterns are established as part of the urbanisation process.

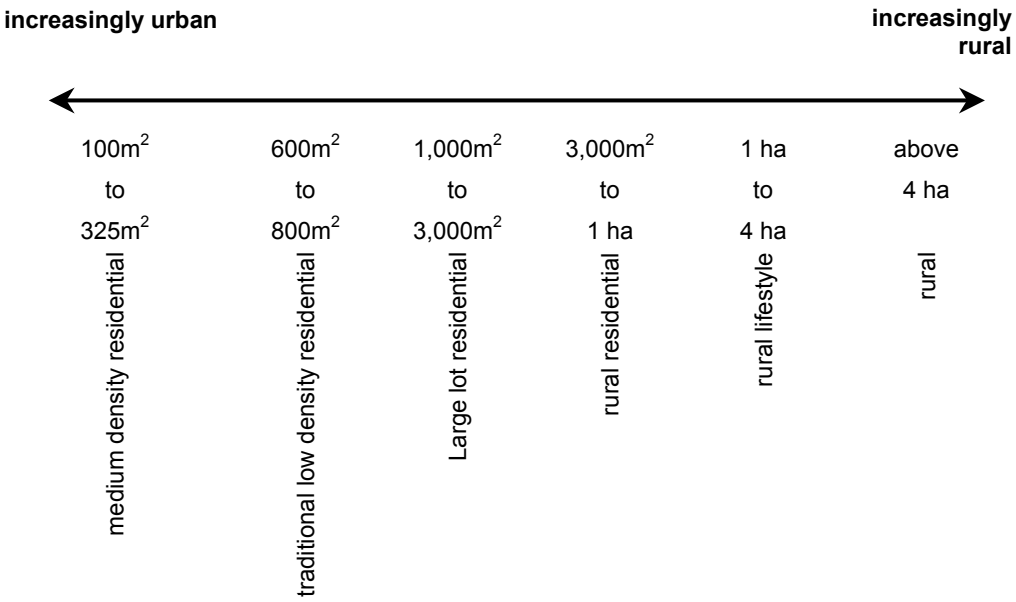
Areas of low landscape constraint should therefore not be seen as ‘unconstrained’ but places where further urbanisation can be considered – in landscape terms – if appropriate levels of more detailed landscape analysis and landscape / site master planning are undertaken to provide for the protection and enhancement of landscape values.

This type of approach will lead to more desirable urban form and patterns of open space within the future urban areas of Tauranga, as well as to the creation of identity and amenity for neighbourhoods within the community.

Whilst the areas of low landscape constraint will direct future urbanisation toward certain parts of the district these areas may also be modified by constraints due to the other biophysical factors identified, such as Maori cultural heritage and cultural landscape values, ecological values, land stability issues, servicing constraints etc.

7.4 Application of the Landscape Constraint Information

The SmartGrowth project seeks to sustainably manage the future urban residential growth of the Western Bay of Plenty sub-region. Future urban residential development will constitute a wide range of forms and densities of development from high/medium density residential housing, which is very urban, through to rural residential and rural lifestyle forms of living that are relatively low density and more rural in character. This range of residential development options can be defined as follows:



The three levels of landscape constraint identified in this study – high, moderate and low – all have levels of constraint in landscape terms should future forms of urban development occur, at the same time some level of development could be appropriate in all three areas if it was designed to be of an appropriate scale, character and intensity.

The areas of high landscape constraint are also those areas that come under the provisions of Part II Section 6 (a) and (b) of the RM Act. Appropriate future urban residential development in these highly constrained areas will therefore be determined by those activities that can meet the test of these 'matters of national importance'. In terms of full urban residential development these areas are highly constrained and should be avoided. The nature of urban development that is more likely to be able to be successfully accommodated within these areas is small scale urban cluster development, such as a resort development, or low density, high quality rural lifestyle development or rural residential cluster development associated with significant areas of rural open space.

