

Scenic Landscape Strategy  
**Appendix 6.3 Landscape Character Units and Narratives**



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## 1 Introduction

The purpose of this document is to present a descriptive narrative for each discrete Landscape Character Unit identified as part of the Landscape Character Assessment for the Scenic Landscape Strategy. Refer to *Part 2 - Landscape Context and Character Mapping* for the methodology as to how these landscape character types were identified, assessed and mapped. The narratives are to be referred to as the primary resource for informing the inventory stage of any Visual Impact Assessment or evaluation undertaken for new development.

The following Landscape Character Units were identified and their spatial extent is illustrated in Figure 1:

1. Beaches and Foreshores
2. Rivers and Creeks
3. Coastal Forests
4. Coastal Agriculture
5. Sugar Cane
6. Rural Villages
7. Rural Hills and Valleys
8. Forested Hills
9. Urban
10. Future Urban Land release

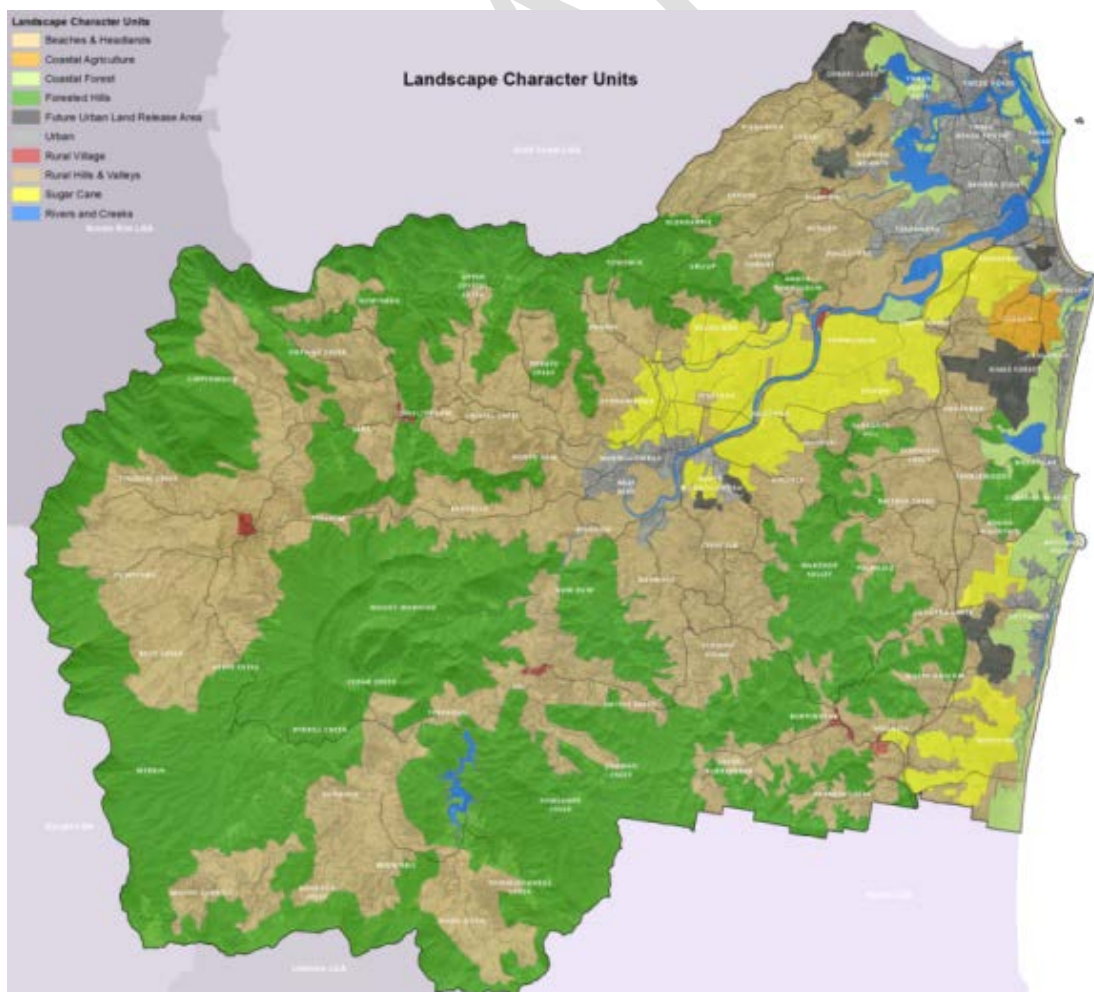


Figure 1 - Map of Landscape Character Units across the Tweed Shire

Each narrative details the landscape features and values, anticipated pressures and specific management principles that apply to the landscape character type, and set out in the following structure:

