



Buller Plateaux | Landscape Study



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Executive Summary

This landscape study was commissioned by Bathurst Mining Limited as a baseline report of the coal-bearing Denniston and Stockton plateaux, which along with 1000 Acre Plateau make up the Buller Plateaux. The landscape study is to be regarded as an expert’s opinion as no community consultation was undertaken during the preparation of the study.

The objective of this study is to describe the Denniston and Stockton plateaux landscapes and identify and evaluate the existing landscape values of each plateau. The study has been compiled as a written report illustrated with maps, aerial and land-based photographs. The methodology is set out in the report and is consistent with the Te Tangi A Te Manu - Aotearoa New Zealand Landscape Assessment Guidelines (Final Draft subject to final editing, graphic design, illustrations, approved by Tui Pita Ora/NZILA, 5 May 2021).

The purpose of identifying landscape values of the Denniston and Stockton plateaux is to assist in understanding the landscape resource and its values to enable the appropriate long-term management of these landscapes. Progressive approaches to identifying and assessing this resource extend beyond the visual quality to include physical, associative, and perceptual values.

The statutory framework is set out as part of the introduction followed by a description of the broader West Coast regional and Buller District landscapes as part of the context for this study. At a local site scale, the Denniston and Stockton plateaux are delineated and described with reference to technical reports and land data bases as well as evidence prepared over the years by other landscape architects in response to various mining applications. The plateaux are then characterised with landscape values identified according to physical, associative, and perceptual attributes. Finally, each plateau is evaluated in terms of its landscape significance to determine whether both, or individually, the plateaux meet the thresholds of naturalness and significance to be classified as an Outstanding Natural Feature or Landscape (ONF/L).

Denniston Plateau is readily identifiable as a roughly circular area covering approximately 1,750 ha. Although parts of the plateau are distinguished by up-warp and down-warp tilted sections and interrupted by the Whareatea River Gorge, overall, there is a consistent landscape character and geomorphology across the plateau. Generally, areas of sandstone

pavement, vegetation, streams, artificial reservoirs, and wetlands are distributed in a mosaic-like pattern across the Denniston Plateau. Three main types of vegetation are recognised, including the pakihi herb field grassland as the most widespread vegetation type, followed by scrubland vegetation and mixed beech/podocarp forest, which is mainly associated with gullies and the Whareatea River gorge. Disturbed sites and extensive modification from historic mining activity are prevalent with a network of roading and transmission infrastructure common across the Denniston Plateau. Opencast mining is currently operating at the Escarpment Mine at the south-eastern corner of the plateau. The Cascade Mine, which lies on, but outside, the Denniston Plateau’s eastern boundary is also accessed via the plateau’s roading network. The plateau is readily accessible to the public and its historic settlement is a significant tourist attraction/destination with interpretation panels and artefacts on display.

Denniston Plateau Landscape Values

Physical Values are very high and relate to the unique geology and geomorphology with high quality Tertiary coal measures. Although much of the Denniston Plateau is protected as stewardship land under the Department of Conservation’s (DOC’s) management, its vegetation has been highly modified. Two nationally threatened species and four historically rare ecosystems are found on the plateau. The carnivorous snail subspecies (*Powelliphanta patrickensis*) is also found on the plateau and DOC is managing the conservation of this snail.

Perceptual Values

Perceptual values are very high. These are based on the perception of natural character, legibility, the appreciation of cultural heritage and human endeavour, transient qualities, recreational opportunities, and a generally high austere aesthetic.

Associative Values

Associative values are widely recognised with very highly valued historical and heritage characteristics (Category 1 Historic Place) associated with mining but also relating to tourism and recreation.

Denniston Plateau has been described in considerable detail by other landscape architects in response to various mining applications. Although their work occurred over several years and different methodologies were employed by the landscape architects, their opinions, nevertheless,

have merit. A brief precis of the evidential findings of the six landscape architects has been included in the study. Their findings reach a consensus with regard to the highly significant values associated with the Denniston Plateau however, there was some dispute over whether or not the plateau was sufficiently natural to be an Outstanding Natural Feature or Landscape.

The Environment Court concluded that due to the prevalence of human intervention and modification the Denniston Plateau was not sufficiently natural to be an ONF/L and this study comes to the same conclusion.

Stockton Plateau covers 4,704.65 ha and lies more or less parallel to the coastline of the West Coast but between surrounding mountain ranges. The boundaries of the Stockton Plateau were based on several considerations including a Golder Associates Limited report, aerial maps, topography and site observations, resulting in an area that shares particular landscape attributes such as underlying coal measures, low relative relief, existing land cover and current/consented land use. In order to readily comprehend the nature of the Stockton Plateau landscape it has been divided into three main landscape character units (LCUs) based on differences in topography, land cover, and use.

LCU 1 comprises the northern two thirds of the Stockton Plateau and contains the opencast workings of the Stockton and Cypress mines. A small central portion of this LCU remains in a relatively undisturbed natural state with some notable features including Whirlwind Rise, the Webb Fault escarpment, areas of low-stature native forest, exposed pavement and tussock grassland dissected by deeply incised streams. A shallow tarn complex and sandstone erosion pavement are recognised as a historically rare habitat. Rehabilitated and revegetated areas are recognisable and continuing to establish.