Landscape Constraints

In the areas of moderate landscape constraint full urban development is also likely to be difficult to accommodate and these areas should be avoided for this type of urban expansion. Appropriate forms of residential development in these areas will be lower density rural and rural lifestyle development both at typical minimum lot size and in rural cluster forms of development.

The areas of low constraint can be considered for future urban forms of residential development (as well as rural residential, rural lifestyle and full rural) but taking into account the natural landform and landscape amenity values of the locality as well as the area's relationship to the coastal environment (and the extent to which natural character is relevant). In addition issues related to proximity to areas of higher landscape value – the 'high' and moderate' areas – will need to be considered.

Consideration of these factors and a comprehensive approach to urban/rural structure planning that incorporates cultural, archaeological, ecological and landscape values as well as infrastructure considerations will enable the identification of open space networks and rural 'greenbelts' (such as up the river/stream corridors and/or on steeper less stable land and/or in areas of quality soils that have greater potential for rural/horticultural production) that can assist in maintaining the quality of the environment and contribute to the amenity of the future form of the Western Bay of Plenty Sub-region.

8.0 Summary / Conclusions

The natural features and landscapes biophysical constraints mapping presented through this report has identified areas of high, moderate and low constraint on future urban residential forms of development within the Western Bay of Plenty sub-region.

In areas of high landscape constraint – the outstanding natural features and landscapes and areas of high natural character within the coastal environment – extensive forms of urban residential development will generally be inappropriate. This is not to say any urban form of development should be avoided (or prohibited) as an outcome of this study. What it does identify are those areas where lower density or lower impact urban residential development may be able to be accommodated if these are managed carefully in relation to their potential effects on landscape attributes and values. This approach is consistent with Section 6 (a) and (b) of the Resource Management Act (RM Act) which also applies to these "highly constrained" landscapes.

In areas of moderate landscape constraint – those areas of high visual amenity and/or moderate natural character within the coastal environment and/or within the foreground of previously identified significant public viewpoints – more extensive forms of urbanisation, such as rural residential and rural lifestyle development, may be able to be accommodated given careful consideration of their impact and effects on the landscape attributes and values of the area. In general more intensive urban residential forms of development will not be appropriate unless they are contained in pocket locations where their effects can be managed or they are of such a limited scale, e.g. small-scale resort development or rural residential cluster housing, that their impacts are limited. The RM Act provisions more related to these moderately constrained areas are Section 7(c) – amenity values and Section 7(f) – the quality of the environment. Section 6(a) the natural character of the coastal environment also applies although the values are not as high.

In areas where there are low levels of landscape constraint and future urban residential forms of development can be accommodated, but with a finer grained identification of the underlying pattern of the landscape and its values / sensitivities, structure planning is an appropriate mechanism for the consideration of such more finely grained landscape constraint recognition. Consideration of landscape constraints at this level also creates the opportunity to plan open space networks within and between urban areas and to establish and enhance the amenity of urban areas and the quality of the sub-regional environment. Again Sections 7(c) and 7(f) are the primary RM Act provisions of relevance as well as Section 6(a) within the coastal environment.

It is the recommendation of this study that where any form of future urbanisation is considered throughout the sub-region (in areas of high, moderate or low landscape constraint) then a structured planning approach that includes the identification of landscape values, features and opportunities (as well as those other social and environmental values such as cultural, archaeological and ecological values) is adopted.

The Western Bay of Plenty Sub-Region has a diverse landscape character, strongly influenced by the coastal environment and landform. These create distinctiveness that can assist in forming urban environments that are discrete communities supported by a landscape structure that contributes amenity and character. It is increasingly understood that people make choices about where they live based on environmental and quality of life considerations. SmartGrowth constitutes a prime opportunity to plan for a future where lifestyle choice and quality of life are supported by the city's urban form and recognised amenity.