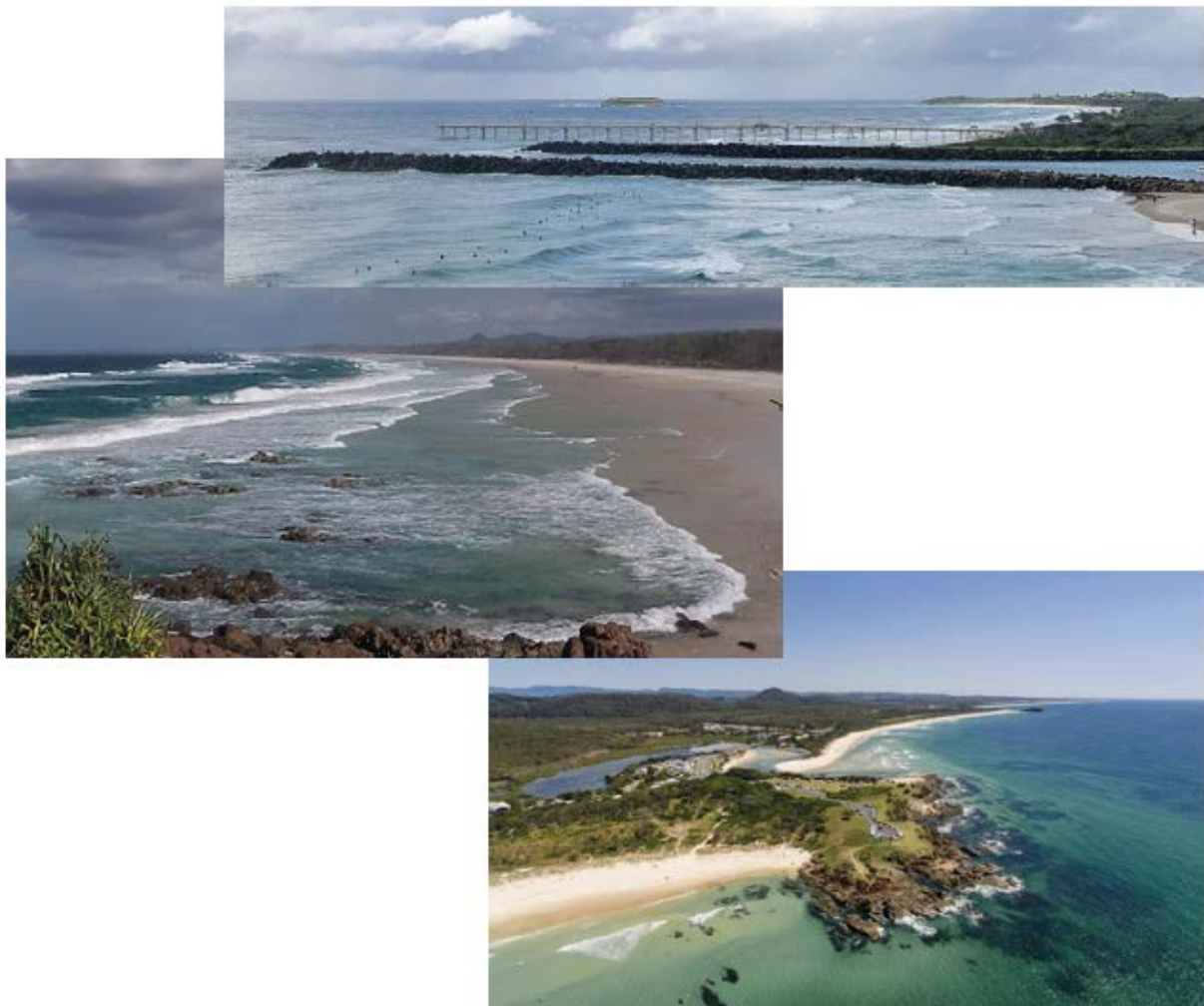
<p><b>Location</b></p>
<p><b>Example</b></p> <ul style="list-style-type: none"> <li>• Photographs</li> </ul>
<p><b>Description of Landscape Features</b></p> <ul style="list-style-type: none"> <li>• Features of the natural environment such as recognisable landforms and topography, land cover including land uses, water, vegetation;</li> <li>• Cultural features such as buildings, structures, transportation infrastructure, other built artefacts and art; and</li> <li>• Atmospheric conditions smoke and dust that that can alter visibility or contribute to a unique characteristic of the landscape.</li> <li>• The interaction and arrangement of all natural and cultural attributes to form a unique composition</li> </ul>
<p><b>Anticipated Future Change and Pressures</b></p> <ul style="list-style-type: none"> <li>• Known risks or susceptibility to future changes that may alter landscape character or affect perceptions of visual quality</li> </ul>
<p><b>Scenic Quality Analysis</b></p> <ul style="list-style-type: none"> <li>• What visual elements or composition of elements make this landscape’s visual character distinctive and important to the Tweed? ie how does an observer perceive that this landscape is “part of or unique to the Tweed”</li> <li>• What makes it attractive and memorable? How might viewers evaluate the elements within the Landscape Character Unit against their preferred concepts of visual order, harmony, integrity or cohesion?</li> <li>• What elements are generally perceived to be of low visual value, or taking away from the overall scenic quality of this Landscape Character Unit?</li> </ul>
<p><b>Management Principles</b></p> <ul style="list-style-type: none"> <li>• This section describes general planning principles and strategic objectives to protect and manage the scenic quality and values associated with each Landscape Character Unit.</li> <li>• General principles relate to managing the preferred or valued visual elements within a Landscape Character Unit in order to maintain its contribution to overall scenic amenity within a view, and the distinct identity of that Unit.</li> <li>• Specific principles for individual development proposals within each Landscape Character Unit should be tested during the Visual Impact Assessment process where detailed character analysis of the immediate locality and most impacted views takes place.</li> </ul>

## 2 Beaches and Headlands

### Location

Narrow strip extending the entire eastern fringe of the Shire from Wooyung in the south to Point Danger in the north, and including Bogangar, Cabarita, Casuarina, Chinderah, Fingal Head, Hastings Point, Kingscliff, Kings Forest, Pottsville and Tweed Heads. This landscape unit occupies approximately 389 hectares or 0.3% of the Shire.

### Example



Hastings Point headland. Image source: <https://www.visitnsw.com/destinations/north-coast/northern-rivers>

### Description of Landscape Features

Beaches, along with headlands, form one of the most significant and recognisable Landscape Character Units within the coastal zone of the Tweed. This unit is dominated by stretches of sandy coastal foreshore punctuated by creek mouths and prominent rocky headlands of various elevations and morphological shapes and sizes.

Bold, narrow and predominantly parallel (at times curving) linear boundaries between the land and the Pacific Ocean are created by the dominant and vivid colours, luminosity and fine grain texture of sand contrasting with the shoreline and water and edge effect of coastal forests.

The interface between land and ocean, which forms the most distinctive visual feature of this landscape unit, is one of the most dynamic landscape scenes in the Shire. Several factors contribute to this, including :

- Constant changes in line and colour contrast and visibility with wave and wind action;
- Sand and rocks concealed and revealed with rising and falling tides;
- Effect of direct sunlight changes with time and day, affecting intensity in colour and luminosity of sand and water elements, or side-light casting of shadows or changing in the afternoon.
- Presence and activity of people on the beach and in the water; and
- Growth or loss of vegetation on fore dunes, and presence of endemic coastal and marine life.

Views from the beach are composed of lines, being either 1) horizontal when looking across the vegetation, sand and water, or 2) focal converging lines when looking along the beach towards a headland or terminating point.

Headlands provide opportunities for elevated and panoramic views of the coastline, or across valleys and hills. Headlands are often sparsely vegetated, however, sculptural trees such as Pandanus and Cabbage Palms, as well as low shrubs and hedges can be common visual features.

Natural morphological formations and artificial structures form distinctive visual intrusions into the ocean, including the Tweed sand pumping jetty or the exceptional Giants Causeway at Fingal Head comprising a unique crescent-shaped and domed mass of hexagonal columns. Cook Island Nature Reserve is a significant landscape feature.

Adjacent Landscape Character Units are typically Urban, Coastal Forests or Rivers and Creeks. The existing urban footprint extends to the coastal edge in multiple locations from Pottsville to Tweed Heads, however the prominent headlands of Cabarita, Hastings Point and Fingal Head remain for the most part undeveloped and conserved as recreational public space.

### **Anticipated Future Changes and Pressures**

The majority of the Shire's residential and tourist population live and stay within the coastal zone, meaning this landscape type is a significant feature in the daily lives of residents and an attraction sought by visitors to the Tweed. This popularity places additional pressure for competing or conflicting uses and development for new housing communities and tourism that may encroach on views to and from beaches and headlands.

Potential visual impacts likely to arise from increasing urbanisation of the adjacent coastal zones include:

- New or altered structures and buildings that become visible and dominant visual features of views from beaches and headlands;
- Removal of vegetation that acts as a visual buffer between the beach and coastal urban settlements, or that are visual distinctive and focal features of the landscape character;
- Weed infestation;
- Car parks;
- Amenities facilities;
- Waste management disposal; and
- Pollution.

Current planning strategies and controls seek to encourage increased development along the coastal strip, which will impact the coastal landscape in various ways:

- Fingal Headland, Hastings Headland and Norries Headland at Cabarita Beach, in



particular, are sensitive to change due to the visual prominence of natural landscape attributes including undeveloped open space locations for recreation and relaxation;

- Point Danger has high capacity for and ability to absorb change through infill and redevelopment within the existing urban footprint;
- Cook Island Nature Reserve is protected through local environmental land use zoning and the Cook Island Nature Reserve Plan of Management 2011 prepared by NSW National Parks and Wildlife Service and adopted by the Minister for Climate Change and the Environment on 15 February 2011.