LCU 2 is contained within the southern third of the Stockton Plateau, being bounded by the Waimangaroa River Gorge to the south and the seaward mountains to the west. LCU 2 is a large, relatively undisturbed, area of gently sloping plateau comprising extensive areas of exposed sandstone rock pavement, deeply incised streams and a distinctive scarp named Rata Ridge.

LCU 3 comprises the north-south trending shallow-dished valley of the Waimangaroa River, which covers 494.71 ha along the eastern edge of the Stockton Plateau. The valley is dominated by its relatively dense and mostly continuous forest cover and the Waimangaroa River. The southern part of the river valley is, however, obviously modified by power transmission infrastructure, Cedar Creek Road that connects to the Denniston Plateau, and the presence of historic underground mines.

Stockton Plateau Landscape Values

Overall LCU 1 is dominated by an industrial character with landscape modifications resulting from the presence of dams, stormwater retention structures, roads, stockpiles and infrastructure relating to power supply. Physical and perceptual values are generally very low except where they are derived from the culture of mining and contribute to associative values.

The high physical values attributed to LCU2 relate to the unique geology and geomorphology, high quality Tertiary coal measures, legibility, and general lack of modification. Historically rare habitats include exposed sandstone erosion pavement and significant species (Chionochloa juncea), plus a confined area of acidic boulderfield. The perceptual values include the high level of natural character, sandstone pavement landscape associated with strongly coherent patterns of drainage and vegetation and the overall landscape character unit being distinctive and memorable. It displays a unique sense of place conveyed by the intact and unique landform and vegetation with high transient values and an austere aesthetic. The mining and exploration permits within LCU 2 indicate that associative values are high.

LCU 3 has moderate-high physical and perceptual values, mainly derived from the moderate to high level of natural character and aesthetic qualities of the forest cover, particularly over the northern part of this LCU. Values are, however, reduced by the level of human modification in the southern part of LCU 3. Associative values are derived from the mining heritage and the mining permit held by BT Mining Limited that extends over LCU 3.

Evaluation of Landscape Significance

The final section of the baseline study evaluates whether the Denniston and Stockton plateaux landscapes meet the significance thresholds under the Resource Management Act 1991, Section 6(b). The two threshold tests are naturalness and outstandingness.

Denniston Plateau. In brief, despite passing the outstanding threshold regarding the physical, perceptual and associative values, Denniston Plateau is assessed as being of Moderate – Moderate-High naturalness and therefore does not meet the threshold for naturalness. In summary, this study finds that the Denniston Plateau is not sufficiently natural to warrant classification as an ONF/L.

Stockton Plateau. The following paragraphs set out the findings of this study relating to the Stockton Plateau LCUs.

In brief, although LCU 1 displays some significant physical values they are limited to local features and the extent of modification resulting from mining is pervasive to the extent that LCU 1 does not meet either the naturalness or significance threshold to justify being an ONF/L.

LCU 2 has High–Very High naturalness and has Very High physical, perceptual and associative values that meet the threshold for significance. LCU is relatively small at 1,100 ha in area but displays an inner sense of coherence and unity and is recognised as an uninterrupted area possessing homogeneity in its core with clearly defined limits. In this regard LCU 2 can be understood as a feature in terms of s6(b). Overall, in terms of scale, and by meeting the thresholds of both ‘naturalness’ and ‘outstandingness’, LCU 2 can be considered an ONF within the Stockton Plateau landscape.

LCU 3 displays a Moderate–High naturalness and although there are Moderate-High aesthetic, and legibility values they are relatively common, and of greater quality (being intact and extensive) elsewhere throughout the Buller District. Overall, the values within LCU 3 are not considered sufficiently outstanding at a district level to justify being an ONL.



Photograph 1 : View across Denniston Plateau.



INTRODUCTION



Introduction

In March 2020 Rough Milne Mitchell Landscape Architects were commissioned by Bathurst Resources Ltd (Bathurst) to prepare a baseline landscape study of the Buller Plateaux, Westland Region (*refer Map 1, page 12*). The Buller Plateaux are defined as the collective area of the Denniston and Stockton Plateaux. The objective of the study was:

To provide a baseline study including identification of the specific landscape values across the Buller Plateaux noting that there is already a significant amount of landscape information available on the Denniston and Stockton Plateaux from previous consenting applications and the ongoing ecological mitigation and offsetting work.

The Te Tangi a te Manu Aotearoa New Zealand Landscape Guidelines¹ provides the current professional definition of landscape as:

Landscape embodies the relationship between people and place: It is the collective characteristics of an area, how the area is experienced and perceived and what it means to people.

Essentially, current professional practice in New Zealand conceptualises landscape as the overlap of its physical, associative, and perceptual dimensions, which may change over time.

Landscape values are the reasons the landscape is valued¹ – the things that are important or special or meaningful or notable and may be physical, associative and or perceptual reasons.

The purpose for identifying values is to manage landscapes. This area-based study has been carried out to provide an understanding of the landscape resource and its values for strategic resource management decisions.