Appendix 1 - Landscape Units

Type		Unit Name	Identifier	No. of Units
■	Ranges	Kaimai Ranges	R.1	2
		Kaimai Summit	R.2	
■	Foothills	Orokawa Bay	F.1	7
		Athenree Gorge	F.2	
		Wainui South	F.3	
		Whakamarama-Minden	F.4	
		Lower Kaimai-Wairoa	F.5	
		Mt Misery-Kaiate	F.6	
		Wharetetarakeho-Otawa	F.7	
■	Harbour	Waihi Beach-Bowentown	H.1	23
		Athenree-Tanners Point	H.2	
		Tahawai-Aongatete	H.3	
		Katikati	H.4	
		Apata-Te Puna	H.5	
		Omokoroa	H.6	
		Islands	H.7	
		Matakana Island	H.8	
		Ohauiti-Kaitemako-Ngapeke	H.9	
		Ohauiti-Kaitemako-Waitute Roads	H.10	
		Maungatapu-Welcome Bay	H.11	
		Matapihi	H.12	
		Tauranga CBD and Port	H.13	
		Tauranga South	H.14	
		Greerton	H.15	
		Waimapu Lowlands	H.16	
		Kopurererua Lowlands	H.17	
		Judea Industrial	H.18	
		Otumoetai	H.19	
		Bethlehem Lowlands	H.20	
		Bethlehem/Tauriko Plateau	H.21	
		Wairoa River Mouth	H.22	
		Wairoa River Valley	H.23	
■	Plateau	Te Ranga	P.1	11
		Pyes Pa	P.2	
		Kaimai-Mamaku Forest	P.3	
		Ngarawa Forest-Otanewainuku	P.4	
		Douglas Corner-Te Ranga School	P.5	
		Te Puke South	P.6	
		Te Puke Township	P.7	
		Upper Kaituna	P.8	
		Pongakawa Valley	P.9	
		Pongakawa-Otamarakau	P.10	
		Upper Pongakawa	P.11	
■	Plains	The Mount	C.1	11
		Mount Industrial	C.2	
		Tauranga Airport	C.3	

Landscape Constraints

Omanu/Bayfair	C.4
Rangataua Bay Industrial	C.5
Papamoa Beach	C.6
Mangatawa Kairua Road	C.7
Papamoa-Kaituna	C.8
Rangiuru	C.9
Maketu	C.10
Pukehina	C.11

The landscape types and units are depicted on Map 1.

Appendix 2 : Visual Quality and Visual Absorption Capability Ratings

Identifier	Unit Name	VQ Rating	VAC Rating
R1	Kaimai Ranges	High	Low
R2	Kaimai Summit	Moderate	Low-Moderate
F1	Orokawa Bay	High	Low-Moderate
F2	Athenree Gorge	Moderate	Moderate
F3	Wainui South	Moderate	Moderate-High
F4	Whakamarama-Minden	Moderate	Moderate
F5	Lower Kaimai-Wairoa	Low-Moderate	Moderate-High
F6	Mt Misery-Kaiate	Low-Moderate	Moderate
F7	Wharetetarakeho-Otawa	High	Low-Medium
H1	Waihi Beach-Bowentown	Moderate	Moderate
H2	Athenree-Tanners Point	Moderate	Moderate-High
H3	Tahawai-Aongatete	Moderate-High	High
H4	Katikati	Moderate	High
H5	Apata-Te una	Low-Moderate	Moderate-High
H6	Omokoroa	Low-Moderate	Moderate-High
H7	Islands	Moderate	Moderate
H8	Matakana Island	Moderate-High	Low-Moderate
H9	Ohauiti-Kaitemako-Ngapeke	Moderate	Moderate-High
H10	Ohauiti-Kaitemako-Waitute Roads	Low-Moderate	Moderate-High
H11	Maungatapu-Welcome Bay	Low-Moderate	High
H12	Matapihi	Moderate	Moderate
H13	Tauranga CBD and Port	Low	High
H14	Tauranga South	Low-Moderate	Moderate-High
H15	Greerton	Low-Moderate	Moderate-High
H16	Waimapu Lowlands	Low	Low-Moderate
H17	Kopurererua Lowlands	Low-Moderate	Moderate
H18	Judea Industrial	Low	High
H19	Otumoetai	Moderate	Moderate
H20	Bethlehem Lowlands	Low-Moderate	Low-Moderate
H21	Bethlehem/Tauriko Plateau	Moderate	Moderate
H22	Wairoa River Mouth	Moderate-High	Low-Moderate
H23	Wairoa River Valley	Low-Moderate	Low-Moderate
P1	Te Ranga	Low-Moderate	Moderate
P2	Pyes Pa	Moderate-High	Moderate-High
P3	Kaimai-Mamaku Forest	High	Low
P4	Ngarawa Forest-Otanewainuku	Low-Moderate	Low-Moderate
P5	Douglas Corner-Te Ranga School	Moderate	Moderate
P6	Te Puke South	Moderate	Moderate
P7	Te Puke Township	Low-Moderate	Moderate-High
P8	Upper Kaituna	Low-Moderate	Moderate
P9	Pongakawa Valley	Moderate-High	Moderate
P10	Pongakawa-Otamarakau	Moderate-High	Moderate
P11	Upper Pongakawa	Moderate	Low-Moderate
C1	The Mount	Moderate	Moderate
C2	Mount Industrial	Low	High
C3	Tauranga Airport	Low	Moderate
C4	Omanu/Bayfair	Moderate	Moderate-High