### **Scenic Quality Analysis**

For many Australians the beach is synonymous with relaxation and recreational pursuits, being a favoured location for contact with the natural landscape. Beaches and headlands are significant defining features of the Shire from a visual, cultural and recreational perspective and are integral to the Tweed's culture, lifestyle and identity.

Community feedback reveals significant values for the sense of serenity and naturalness associated with the Tweed's beaches, with particular emphasis on Dreamtime, Fingal and Wooyung Beaches due to their undeveloped states and lack of visible man-made or artificial structures.

Fingal Head, Hastings Headland and Norries Headland at Cabarita are noted as visually prominent landform features that provide sweeping views from elevated positions of the wider coastal area and beyond toward Wollumbin/ Mt Warning and the Caldera volcanic shield.

Dreamtime Beach, Fingal Headland, Cook Island Nature Reserve and Razorback hold important cultural significance to the Bundjalung people as landscape features associated with cultural storylines. Cook Island Nature Reserve provides protection, under state legislation, for breeding colonies of seabirds and shorebirds. It is also protected through local environmental land use zoning and the Cook Island Nature Reserve Plan of Management 2011.

Multiple public parks and reserves flank the beaches close to the coastal settlements and provide public access and viewing points. Kingscliff Rowan Robinson Park is a recent development that has opened views of Kingscliff Beach and enhanced viewing experience for park users, motorists along Marine Parade and recreational users travelling along the Kingscliff walking and cycling track.

Point Danger is located to the north of the Tweed River mouth and is distinct among the Tweed's headlands as the only one that is within a truly urban context and is itself highly modified. It is one of the most highly visited viewing situations in the Tweed given its proximity to and relationship with the world class surfing beaches of the Coolangatta. The QLD / NSW border bisects the headland along Border Street, and, whilst the residential and tourist nature of the landscape remains constant, there is a clear visual distinction between the level of embellishment of public open space on either side of the border. Linking pathways and extensive seating and BBQ shelters are provided on the Qld side whilst the NSW open space areas of Calin Park, Point Danger Park and Hill Street Park on the NSW side remain mostly devoid of public facilities.

Some portion of the coastline, including tall vegetation and structures, is visible from several elevated viewpoints in the Tweed. However beyond coastal headlands these viewpoints are for the most part away from the coast meaning beaches and headlands are in the mid or background.

Foreground glimpses of the beach are available whilst travelling along Tweed Coast Road and Marine Parade in Kingscliff, however most observers are generally stationary

within the landscape unit, seeking recreational pursuits such as beach walking, swimming, surfing, fishing, or observing views from elevated headlands.

### **Management Principles**

Maintain scenic quality values of beaches and headlands including the pristine natural attributes and linear and contrast integrity of the sand, coastal vegetation, ocean and the sky is central to preserving the visual value of this landscape unit.

- Limit visibility of development from all headlands and all major beach entries, and avoid buildings or structures being visible in the foreground views to or from the beach or shorelines at Letitia, Fingal Head, Dreamtime (north of Wommin Bay Road), Pottsville, Mooball , Hastings Point and Wooyung Beaches.
- Structures are not to obscure or hinder views to headlands from public viewing locations.
- Minimise visually intrusive development on fore and mid ground of views from headlands and beaches.
- Maintain the integrity of coastal vegetation, ensuring new development is sited below the height of the existing tree line as viewed from beaches.
- Retain where existing natural vegetation edge to beaches.
- Limit pedestrian access to beaches and headlands to formal access paths, with appropriate low key signage restricting public access to dune/vegetated areas.
- Continue dune and coastal foreshore revegetation programs where in place.
- Design and manage carparks to include landscaping and vegetation (trees) to complement existing native species and extend visual buffers (green edge) between natural attributes and roads.
- Improve amenity of public open spaces of Point Danger, Hill Park and provide walkway or pathways linkages to Queensland.
- Minimise obstruction or disruption to existing sight and view lines to Key landscape features including Cook Island, Fingal Head Causeway and sand-pumping jetty at Tweed River.

### 3 Rivers and Creeks

#### Location

Whilst the spatial extent of this landscape unit is small at approximately 2,000 hectares or 1.6% of the Shire, the extensive system of rivers and creeks that permeate the Tweed is key to the identity of the Shire and the broader Northern Rivers Region.

In the Tweed, the upper Tweed River, Rous River and Oxley River begin in the western half of the Shire and flow in a general easterly direction to Tumbulgum where they converge to form the lower Tweed River, which flows in a north-easterly direction through the floodplain towards Tweed Heads and the outlet to the Pacific Ocean.

Coastal creeks include Cudgen Creek, Cudgera Creek, Mooball Creek which flow in a general northerly direction parallel and close to the coast.

Terranora and Cobaki Broadwaters and lower Tweed Estuary are located in the north-east portion of the Shire, that create a myriad and network of inlets.

#### Example



### **Description of Landscape Features**

Cudgen Creek and Cudgera Creeks wind and transition through adjacent coastal forests and beach landscapes with small pockets of low-scale coastal urban settlements visible at the creek mouths, particularly with Cudgen Creek emerging at Kingscliff.

With the exception of the Tweed River and Cobaki and Terranora Broadwaters, generally the rivers and waterways are closed landscapes characterised by the linear pattern of the waterway itself and enclosing vegetation, which creates softened and undulating edges. Where, rock walls are used to mitigate erosion, the form, colour and texture of rock materials creates more simple, sharper and long continuous butt edge lines along the water.

Coastal riparian vegetation is predominately mangrove and casuarina communities whilst inland riparian vegetation comprises more woodland and floodplain.

Colouration and turbidity of water can change with rainfall and intertidal flows, or motorised boating activities raising particles; however, the waters of Tweed River, Cudgera Creek, Cudgen Creek and Mooball Creeks are often characterised as presenting spectacularly clear and vivid colours of blue and aqua as they flow towards their outlets to the Pacific Ocean.

Ukerabagh Island and Stotts Island Nature Reserve are significant visual landform features within the riparian waterways.

Many sections of waterways have limited or no views of urban or residential development however the lower reaches of the coastal creeks and the river estuaries are characterised by views to low scale residential development, bridges, modified foreshore areas (parks, picnic facilities, walkways etc).

Jack Evans Boat Harbour and the Tweed River mouth are within modified urban environments.

### **Anticipated Future Changes and Pressures**

The Tweed's waterways are under pressure from past and existing development, catchment disturbance, hydrological modification, large scale vegetation changes, climatic changes and community use. These pressures will only be exacerbated with continued pressure from rapid and extensive population growth and associated urban development, with the potential to result in poorer overall waterway health which affects the aesthetic qualities and therefore viewer experience of these areas.

They are also highly susceptible to change through the implementation of management priorities as identified within the various waterway management plans, including improving public accessibility to waterways, improving facilities (boat ramps, picnic areas, access for disabled, public toilets, pontoons, refuelling facilities), creation of more estuary beaches for boating and swimming access, Installation of rock walls for erosion control, and dredging for navigational safety and water exchange.