Photograph 2: Eastern edge of Denniston Plateau looking north to Stockton Plateau.

¹ Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines. [Final Draft subject to final editing, graphic design, illustration, approved by Tuia Pito Ora/NZILA 5 May 2021].

Methodology

The baseline study was undertaken using a combination of methods including a desk-top study of information, a review of relevant Resource Consent applications, evidence, and decisions, Outstanding Natural Landscape studies, site information supplied by Bathurst, statutory provisions, scientific inventories, and GIS mapping, etc. References and information sources are listed in Appendix A. A site survey was undertaken on foot, and by helicopter, and photographs were taken to record the landscape of the Buller Plateaux. The baseline study includes a written report with supporting graphic material comprising GIS maps, topomaps, aerials, and photographs.

Descriptions are provided at the broad-scale context of the Buller District, the Buller Plateaux at an intermediate scale, and the Stockton and Denniston Plateaux at a local site scale. The extent of the Denniston and Stockton plateaux landscapes are based on the geomorphological assessments prepared by Dr M Mabin and Golder Associates respectively, essentially using the methodology outlined by Dr Mabin². The boundaries are derived from the attributes of the landscape, which in the case of the plateaux comprises the distinctive topography, vegetative cover and land use history that sets them apart from adjacent landscapes.

The assessment framework for this baseline study firstly entails a descriptive and interpretive phase where the plateaux landscapes are delineated, described and, where appropriate, are characterised into landscape character units (LCUs).

The LCUs are defined by shared characteristics associated with their relief, orientation, vegetation cover, water bodies, land uses and structural content. Each landscape character unit is then analysed and evaluated for its significance or value with respect to values associated with three broad categories of landscape attributes:

- i. physical attributes
- ii. perceptual attributes
- iii. associative attributes

The relative values that are identified for the plateaux landscapes are undertaken as a professional assessment, bearing in mind that a landscape may be valued by different stakeholders for a variety of reasons and will not necessarily align with those valued by members of the community.

Some of the physical attributes may convey values associated with natural science attributes and these have been based on the assessments of experts with relevant scientific training.

Perceptual values are often qualified as having sensory, experiential, and aesthetic dimensions. The perceptual values are derived from an aspect of the experience of the complex relationship between the individual and the environment, the individual's appreciation of the aesthetic characteristics³ of the environment and the evaluation of the total experience influenced by value systems and beliefs, knowledge, the activity engaged in, and imagination. For the purposes of this baseline assessment, amenity⁴ is considered to relate to visual amenity and generally stems from an appreciation of the perceptual characteristics and qualities of the environment.

The associative factors, also termed shared and recognised, cultural, and spiritual values for tangata whenua or community held, respond to the various reasons why the community or interested parties find meaning and value in the landscape. These are widely acknowledged in various forms including the media, internet, art, and statutory designations.

It is important to note that factors straddle dimensions (e.g., naturalness is a function of physical, perceptual, and associative dimensions) and the relative weight given to a factor depends on context. For example, most of the Buller District is public conservation land and much of this tends to be at the pristine end of the naturalness spectrum, particularly the immediately surrounding environment of the plateaux landscapes.

The process of landscape characterisation also involves the assessment of natural character, which is an aspect of the broader concept of landscape character. The level of natural character⁵ determines whether a landscape is natural enough to be considered an Outstanding Natural Feature or Landscape (ONF/L) and then evaluated for its significance and /or values to achieve the purposes of the Resource Management Act 1991 (the RMA), Section 6 Matters of National Importance.

While ONF/Ls may be identified solely for earth science values they are generally outstanding for a combination of physical, associative, and perceptual values. The ONF/L values (the reasons an ONF/L is considered outstanding) are key to determining what is to be protected and what will constitute inappropriate subdivision, use and development.

NOTE:

This baseline landscape study has been prepared at one point in time (2020 – 2021) accepting that change is an inherent quality of landscapes. This is particularly relevant to this baseline study because it references previous assessments that were prepared some years ago and since then changes have occurred both naturally and by human intervention.

The scale of this baseline assessment has implications for which characteristics and values are deemed relevant and/or significant. At a district scale (at which the court has directed ONL/Fs to be identified) the implications are related to the context given the Buller District contains very large areas of public conservation land of varying categories, which determine the purpose and level of protection required.

The public conservation land includes two National Parks (Kahurangi in part and Paparoa, Victoria Forest Park, Lewis Pass and the Upper and Lower Buller Gorge Scenic Reserves, Orikaka, Ngakawau, Mokihinui Forks, and Karamea Bluff Ecological Areas, plus other smaller areas and including public conservation land that is categorised as stewardship land.

National Parks are generally towards the pristine end of the naturalness scale and regarded as ONLs because of their values identified prior to establishment and because of the Department of Conservation (DOC) mandate. Other reserves and conservation areas may have high natural character and other values, but they may not necessarily be valued as ONL/Fs.

This baseline study has been prepared at a local site scale, noting that the landscape scale is influential in determining the relative magnitude or significance of effects. Inevitably this will tend to overemphasise the values associated with the plateaux.