Landscape Constraints

Identifier	Unit Name	VQ Rating	VAC Rating
C5	Rangataua Bay Industrial	Low	Moderate
C6	Papamoa Beach	Moderate	Moderate
C7	Mangatawa Kairua Road	Moderate-High	Low-Moderate
C8	Papamoa-Kaituna	Low-Moderate	Low-Moderate
C9	Rangiuru	Moderate	Moderate
C10	Maketu	Moderate-High	Low-Moderate
C11	Pukehina	Low-Moderate	Low-Moderate

Appendix 3 – Natural Character Attribute Criteria

The following general descriptors were used to attribute natural character rankings to the coastal (below MHWS) and landward portions of the coastal environment.

Coastline / Seascape

High
- natural unmodified coast/seascape lacking built structures, infrastructure, utilities
- no alteration to coastal/fluvial processes
- predominance of natural patterns

Moderate
- partially modified coast
- limited structures, moorings, buoys
- limited infrastructure/ utilities, coastal track/road
- some exotic vegetation

Low
- highly modified coast
- development on beach
- boatsheds, slipways, jetties, wharves, walls on coastal foreshore
- reclamation
- modified fluvial/coastal processes, coastal protection works

Landward Context

High
- intact natural landform
- predominantly indigenous vegetation
- natural wetlands, dunelands
- natural patterns of hydrology
- natural plant succession

Moderate
- pasture with fencing and shelterbelts
- commercial forestry
- small farms, farm tracks and associated buildings
- some drainage/modification to natural hydrology

Low
- urban areas and built settlements
- channelised/piped stormwater/streams
- predominance of exotic species
- modified landforms

Appendix 4 – Outstanding Natural Features and Landscapes of the Western Bay of Plenty Sub-Region

	Name/Location
O1	Orokawa Bay (whole unit)
O2	Hikurangi-Puketoki-Matangia knolls and ridgeline
O3	The Minden peak and main ridgeline
O4	Mt Misery peaks and main ridgeline
O5	Papamoa knoll and ridgeline
O6	Wharetetarakehe-Otawa bush covered knoll (whole unit)
O7	Kaimai Ranges (whole unit)
O8	Takaurunga, The Summit and upper slopes
O9	Bowentown Heads
O10	Unmodified dunes around Pio's Beach
O11	Tuapiro Spit
O12	Tanners Point
O13	Ongare Point (vegetated edge)
O14	Kauri Point (vegetated edge)
O15	Omokoroa Point (end)
O16	Motuhoa Island
O.17	Rangiwaea Island
O.18	Motungaio Island
O.19	Matakana Island afforested seaward portion
O.20	Kaimai Mamaku Forest (whole Unit)
O.21	Otanewainuku bush covered knoll
O.22	Pareoterawahirua ridgeline and northern slope
O.23	Maketu Estuary
O.24	Okurei Point and headland (Maketu)
O.25	Waihi Estuary
O.26	Pukehina Spit end
O.27	Papamoa – Kaituna Coastal Duneland
O.28	Mauao, Mt Drury, Moturiki and Motuotau Islands
O.29	Airport Wetlands
O.30	Mangatawa
O.31	Upuhue
O.32	Otamataha
O.33	Waimapu Stream and Marshlands
O.34	Matua Wetlands
O.35	Wairoa River

These are depicted on Map 3.