Measures that seek to improve and manage the ongoing health of the Tweed's waterways have the potential to influence the visual values and viewer experiences. Management priorities to protect and improve water quality or flora and fauna species for habitat values will subsequently protect and enhance the scenic values and aesthetics qualities of the attributes around waterways and the coastline.

### **Scenic Quality Analysis**

The Tweed's rivers and creek landscape character holds significant values and comprising the local and regional cultural identity of the Northern Rivers Region.

The Tweed River is valued for its natural and scenic qualities, biodiversity and ecological attributes. Scenic beauty was the most frequently mentioned aspect liked or valued in a recent telephone survey conducted as part of the Tweed River Estuary Management Plan community consultation.

Appreciation for the high degree of ‘naturalness’ in river and estuary scenes with strong existing foreshore vegetation and mangrove areas is also often cited.

Rivers and creeks are:

- Important to identity of Tweed as they provide an important setting for recreational opportunities, mechanism for draining the floodplain, support it provides to agricultural uses
- Highly valued by community as focal points for recreation, tourism and local commerce.
- Support rich biodiversity and provide a range of important environmental functions including for human land use activities such as agricultural production and protection of urban areas.

### **Management Principles**

Objectives relating to the protection and impact mitigation on the visual character of waterways are summarised in the Coastal Zone Management Plan for the Tweed Coast Estuaries 2013, as follows:

- Protect and enhance the scenic value and aesthetic qualities of the Tweed’s waterways through protecting and improving water quality, and
- Protecting flora and fauna species and habitat values to enhance nature watching activities around waterways and the coastline’.

These outcomes can be achieved by:

- Maintaining the natural foreshore by encouraging riparian vegetation. Vegetation adjacent to waterways is part of the visual experience when on the waterway and create a defining feature when viewed from a distance.
- Minimising development visible from waterways by maintaining building height to below the existing or anticipated tree line
- Maintenance to ensure clean foreshore areas
- Protecting habitat to conserve or increase the presence of native flora and fauna
- Managing bank erosion
- Encouraging visual integration of recreational facilities through complimentary materials and design
- Ensuring suitable access to waterways are provided and minimising/rehabilitating unauthorised access points.
- Protecting existing view lines and viewing points to allow panoramic views from waterways.
- Encouraging re-establishment of waterside vegetation.

Detailed management priorities for the Tweed’s Rivers and Creeks are also contained within the following existing waterway management plans:

- The Tweed River Estuary Management Plan (2018)
- Coastal Zone Management Plan for Cobaki Broadwater and Terranora Broadwater (2010)
- Coastal Zone Management Plan for the Tweed Coast Estuaries (2013)

Whilst these documents have a strong focus on promoting biological health alongside managing the waterways for their high value recreational use by the community, in a broad

sense the priority outcomes translate to protecting the visual landscape attributes valued by community.

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## 4 Coastal Forest

### Location

This landscape unit occupies approximately 4,407 hectares or 3.3% of the Shire. Segmented portions of coastal forest are found along the entire length of the coastal zone in the Tweed Shire, including:

- Surrounding Cobaki and Terranora Broadwaters
- Adjacent to and along the Fingal Peninsula and Letitia Spit in the lower Tweed River estuary;
- Stotts and Ukerabagh Islands; and
- Along the banks of the coastal creeks and in low lying areas inland of the coastal villages.

### Example



*Dreamtime Beach, Fingal Head. Image Source: <https://www.50shadesofage.com/2015/02/13/in-my-backyard-fascinating-fingal-head/>*

### **Description of Landscape Features**

Coastal forests comprise of a mosaic of vegetation including littoral rainforests, Wallum and Melaleuca wetlands, dry sclerophyll forest, heath, sedgeland and swamp forest. All are in proximity to water, being either ocean or coastal estuaries, rivers and creeks. Cabarita Lake sits within the coastal forest landscape at Bogangar.

The general high density and continuity of vegetation with overall integrity of colour and texture creates a solid shape and aggregated pattern when viewing the Landscape Character Unit from a distance. When viewing the landscape from within the unit, the spatial scale is canopied and enclosed, enabling the details in colour, texture and linearity of different vegetation or terrain attributes to be more apparent and visibly noticeable, as shown in figure above.

The landscape terrain in coastal forests is generally low and flat. However, some coastal forests sit on low or moderate hills that frame and enclose views from adjacent Landscape Character Units such as Beaches and Headlands or Rivers and Creeks, or form a distinct buffer separating coastal urban areas.

Few cultural structures exist in coastal forests with sparse and low signage, waste disposal bins or access bollards situated at the entry or exit.

### **Anticipated Future Changes and Pressures**

General visual detractors and risks to the landscape unit include vegetation degradation, removal and weed infestation, pollution, climate change and excessive tourism.

Significant and increasing loss of this landscape over the past 20 years due to urban and tourist development in the coastal strip, particularly between Kingscliff and Pottsville.

Much of the landscape is protected to some degree under the State Environment Planning Policy (Coastal Management) 2018, with exception to land already zoned for urban development.

The North Coast Regional Plan 2036 *Direction 8: Promote the growth of tourism* encourages expansion of nature-based tourism development that support conservation outcomes. This presents both opportunity and risk for this landscape type – where pressure for increased tourist and recreational access to these areas can damage and degrade the natural visual values; as well as provide opportunities for increased conservation and protection works funded by increased tourism.

### **Scenic Quality Analysis**

The prominence of this natural landscape unit a valuable asset on the foreshore and as a natural divide between nearby urban forms and rural areas. Forms a scenic and environmental 'gateway' to the Tweed Valley when traveling from the urban areas of Coolangatta/Tweed Heads.

High degree of naturalness contrasts with nearby urban forms (coastal strip between Kingscliff and Cabarita Beach) and northern forests of Cobaki adjacent to major infrastructure such as the Pacific Motorway and the Gold Coast International Airport and the highly urbanised areas of Tweed Heads Coolangatta.

Stotts Island Nature Reserve is an island in the lower Tweed River that contains the largest remnant of subtropical floodplain rainforest remaining in NSW and is critical habitat for Mitchell's Rainforest Snail. Protected at state level as critical habitat. The island holds cultural, conservation and research values which are related to viewers experience of naturalness.



Ukerabagh Island Nature Reserve is a Declared Aboriginal Place under the National Parks and Wildlife Act 1974. It is predominately a mangrove and saltmarsh environment with patches of littoral rainforest and as a conservation area has high importance as habitat for many bird species found in the area. Being constrained within a predominately urban environment, this coastal forest reserve has high visual importance, retaining a connection to the natural settings that once would have been experienced along the entire Tweed River. The Island has a strong cultural significance.

Access to coastal forests is generally limited to walkers and views from waterways and from some minor coastal roads such as the stretch of Clothiers Creek Road immediately west of Bogangar. It is therefore generally experienced from within (walking, cycling) as a closed landscape, or viewed from outside as part of a broader landscape view.

Tracts of coastal forests that fringe the Terranora and Cobaki Broadwaters and the lower Tweed estuary provide a natural setting with distinct visual identity and high scenic value within a predominately suburban environment.”

Award winning projects and work by local revegetation and conservation groups demonstrates the high value community places on these landscapes and their ecological value.