This baseline study relies on professional judgement and no community consultation, including with the tangata whenua, has been directly undertaken to determine wider community values. However, where possible reference⁶ is made to other landscape and technical reports, expert evidence and studies that have provided information on values associated with the Denniston and Stockton Plateaux. A review of this information is set out as a brief precis on pages 44-46 and identifies where opinions on values pertaining to the plateaux differ.

² Mabin, M. C. (2012). Statement of Evidence - Denniston Plateau Geomorphology.

³ Formal factors associated with aesthetics are those characteristics of form, line, texture, colour depth, space, etc (arising from interactions of landform and vegetation, etc) Expressive properties such as coherence, legibility, tactile nature, and feelings evoked by transient effects, and the scale of the landscape and representational properties that symbolise historic human endeavor, have meaning and/or evoke particular associations.

⁴ Amenity is defined in the Resource Management Act as meaning, those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence and cultural and recreational attributes.

⁵ New Zealand Institute of Landscape Architects. (May 2021) Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines. Final Draft subject to final editing, graphic design, illustrations, approved by Tuia Pito Ora / NZILA. Glossary, Natural Character: a term used to describe the naturalness of the landscape. An area's distinct combination of natural characteristics and

qualities - including degree of naturalness.

⁶ Refer Appendix A.

Relevant Statutory Documents

The output of this baseline study of the Denniston and Stockton plateaux will provide guidance and inform future decisions on the management of these landscapes, be it for protection, productivity, development, enhancement, or rehabilitation. The baseline study aligns with the purpose, matters of national importance and other matters and policies pertaining to landscape identified under the relevant statutory documents.

The most relevant statutory documents include:

The Resource Management Act 1991 (RMA)

The RMA is the umbrella document under which the hierarchy of planning instruments are subservient to. The parts of the RMA most relevant to landscape matters are found in Part 2, Section 6 which states:

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance;

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

(b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development;

(c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna;

(d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers;

(e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga; and

(f) the protection of historic heritage from inappropriate subdivision, use, and development.

Relevant landscape matters are also found in Section 7 Other matters, which states;

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to—

(c) the maintenance and enhancement of amenity values;

(f) maintenance and enhancement of the quality of the environment.

West Coast Conservation Management Strategy, Volumes 1 and 2, 2010-2020 (CMS)

The CMS is the overarching strategy for protecting the cultural, natural, historic, and recreational values on public conservation lands and waters on the West Coast. The CMS provides the framework to manage the natural, historical and cultural heritage values and recreational opportunities within the Conservancy over a 10-year period and review progress in achieving the desired outcomes and objectives of the CMS.

The Denniston Plateau is public conservation land categorised as stewardship land⁷. The Denniston Plateau lies within Kawatiri Place and is identified as having natural, historical, and cultural heritage values (refer Map 3, page 17 and Map 4, page 18). All public conservation lands on the West Coast have been zoned for different types and levels of recreational use. Denniston is zoned as a Front Country Site with facilities providing access to scenic attractions/heritage and recreation. It is managed by DOC.

The Stockton Plateau contains a small area of conservation land (categorised as stewardship land) but the majority is private land. The DOC, via delegated authority from the Minister of Conservation, can authorise use of public conservation lands through a concession or some other form of authorisation (e.g., access arrangements under the Crown Minerals Act 1991 for mining). The various mining licences and permits that have been granted for the plateaux are mapped for each plateau (refer Map 14, page 33).

West Coast Regional Policy Statement, 24 July 2020 (RPS)

The relevant RPS sections outlining objectives and policies are as follows:

Chapter 5. Use and Development of Resources

The objectives and policies give effect to the RMA and the objectives seek,

1. To recognise the role of resource use and development on the West Coast and its contribution to enabling people and communities to provide for their social, economic and cultural wellbeing.
2. Incompatible use and development of natural and physical resources are managed to avoid or minimise conflict.

Chapter 7 Ecosystems and Indigenous Biological Diversity

Chapter 7 Objectives and policies seek to protect areas of significant indigenous vegetation and significant habitats of indigenous fauna along with protecting natural character, outstanding natural features and landscapes. Specifically Chapter 7B. Natural Features and Landscapes objectives and policies seek a balanced approach to protecting values and at Policy 3 list matters that must be considered when determining if an activity is appropriate. The Objectives seek to;

1. Protect the region's outstanding natural features and outstanding natural landscapes from inappropriate subdivision, use and development.
2. Provide for appropriate subdivision, use and development on, in or adjacent to outstanding natural features and outstanding natural landscapes to enable people and communities to maintain or enhance their economic, social and cultural wellbeing.

Buller District Plan (BDP)

The plateaux are zoned rural under the Buller District Plan. Neither the Denniston or Stockton Plateaux are recognised as ONF/L by the BDP. (refer Map 2, page 14).

The following description provides the broad-scale regional landscape context that the Buller Plateaux landscapes sit within.

⁷ **Stewardship area** (or stewardship land) is an area defined by exception. They are conservation areas that have not yet been assessed and identified as requiring any additional protection. Stewardship areas include land that was given to DOC when it was established in 1987 because it was considered to have conservation value. DOC is working through a process of reclassifying this land so that it has the appropriate layers of protection. However, stewardship land is still protected under the Conservation Act and cannot be disposed of unless there is no or low conservation value.