Bibliography:

- Boffa Miskell; September 1993; A Landscape Assessment of the Bay of Plenty Coastal Environment; for Environment Bay of Plenty.
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- Boffa Miskell; 1995; Tauranga District Landscape Study; for the Tauranga District Council.
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F1 H1 H2 F2 H4 H8 H3 H7 H6 C1 R1 F3 H5 C2 H19 H13 C3 C4 H22 H20 C5 H18 H12 H21 H14 C6 H17 C7 H23 H15 F4 H16 H11 H10 P1 H9 F5 F6 C8 C10 P7 C9 F7 C11 P2 P6 R2 P10 P5 P4 P8 P9 P3 P11

SmartGrowth
Building blocks to a better future

Legend

SmartGrowth Area

Landscape Types

- Coastal
- Foothills
- Harbour
- Plains
- Plateau
- Ranges

Landscape Types and Units

Landscape Types are defined primarily on the evolution and configuration of the landform.

Landscape Units define areas of similar landscape character based on landform, landcover and landuse. The different landscape units are indicated by the references shown e.g. P4.

0 5 10 20
Kilometres

Landscape interpretation and assignment by Boffa Miskell.
Map production by Garry Christoffersen, office of the SmartGrowth consortium, Mount Maunaganui.

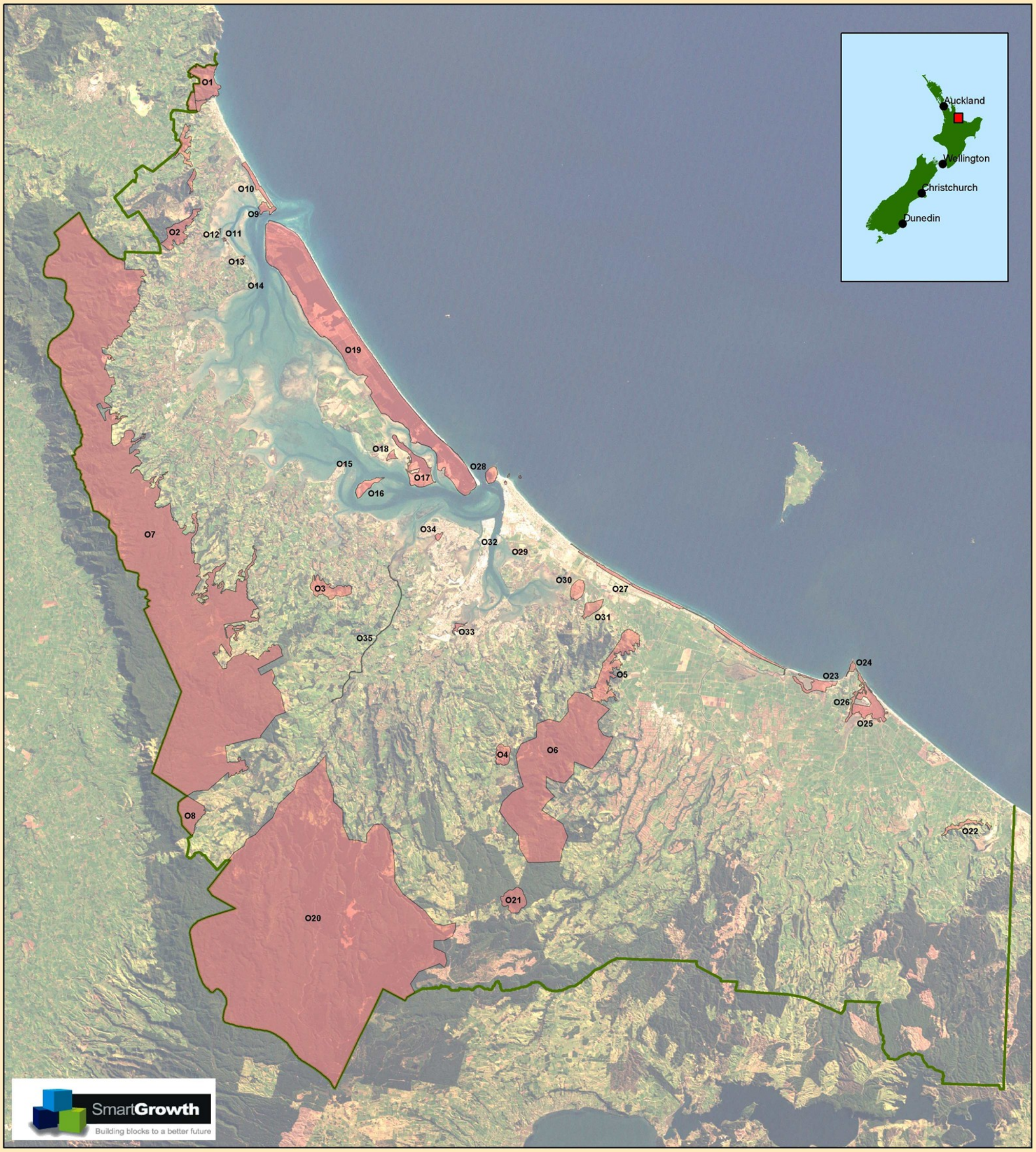
This information is not intended for reference to specific land parcels and should be treated as indicative only and is subject to ongoing refinement.