### **Management Principles**

SEPP (Coastal Management) 2018 identifies and maps the majority of this landscape unit as coastal wetland or littoral rainforest and affords some level of protection by requiring consideration of the biophysical, hydrological and ecological integrity of the coastal wetland or littoral rainforest, which in turn provides some protection for the primary associated visual values associated with this LCU.

Notwithstanding, the SEPP does not limit or prohibit development and does not require assessment of the visual impact of development on the landscape. Therefore the following objectives should be addressed alongside those matters for consideration, particularly in areas that are not mapped under the SEPP:

- Maintain natural setting of Terranora and Cobaki Broadwaters, Letitia Spit, Lower Tweed River (including islands) and the coastal creeks through minimising vegetation removal and visual intrusions into the continuous tracts of forest.
- Restrict visible development to maintain integrity of coastal vegetation when appreciated from walking tracks or waterways.
- Avoid disruption to, and where possible enhance coastal forest roadside vegetation, particularly along linear viewing situations such as the Pacific Highway
- Continue supporting existing revegetation and natural vegetation management community groups and encourage support for future projects
- For development in proximity to the lower Tweed River have regard to the Stotts Island Nature Reserve Plan of Management (NPWS 2001)

Preserve the internal visual character by minimising visible development or signage structures or from within the unit other than recreational and environmental facilities, access facilities, boardwalks etc.

## 5 Coastal Agriculture

### Location

This landscape unit occupies approximately 691 hectares or 0.5% of the Shire, and is spatially restricted to the low hills and rolling rises of the Cudgen / Duranbah plateau.

### Example



### Description of Landscape Features

Formed from the breakdown of basalt lava flows from the Tweed Shield Volcano, this immediately recognisable agricultural landscape is characterised by rolling rises and low hills with fertile red soils that enable intensive horticulture production. The rich red soils and rectangular pattern of agricultural fields are distinctly visible, scattered with contrasting colour yet rectangular form of rural residences and farm buildings.

The coastal agricultural landscape unit generally comprises smaller rural landholdings of intensive horticulture crop production rather than inland rural Landscape Character Units, which creates a visual patchwork of contrasting lines, colours and textures, resulting from the tilling of soils, crop growth and harvesting activities that expose or cover the red soils at various times.

Occasional built structures including large lot rural homes and storage sheds or climate control structures dot the landscape.

The kanacka walls at the intersection of Cudgen Road and Tweed Coast Road create a definite visual boundary to the farmlands of the Cudgen Plateau

Views from and across the Cudgen Plateau are recognised as some of the most iconic

scenic landscapes in the region, as representing extraordinary geological and cultural heritage values.

### **Anticipated Future Change and Pressures**

- Population pressures resulting in residential / urban encroachment into farmland
- Increasing land use conflict between farming and non-farming neighbours.
- Increasing land prices caused by development pressure making it difficult for farmers to purchase and secure additional land.
- Climate change poses challenges for sectors reliant on the healthy functioning of ecosystems
- Encroaching residential and other forms of urban development.
- Unfarmed / unmanaged land being left untended and becoming dominated by environmental weeds, farm/rural waste

### **Scenic Quality Analysis**

Inherent social and economic values are associated with the economic productivity of this landscape unit, as being the most fertile soil in the Shire for intensive horticulture. Additionally there are cultural heritage values associated with the kanacka walls, as a connection to the historic settlement of the Tweed.

Intangible values and linkages to the bucolic rural and agricultural history.

### **Management Principles**

Retain agricultural uses to ensure character is preserved.

Ensure kanacka rock walls at intersection of Cudgen Road and Tweed Coast Road are not obscured from views.

## 6 Sugar Cane

### Location

This landscape unit covers approximately 8706 hectares or 6.6% of the Shire.

The majority of sugar cane is located on the flat valley floors and floodplains of the Tweed River and Rous River, extending in a north-westerly direction from Murwillumbah Chinderah with a smaller area within coastal valleys to the north west of Pottsville and in the south of the Shire at Wooyung.

### Example



Image sources: Craig Bishop via <https://www.resourcesandenergy.nsw.gov.au/energy-consumers/sustainable-energy/bioenergy> and <http://www.canegrowers.com.au/>

### Description of Landscape Features

Large wide flat fields of lower Tweed River floodplain as well as smaller more visually contained valleys of the coastal creeks contained by forested spurs at Cudgera Creek, Wooyung and Chinderah.

Landscape attributes are generally characterised by:

- Regimented rectilinear patterns formed by drainage and cropping lines on large scale lot sizes
- Scattered homesteads and rural buildings and work sheds

- Colours are predominantly vibrant yellows and lush greens, with carpeting grassy textures across landscape occasionally intersected by lines of loamy brown earth
- Ever changing heights, patterns and colours of the sugar cane, caused by farming and seasonal cycles, can both restrict and broaden viewing fields, and creates visual interest across the landscape character for both views seen from static elevated positions, and dynamic views seen whilst travelling through the landscape unit.
- Occasional dust and smoke caused by burning and harvesting techniques, which affect visibility within and of adjacent Landscape Character Units.

Tweed and Rous Rivers bisects the Tweed Valley and Sugar Cane Landscape Character Unit. The visual contrast of the meandering organic lines, colour and reflectivity of the Rivers against the highly homogeneous and expansive fields creates visual interest.

The Condong Sugar Mill sits at the centre of the Landscape Character Unit on the bank of the Tweed River at Condong. It straddles the boundary between “Sugar Cane” and “Rivers and creeks” Landscape Character Units with “Rural Hills and Valleys” and “Forested Hills” in the background. The Mill serves as a highly significant landscape feature and visual focal point for many panoramic vistas, created by its positioning within the landscape, great height and vertical structure of the steam stack contrasting against predominantly horizontal spatial scales of the sugar cane field and Tweed River, as well as the constant white and luminous ‘plume’ of vapour escaping the stack which is very attractive to the viewer eye.

### **Anticipated Future Changes and Pressures**

- Acid Sulfate soils are identified as a key pressure on the soil landscape, with potential change in land uses if soils become unproductive.
- Encroaching urban development, affecting the viability of sugar cane farming
- Sugar cane fields are identified under Significant Farmland Protection Project as Regionally Significant Farmland, which offers some level of protection. The land is also Zoned RU1, which permits limited land uses
- Extractive industry, such sand mining, is a potential land use that will remove the key attributes of the sugar cane Landscape Character Unit, and sterilise any future agricultural uses.

### **Scenic Quality Analysis**

One of the defining characteristics of the Sugar Cane Landscape Unit is the dynamic transformation the fields undergo each year, from the lush green of mature cane plants, through the burning process and harvesting, to bare brown earth, then the peppering of new season growth slowly transforming the bare brown earth back to green again as it matures.

The consistency of colour and texture and the regimented pattern of the rectilinear fields create a strong yet agreeable contrast to the adjoining and enclosing wooded ridgelines and spurs which separate the coastal cane fields within adjoining catchments, scattered rural homesteads, farm buildings and access roads.

The vast horizontal spatial scale of the landscape unit tends to draw the viewers eye from the foreground of the sugar cane to the River, forested hills and Caldera ridgelines in the background, with occasional and largely heritage cultural features creating interest. The sporadic placement of structures in the foreground enables viewers travelling through the unit to experience a visual journey generally free of obstructions and fast-moving stimuli, adding to perceptions of slowness despite moving at rapid

speeds, at times.