Landscape Context Description

West Coast Region

Chapter 2 of the RPS provides a good general description of the West Coast (the Coast) that assists in comprehending the plateaux in the context of the West Coast Region in the Buller District, the extent of which is outlined on Map 1. The proposed RPS (March 2015) also provides some basic information about the Coast and is included below.

The Coast is a region extending over 600 km from Kahurangi Point in the north to Awarua Point in the south, lying between the Southern Alps and the Tasman Sea. DOC administers 84% of the region's land and, in a national context, one quarter of New Zealand's protected land is on the West Coast. The following key points about the region have been extracted and adapted from Chapter 2 of the operative RPS:

Landform and Geomorphology

The Coast has been described as a region of mountains, rainfall, and rivers. These features, combined with the processes of uplift and erosion, have resulted in a landscape of unique character, two-thirds of which is mountainous.

The Alpine Fault runs most of the length of the region. East of the fault are deeply dissected mountain ranges. The region has many rivers and to the west of the Alpine Fault rivers and streams are, mostly, steeply graded – the distance from source to sea seldom exceeding 50 km. Towards the coast alluvial and beach deposits occupy a 10-15 km wide strip, which extends inland along river systems. Several mineral resources, including coal, gold, ilmenite and limestone, are found throughout the region.

Land Cover

Three-quarters of the region has a cover of indigenous forest. Much of the forest cover, which is characteristically podocarp, beech or other hardwoods or a mix of all three, is Crown land administered by DOC. Large tracts of West Coast forests remain untouched by logging or fire and represent intact altitudinal sequences of vegetation from valley floors, or the coast, to the mountain tops in the region's national parks and numerous reserves. West Coast vegetation is a major component of the region's natural beauty and compared to other regions, the Coast is rich in its level of remaining biodiversity.

Land Use

Prior to European settlement and the discovery of gold in about 1864, the Coast was home to Poutini Ngai Tahu who engaged in the trade of timber, pounamu, mahinga kai (food) sources, art and weaponry, and land access agreements, both internally and inter-tribally. Post 1864 the Coast's economy has historically been based on the utilisation of the region's natural resources – notably gold, timber and coal. Early last century farming came to occupy a pre-eminent place in the regional economy and in recent times, farming activity has intensified through dairying.

The West Coast is internationally recognised for its landscape features, and tourism, long-established at the glaciers, is playing an increasingly important role in the West Coast economy. Public conservation land, which comprises the bulk of the region's habitats and landscapes, is a major economic contributor to tourism.

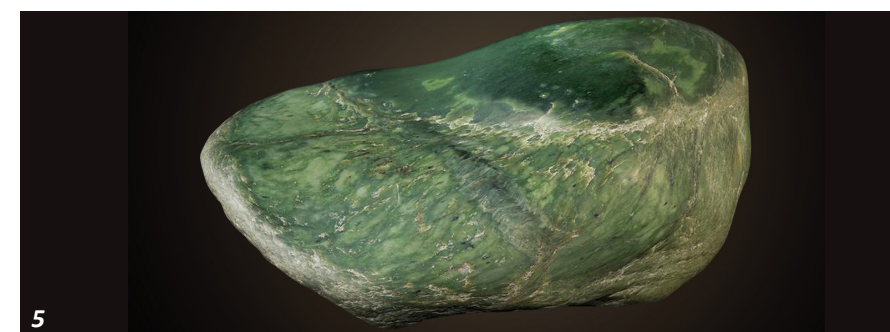
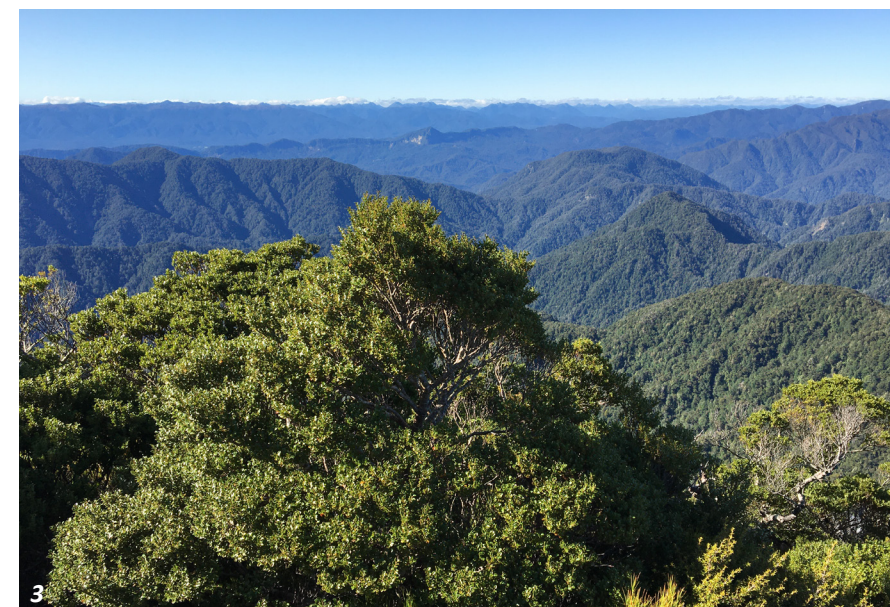
Substantial deposits of coal, gold and industrial minerals are found in the region and some of these deposits are of national strategic and economic importance. Extensive bituminous and sub-bituminous coalfields exist north of Greymouth. Extraction from these coalfields has accounted for a significant amount of the national coal production.