N

Data sources include the following:

1. Western Bay of Plenty District Visual Landscape Evaluation 1993, Boffa Miskell.
2. Tauranga District Landscape Study 1995, Boffa Miskell.
3. A Landscape Assessment of the Bay of Plenty Coastal Environment 1993, Boffa Miskell.
4. Satellite Imagery from LandSat 7 ETM on 14 August 2000 and post processed by Stella Belliss of Landcare Research, Lincoln.

Published: 15 July 2002, Map Ref: LandscapeUnits



Legend

- SmartGrowth Area
- Features/Landscapes

Outstanding Natural Features and Landscapes

The map indicates the visually significant outstanding natural features and landscapes of the sub-region.

They tend to be either:

a. Dominant landform features such as peaks and ridgelines which provide a visual focus and/or enclosure and/or:

b. Sharp transitions between landform types such as the boundary between land and water

The characteristics that make these areas "outstanding" in terms of Section 6(a) of the Resource Management Act also mean that they are the more highly constrained areas (features and landscapes) in terms of their potential to accept future development, including more urban forms of residential development.

0 5 10 20

Kilometres

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Map production by Garry Christoffersen, office of the SmartGrowth consortium, Mount Maunaganui.

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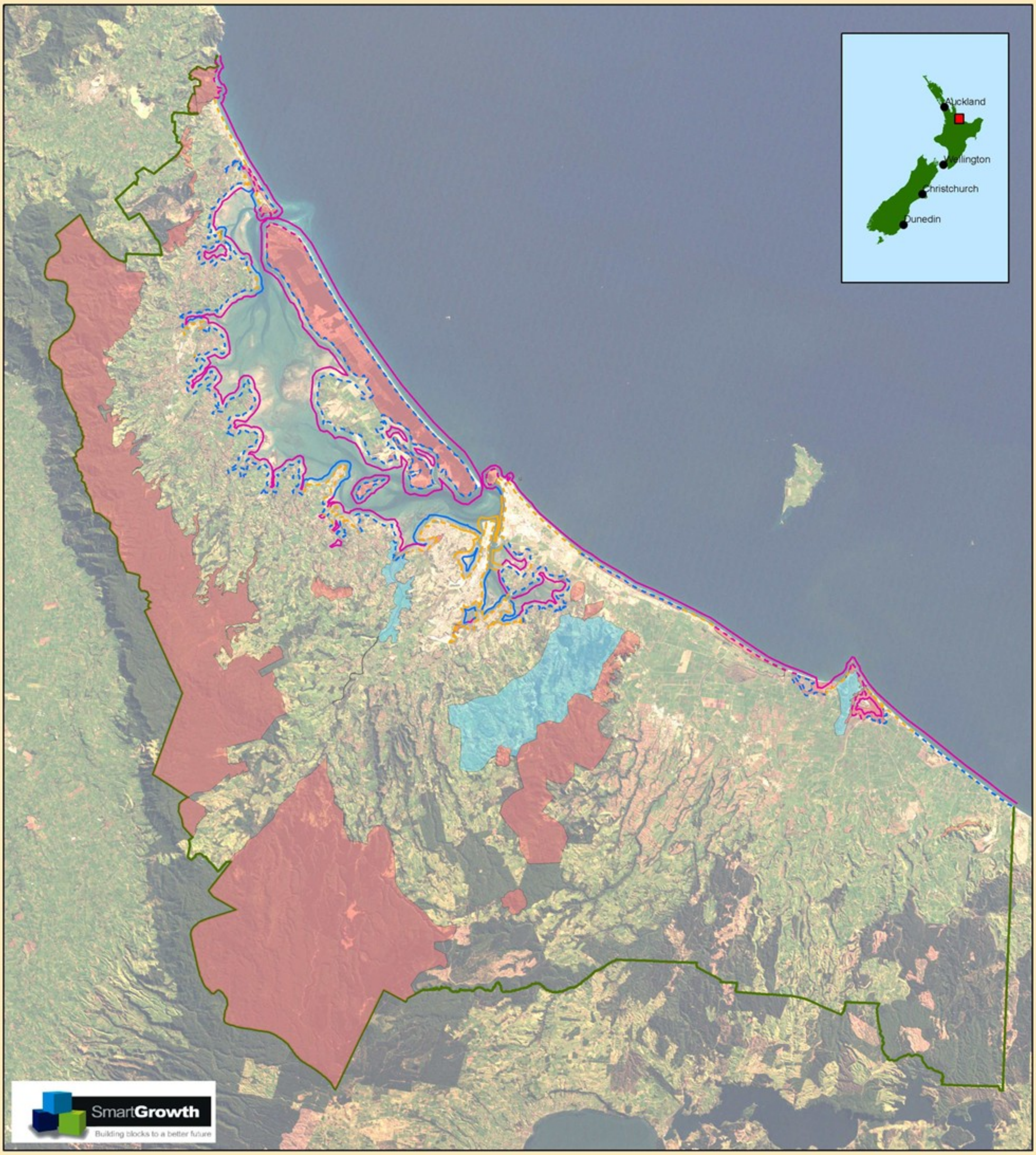
4. Satellite Imagery from LandSat 7 ETM on 14 August 2000 and post processed by Stella Belliss of Landcare Research, Lincoln.

Published: 15 July 2002, Map Ref: LandscapeNaturalFeatures



Legend

- SmartGrowth Area

Natural Character

- Coastal, High
- Coastal, Moderate
- Coastal, Low
- Landward, High
- Landward, Moderate
- Landward, Low

Landscape Constraints

- High
- Moderate

Natural Character of the Coastal Environment and Landscape Constraints

This map identifies constraints to development as a result of landscape values across the sub-region.

The natural character attributes identify areas of the coastal environment which may comprise a constraint on future development, particularly more urban forms of residential development.

0 5 10 20
Kilometres

Landscape interpretation and assignment by Boffa Miskell.
Map production by Garry Christoffersen, office of the SmartGrowth consortium, Mount Maunaganui.

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4. Satellite Imagery from LandSat 7 ETM on 14 August 2000 and post processed by Stella Belliss of Landcare Research, Lincoln.

Published: 15 July 2002, Map Ref: LandscapeConstraints