The Condong Sugar Mill is a defining feature of the sugar cane landscape unit that helps to orient viewers whilst travelling through the landscape unit. However, some observers may not appreciate the cultural significance of the mill and therefore perceive it as visual detractor, particular when in close proximity and scale of the ancillary structures of Mill dominates their view field in full.

Similar reaction may occur to the sugar cane haulage trailers that can be seen scattered along the roadside during harvesting season.

The farming practise of burning sugar cane typically generates smoke and dust which reduces landscape visibility or disrupts focus from other key landscape features.

### **Management Principles**

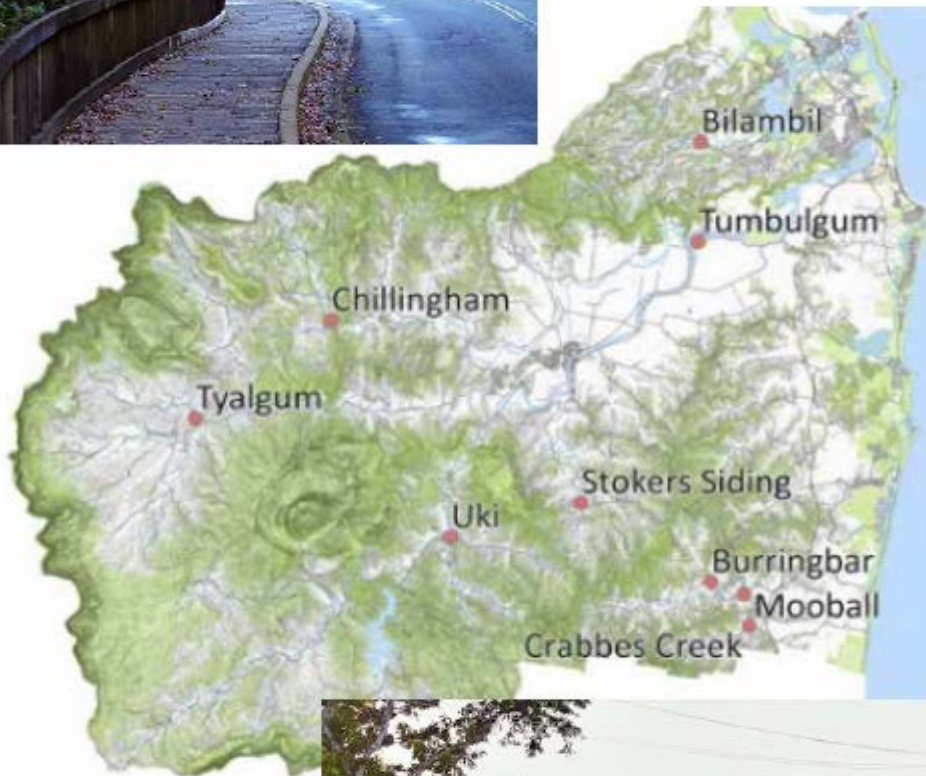
- Retain sugar cane uses to ensure character is preserved.
- Maintain sense of entry to the Tweed Shire along the Pacific Highway, Tweed Valley Way and other key roads that move into and traverse the Landscape Unit, by retaining visible cane fields and vegetated hills visible from key intersections and through the valley.
- Maintain long distant sight lines across the unit by avoiding or minimising the placement of structures and signage in the foreground that would result in division or obstruction of views across the sugar cane unit toward key features such as Condong Mill, Wollumbin/Mt Warning, or of adjacent landscape units, such as Rivers and Creeks, Rural Hills and Forested Hills of the Caldera volcanic shield.

## 7 Rural Villages

### Location

The rural villages Landscape Character Unit comprises the Shire’s nine rural villages of Bilambil, Burringbar, Chillingham, Crabbes Creek, Mooball, Stokers Siding, Tumbulgum, Tyalgum and Uki. This landscape unit covers approximately 244 hectares or 0.2% of the Shire.

### Example



### Description of Landscape Features

Rural Villages are generally characterised by the attributes and features:

- Compact and well defined centre

- Informal edges transitioning the village into the surrounding natural or rural environment
- Located in close proximity to a waterway or on a major highway or rail line
- Surrounded by farmland, rural hills and valleys or forested hills
- Surrounding landscape provides strong visual connection to the environmental setting
- A range of functions, including dwellings, community facilities, public open space and commercial area but all contained within small scale compact built form
- Formal street grid with a focus on a wide mixed use main street

See the Rural Villages Strategy 2016 for specific descriptions of natural landscape, built form and character of individual villages. The North Coast Urban Design Guidelines provide details of rural village characteristics.

Many of the rural villages contain heritage conservation areas and heritage items identified under the Tweed LEP 2014.

### **Anticipated Future Changes and Pressures**

Expanding urbanised areas in proximity to villages, such as Bilambil, and the changing role of villages from service providers to lifestyle centres presents challenges for villages to maintain their identity and landscape characteristics.

The Tweed Rural Villages Strategy 2016 directs future development in rural settlements to provide a variety of housing choice, which may result in changes to the built form character and loss of natural and heritage values. The preparation of locality plans is identified as necessary to manage future expansion of villages.

Unsympathetic development or land uses associated with strengthening local economies may change the existing scale and built form characteristics of villages. Similarly, excessive or poorly located signage or other obstacles in the foreground of key views, particularly along tourist roads, may undermine bucolic values sought by visitors.

The North Coast Regional Plan NCRP Direction 8: "Promote the Growth of Tourism" seeks to facilitate tourism and visitor accommodation and supporting land uses in rural hinterland locations and natural areas that support conservation outcomes.

### **Scenic Quality Analysis**

- Originally established to provide essential facilities and services for surrounding farmers – cultural value associated with historical settlement pattern in the Tweed, or as known stopping or resting locations for travellers or transport e.g. Burringbar was originally established as the overnight stay for the Cobb & Co coaches carrying mail and bread between Murwillumbah and Brunswick Heads.
- In general, the low density and compact nature of rural villages combined with small scale built form and established vegetation such as mature trees results in reduced impact on the landscape that they occupy.
- Village identity is strongly influenced by the surrounding landscape which is often enclosing and provides spectacular visual amenity.
- Heritage items are important visual elements that contribute to the identity and scenic amenity of the Tweed's rural villages.

### **Management Principles**

Shire wide objectives for Rural villages include:



- Protect the village vibe
- Protect the natural and cultural heritage values
- Development in harmony with nature – new housing has to be in character, particularly when visible from the village centre
- Villages to remain in compact form with an obvious centre
- All existing landscape and scenic features must remain protected and enhanced by future development - maintain rural character and beauty, retain wide main streets
- Protection of view corridors from public places to the surrounding landscape is of high importance, with emphasis on existing corridors formed by streets.
- New residential areas outside the main village centres should maintain low density character that reflects and enhances existing local character and amenity
- New development understands the relationship to place, responds to its character and establishes a relationship between people and the natural environment e.g. subdivision layout and lot sizes should reflect existing structure, green streets, integrating building materials, development in context, pervious paving, landscaping and gardens surrounding dwellings.