Aside from mining, farming and tourism, which are the three mainstays of the Coast's economy, other industries based on natural resources include forestry, fishing, sphagnum moss harvesting, and food production, as well as a thriving arts industry based on pounamu, gold, wood, stone, and copper.

Buller District

The Buller District lies along the west coast of the South Island flanked by the Tasman Sea to the west, between Punakaiki in the south through Westport to Karamea and the Kahurangi National Park in the north, and the gold town Reefton and the Victoria Forest Park in the east.

The extent of the Buller District is over 8,574 km² and is delineated on Map 1, page 12, and the study area identified within the district are the Denniston and Stockton plateaux. The Buller District landscape is fundamentally shaped by four major influences – its geomorphology, the Tasman Sea, its climate, and its rich cultural history.



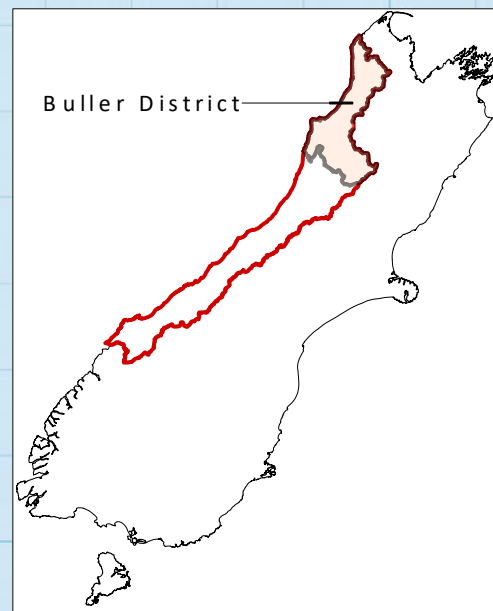
Photograph 3 : Mountainous region.

Photograph 4 : Gold mining.

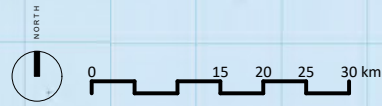
Photograph 5 : Pounamu.

LEGEND

-  STOCKTON & DENNISTON PLATEAUX
-  1,000 ACRE PLATEAU



Westland Region



MAP 1
BULLER DISTRICT
CONTEXT



The Buller District Plan (BDP) contains a comprehensive description of the district and most of the following key points have been extracted from Part 3 of the BPD to assist in comprehending the context of the district.

Landform and Rivers

The Buller District is predominantly hilly with steep, deeply dissected mountain ranges and foothills trending north south. The plains are restricted to a narrow discontinuous strip along the West Coast, and river terraces in discrete places along the major rivers, although most rivers have formed deeply incised gorges through the mountains.

Rugged mountainous terrain and terraced valleys characterise much of the district. The main alpine peaks and ridge sequences are the Iwituaroa Range, the Tasman Mountains, the Fenian and Arthur ranges to the north, the Scarlett, Radient, Matiri, Glasgow, Lyell and Mt William ranges along the eastern boundary with the Brunner, Paparoa, Victoria and Freyburg ranges to the south. The ranges are between 900 and 1,775 masl in elevation. The inland Brunner and Victoria Ranges are built up from basement rocks of greywacke and various argillites that have been extensively folded and faulted. These are the source of the gold-bearing quartz in the Reefton area.

Granite and sedimentary rocks dominate the Karamea region, and a lowland band of limestone has been carved by water into many natural features including, canyons, caves, and arches. Further south are coastal ranges and alpine landscapes including the Paparoa Range. The Buller coal measures are also a feature of the district. Many of these landforms represent important tourist attractions, recreational assets and resources that contribute to the district's identity.

Several river systems flow through deeply-incised gorges and result in alluvial plains with features such as marine and alluvial terraces, and deltas. The Buller River is by far the largest river system in the district and is widely recognised for its wild and scenic values, and recreational opportunities. Other significant rivers in the district include the Heaphy, Karamea, Mokihiui, Ngakawau, Maruia, Inangahua, and the upper reaches of the Grey River. The Inangahua area contains the Alpine Fault and Main Divide, while alpine lakes and tarns exist in the Paparoa and Mt Victoria ranges. There are also two large valley floors in the district - one around Ikamatua, known as the Ikamatua Plain and another further north, is the Maimai Plain.



Photograph 6 : Kawatiri/Buller River.

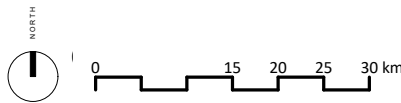
Photograph 7 : Westport coastline.