Visual Impact Assessment and proposed mitigation measures should reflect village specific objectives for future character as described in the Tweed Rural Villages Strategy 2016, and any further objectives for desired future character as contained within existing village specific locality plans and new locality plans as they are prepared and adopted.

New development should respect the significance of heritage items and places and their influence on visual amenity, having regard to the Tweed Development Control Plan 2008 Section A18 Heritage.

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## 8 Rural Hills and Valleys

### Location

Rural Hills and Valleys occupy approximately 51,505 hectares or 39% of the Shire. The unit generally covers land where the terrain gradient rises above the Tweed floodplain and ends where elevation rises into the steeper forested slopes of the Caldera rim and ranges.

### Example



### Description of Landscape Features

Elevated basalt slopes and marginal lands support a mix of rural pursuits, ranging from cattle grazing, banana growing, dairy grazing, intensive horticulture production, large lot residential, extractive and industrial land uses.

Visual character is created by interplay between vegetation and topographic patterns at all scales that can create an indented or transitional edge between two or more interlocking or connecting areas.

Management of vegetation is a defining landscape attribute in this unit, where a high diversity of vegetation patterns can be found. For example, distinguishing mature trees in cleared grassed areas can create random or gradation of textures and colour mixing, whilst productive horticultural farms with uniform rows of fruiting trees may dominate large lots to create more dense and ordered spatial arrangement of colours and textures.

Extensive stands of camphor laurel have also regenerated in previously cleared areas, creating distinctive form, texture and colour that are often perceived as characteristic of the NSW North Coast identity.

Structural elements such as farmhouses, shed, fences and yards, climate control structures and machinery are often screened by vegetation in fore and mid ground views, but readily visible from higher viewing points or long distance views. Roads, powerlines, fences and edges of vegetation stands create lines throughout the landscape.

Colours are often dominated by shades of green attributed to a variety of vegetation or disturbed soils, and interspersed with generally white, greys, browns and silvers of houses, sheds and other structures.

General low density development and associated artificial lighting creates viewing opportunities of dark skies and star gazing activities.

### Anticipated Future Changes and Pressures

Directions in the North Coast Regional Plan and Council's Rural Lands Strategy aim to encourage niche commercial, tourist and recreational activities that complement and promote a stronger agricultural sector, and build the sector's capacity to adapt to changing circumstances. The North Coast Regional Plan NCRP *Direction 8: "Promote the Growth of Tourism"* seeks to facilitate tourism and visitor accommodation and supporting land uses in rural hinterland locations and natural areas that support conservation outcomes.

Changing patterns of land use seeking subdivision of rural lots can impact the ratio and arrangement of natural and cultural elements.

Poor soil management resulting in land scarring or land slips are perceived as visual detractors. Extractive industries or high density urbanised areas are also perceived as being unsympathetic to rural uses and agricultural production. Poorly located or excessive signage or other obstacles in the foreground of key views, particularly along tourist roads, may undermine bucolic values sought by visitors and residents.

### Scenic Quality Analysis

For many views in the western portion of the Shire, Rural Hills and Valleys are the dominant landscape unit.

The cultural heritage and bucolic values associated with this landscape unit may be

considered as significant as those for biodiversity and natural heritage associated with coastal and wilderness areas. The high diversity of landscape attributes including undulating terrain, native and exotic vegetation, variable lot sizes and cultural structures supporting productive agricultural lands creates views of high scenic diversity and interest in terms of colour, spatial qualities and textures for many views.

Revegetation of some areas is not necessarily desired by some community members or viewer groups. For example, the rolling hills of Tyalgum contribute to the rural vistas around Tyalgum village including the cleared grazing fields and hills populated with the invasive plant species Camphor Laurel (*Cinnamomum camphora*).

Whilst camphor laurel is considered a noxious weed, it forms extensive stands of tree coverage in areas that have been historically cleared of native vegetation and the aesthetic qualities formed by their form, foliage and colouration are considered by some community members to contribute to a distinctive visual characteristic of the rural hills and valleys of the Tweed. For example, the dispersed canopy allowing dappled light over routes and creeks that are appreciated by residents and visitors. Therefore, consideration of compensatory impacts management measures is recommended in the control and removal of camphor laurel species.

### **Management Principles**

Maintain sense of entry to the Tweed Valley and foothills of the Caldera by retaining rural land uses in the hills and valleys visible from key viewing situations including the Pacific Highway, Tweed Valley Way and other key roads.

Preserve the existing proportions, patterns and visual relationships between forested and cleared areas. Maintain existing character, density and distribution of structural elements such as roads, powerlines, dams, buildings etc. Avoid or minimise the cumulative impact of urban development in the rural hills and valleys, by maintaining vegetated screens and edge buffers against highly urbanised or industrialised land uses or development

Consolidate new development within existing urban centres and existing footprints of rural villages to maintain existing widespread nature of rural uses and development.

Where extensive camphor laurel (or other exotic weed species) stands exist, encourage removal at a rate that can be balanced with compensatory planting.