LEGEND

- SEA
- NATURAL ENVIRONMENT AREAS
- RURAL
- PAPAROA CHARACTER AREA
- CEMENT PRODUCTION
- STOCKTON AND DENNISTON PLATEAUX

SOURCE: BULLER DISTRICT COUNCIL PLANNING MAPS

MAP 2
BULLER DISTRICT
DISTRICT OUTLINE
AND ZONES



The coastal environment has a significant influence on the character of the Buller District. The coastline comprises a distinct combination of sandy beaches, cliffs, and estuarine lagoons. The district has a wide range of geodiversity that is apparent in its natural landscapes. The New Zealand Geopreservation Inventory has identified the following internationally, nationally and regionally significant sites within the district;

- | | |
|---|---|
| Denniston Plateau | Inangahua Earthquake slip scarp |
| Denniston Incline and coal workings, | Inangahua Junction 1968 fault scarp |
| Denniston Road conglomerate sequence | Oweka rock block slide |
| Burnett Stream porphyry | Whitecliffs bluffs |
| Charming Creek coal mine and tramway | Waitahu River Devonian section, Reefton |
| Stockton structural detachment | Lankey Creek Devonian fossil locality |
| Ngakawau Gorge | Yorkey Creek Devonian fossils |
| Torea Rocks brecciated granite | Rainy Creek Devonian fossils |
| Little Wanganui River mouth | Larry River terraces |
| Oligocene debris flows and fossils | Mt Misery cirques |
| Buller Gorge | Thousand Acres Plateau |
| Payne Creek granodiorite | Lake Matiri rock block slide |
| Buller Gorge non-marine sedimentary sequence and plant beds | Lake Matiri debris dam |
| Dee and Ram Creeks 1968 fault scarp | Murray Creek gold mines |
| Lyell Creek gold workings | Springs Junction Devonian road section, Reefton |
| Dublin Terrace fault scarp | Mariua River faulted terraces |

The soils on rolling and hilly land are very strongly leached to podzolised. They are very low in fertility, and many have poor drainage from siliceous sandstone, quartzite, conglomerate and granite. On steeper country, stony steepland soils form greywacke, sandstone, granite conglomerates with low natural fertility.



Photograph 8 : Buller District coastline.

Photograph 9 : Charming Creek.

Photograph 10 : Ngakawau Gorge.

Land Cover

The Buller District contains 11 ecological regions including the Heaphy – 46.05, Wangapeka – 46.06, Karamea – 46.08, Matiri – 46.09, Ngakawau – 48.01, Reefton – 48.04, Buller – 48.03, Foulwind – 48.02, Punakaiki – 48.05, Maimai – 48.06 and Totara Flat⁸ (refer Map 5, page 19).

The predominant land cover in the district is indigenous forest, 95% of which is under the direct control of the DOC. Above the bush line, at approximately 1200 masl, a belt of subalpine stunted trees and shrubs merge into alpine grassland and herb field, bare rock and scree through to snow levels (refer Map 6, page 20).

North of Punakaiki, parts of the coastline sheltered by mountains and moderated by the Tasman Sea have a subtropical microclimate with lush vegetation including the distinctive nikau palm and *Metrosideros* species. Although the vegetation varies, the mountain ranges and foothills are dominated by indigenous, predominantly beech and podocarp-broadleaf/ beech forest throughout the central part of the district. Beech forest is widespread in the Mokihinui catchment, the northern tributaries of the Buller inland from Inangahua, and the central parts of the Paparoa Range.

On the Glasgow Range the vegetation is predominantly indigenous podocarp/beece forest mainly rimu/silver beech/mountain beech forest, with concentrations of rimu and kahikatea on riparian terraces, and pure silver beech forest forming a low tree line at approximately 1,300 masl.

The tall forest is mainly on surrounding granite, gneiss and greywacke and includes alpine and subalpine species not usually found at this altitude. In limestone gully areas *Pseudopanax linearis*, *Myrsine divaricata*, kamahi, mountain toatoa and occasional mountain beech is found. Between Charming Creek and the upper Ngakawau Gorge, mountain beech, yellow-silver pine forests with emergent silver pine occurs related to low fertility, poorly drained soils and cold temperatures. Pakihi bogs are common.

Much of the dense coastal forest has been cleared. Lowland forest on fertile alluvial sites has also largely vanished from the coastal strip and along the Buller River but stands of tall kahikatea/rimu forest still remain in some inland lowland basins.

Wetlands are numerous and also include natural and induced pakihi, which are areas of wetland supporting a low, stunted, vegetation community on wet, generally infertile, soils. The district contains a number of threatened, uncommon and endemic species of vegetation, fauna and flora.

Land Use

Maori occupation of Buller (Kawatiri) extends back several centuries and is strongly related to the pounamu resource and trading. Traditionally, settlements have been coastal and associated with nearby rivers, tidal lagoons, and estuaries.

Agriculture is an essential component of the Buller economy and is largely confined to small-discontinuous coastal strips, river valleys, and alluvial terraces, covering an area of over 131,000 ha. Dairying is the most common farming activity, followed by mixed livestock and beef farming, and there are areas of exotic production forest in the district with the main blocks being in the Mokihinui, Charleston and Reefton areas.

The Buller District is relatively well-endowed with a variety of mineral resources. They include substantial reserves of coal, relatively widespread alluvial gold, and mineral sand deposits. Most of the coal is taken from the Stockton Mine and industrial minerals, in particular limestone, are currently extracted from other localities in economic quantities.

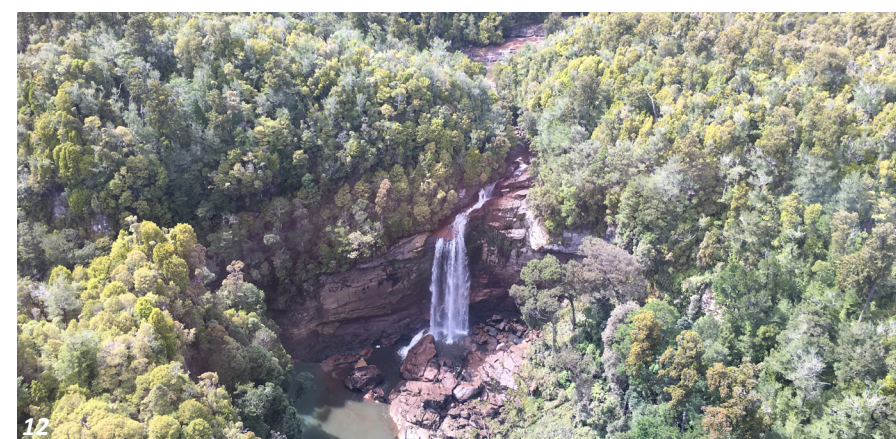
The district is well-endowed with scenic and historic attractions and has significant land and water-based recreation assets. The district's large areas of natural land also provide an extensive resource for low-impact recreation for New Zealanders living in the district and from other parts of the country. Overseas backpackers are also visiting the more remote parts of the district.

Westport/Kawatiri is the major town and population centre of the district located on the northern bank and at the mouth of the Buller River, close by the prominent headland of Cape Foulwind. It has gradually increased in importance as a tourist and holiday attraction. Reefton, to the southeast of Westport, is the second largest town.

Most other settlements are small with populations less than a few hundred people/full-time residents. These settlements have become increasingly dependent on tourism while others, such as Granity, Ngakawau, and Hector, are still dependent on coal mining ventures.

Settlements are scattered along the coast at river mouths including Punakaiki, Charleston, Tauranga Bay, Cape Foulwind, Granity, Mokihikiu, Little Wanganui, and Karamea, and inland at Oparara, Seddonville, Stockton, Denniston, Inangahua, Waiuta and Springs Junction.

The district has a rich historical and cultural heritage relating to the presence of pounamu and tangata whenua, colonial settlement, gold mining, coal mining and timber felling, leaving a legacy of historic mining sites, settlements, structures, and trails. Most of the above-mentioned industries are still operative today. The district provides a wide diversity of recreational opportunities, including remote and wilderness experiences.



Photograph 11 : Ngakawau Gorge

Photograph 12 : Waterfall

⁸Department of Conservation. (1987). Ecological Regions and Districts of New Zealand, Third Revised Edition, Publication No. 5. Department of Conservation, Wellington

Tourism also plays a significant part in the district where the dramatic landscape offers a very diverse range of experiences from remote, wilderness recreational opportunities to readily accessible dramatic scenery, and places of cultural and heritage interest.

While there are reasonably extensive areas of private land around Karamea, on the coastal plain and terraces around Westport, and in the valleys of the Inangahua and Little Grey rivers (most of which is farmland), most of the land in the Buller District is mountainous and administered by DOC either as national parks, reserves or conservation areas including stewardship land.

North of the Mokihiui River is the bush-covered Radiant Range beyond which are the Tasman Mountains within the Kahurangi National Park, a park that covers most of the district north of Little Wanganui. South of the Buller River is the relatively untouched Paparoa Range, which incorporates the Paparoa National Park and the Paparoa Wilderness Area. The south-eastern part of the district is occupied by most of the extensive Victoria Forest Park. The above-mentioned parks are shown on *Map 3, page 17*. In the context of the Buller District, the coastal plateaux, and ranges (between the Mokihiui and Buller rivers) are amongst the district's most modified upland areas.

Landscape Values

Most of the Buller District is covered by public conservation land and managed by DOC to protect natural, historic, and cultural resources. At a broad regional and district scale the West Coast Region Landscape Study⁹ identifies the Coastal Outstanding Natural Features and Landscapes and the West Coast Region, and the Buller/Grey/Westland District Landscape Study and Natural Character Assessment¹⁰ identifies the Outstanding Natural Features and Landscapes (ONF/Ls). Neither the Denniston nor Stockton plateaux are recognised as ONF/Ls (refer Map 7, page 21).

⁹ Brown, S. K. (2013). West Coast Region & Buller / Grey / Westland Districts Landscape study and Natural Character Assessment. West Coast Regional Council.

¹⁰ Brown, S. K. (2013). West Coast Region & Buller / Grey / Westland Districts Landscape study and Natural Character Assessment. West Coast Regional Council



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Photograph 13 : Pancake Rocks, Punakaiki

Photograph 14 : Buller District coastline

Photograph 15 : Ngakawau