## 9 Forested Hills

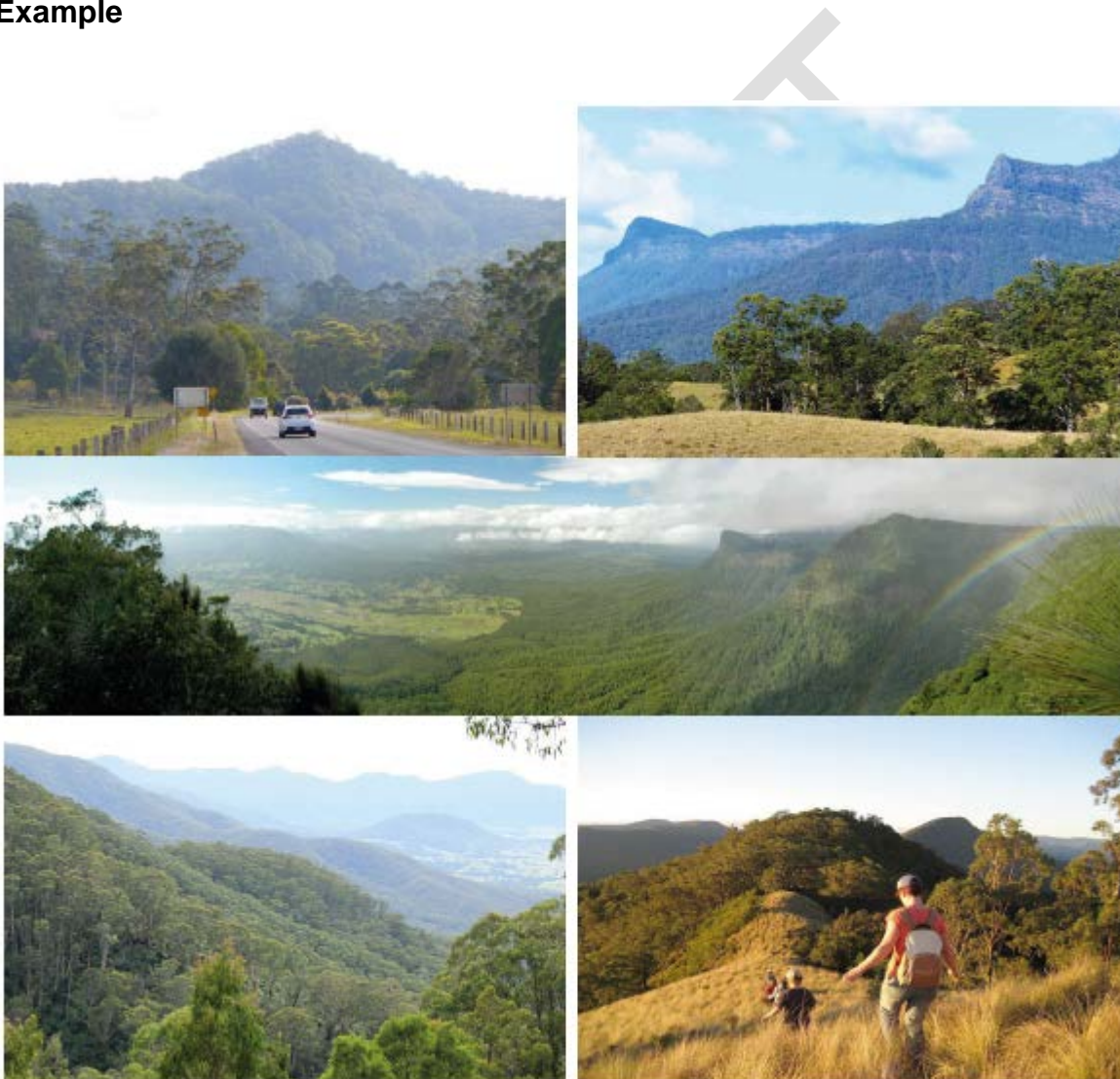
### Location

This landscape unit occupies approximately 55,671 hectares or 42% of the Shire.

Predominantly found in the steep slopes of the Caldera volcanic shield, this unit includes the northern border of the shire North Tumbulgum and Tomewin, circling west through Limpinwood, Mebbin, Byrrill Creek and encompassing Wollumbin/Mt Warning, continuing through the southern ranges including Uki, Smiths Creek Burringbar and extending to parts of Crabbes Creek, Wardrop Valley, Sleepy Hollow, Clothier's Creek, Tanglewood and Round Mountain.

The fringe portions of this Landscape Character Unit include the Central Eastern Rainforest Reserves of Australia (CERRA) with Gondwana Rainforests of World Heritage value.

### Example



*Burringbar Range* Image source: <https://www.flickr.com/photos/72793939@N00/9643158483>

### Description of Landscape Features

Terrain and vegetation attributes form the dominant visual elements of this landscape unit which is characterised by steep gradient slopes and 3-Dimensional

mass of the Caldera volcanic rim creates complex convex and concaves shapes and indented edges along and between ridgelines.

Terrain is predominantly vegetated with native or exotic species, which creates high integrity of cool green and blue shades, coarse grain and dense textures. At peaks and rock outcrops where vegetation clearing or land scarring is evident, exposed earth creates sharper and smoother silhouette lines of the land against the sky.

The silhouette line of Wollumbin/Mt Warning, and other peaks such as The Pinnacle, is often cloaked by cloud formations.

When viewing the landscape from within the unit, the spatial scale is canopied and enclosed, enabling the details in colour, texture and linearity of different vegetation or terrain attributes to be more apparent and visibly noticeable.

Within CERRA and nature reserves, endemic flora and fauna species is recognises as assets of exceptional and outstanding biodiversity and geological heritage.

Few cultural structures exist in this landscape unit, except for electrical or telecommunications facilities, roads and signage, and occasional pockets or isolated residential development.

### **Anticipated Future Changes and Pressures**

General visual detractors and risks to the landscape unit include vegetation degradation, removal and weed infestation, pollution, climate change and excessive tourism.

Some areas of the landscape unit, including CERRA and other conservation reserves, is protected and managed under Federal, State and Local Government legislation.

The forested slopes in adjacent lands to National Parks or reserves may be subject to tourism-related development, private forestry land uses, infrastructure facilities, road access or isolated residential development, where permitted.

The North Coast Regional Plan 2036 *Direction 8: Promote the growth of tourism* encourages expansion of nature-based tourism development that support conservation outcomes. This presents both opportunity and risk for this landscape type – where pressure for increased tourist and recreational access to these areas can damage and degrade the natural visual values; as well as provide opportunities for increased conservation and protection works funded by increased tourism.

### **Scenic Quality Analysis**

The elevated forested areas are integral to the visual environment of the Tweed Valley and form the most significant defining spatial features within and around the valley itself. These landscape unit forms a strong and dominant visual backdrop to a large proportion of views within the Shire, with the only exception being views towards the east and out to sea.

The most dominant natural backdrop is the densely forested Caldera rim which encloses the Tweed Valley on its southern and western sides, and the striking and highly recognisable form of Wollumbin / Mt Warning rising from the centre of the valley. These iconic features are central to the natural and cultural identity of the Tweed and are highly visible from the many parts of the shire.

To the north, the Terranora ridgeline provides a dominant skyline

The relatively homogenous and visually intact nature of forested hills, coupled with

their importance to the identity of the Tweed mean they are highly sensitive to visual change and should be considered extremely visually sensitive.

### **Management Principles**

- Avoid Key feature disruption, particularly Wollumbin / Mt Warning
- Maintain ridgelines from vegetation clearing or structures that may interrupt or pierce the skyline.
- Maintain or enhance forested slopes that currently or have the potential to act as distinct buffers or green belts to future urban release areas or intensive development that conflict with dominant natural attributes.
- Design buildings and structures to have significant consideration to external colour and material choice in order to minimise visual contrast with surrounding vegetation. Ensure colour hues or reflectivity blends in with forested slopes, particularly when sited in central focal lines of key landscape features.

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## 10 Urban

### Location

The Urban Landscape Character Unit includes Tweed Heads CBD and west Tweed, the coastal settlements concentrated in the eastern coastal band of the Shire including Kingscliff, Casuarina, and Pottsville, with Murwillumbah being the only dominant inland urban centre.

This Landscape Character Unit covers approximately 5,886 hectares or 4.5% of the Shire.

### Example



*Tweed Heads and Jack Evans Boat Harbour. Image source: <https://www.multispan.com.au/projects-view/jack-evans-boat-harbour-25>*

*Murwillumbah and the Tweed River. Image source: [www.service.nsw.gov.au/news/were-coming-Murwillumbah](http://www.service.nsw.gov.au/news/were-coming-Murwillumbah)*

### Description of Landscape Features

This Landscape Character Unit defines the limits of urban development and consists of all land uses for urban purposes, including housing communities, infrastructure, industrial areas and business parks, commercial and retail areas, and community facilities, urban open spaces, and other zoned land where the landscape is dominated by built form.

Visual character is dominated by cultural elements and structures which create geometric and angular shapes, banded lines and changing spatial scales, as defined by roads,



buildings, fencing, signage, lighting, telegraph pole and transmission wires etc. Highly textured, diverse colours and reflectivity of building materials add to the complexity and irregularity of visual attributes.

Whilst the Urban LCU is a predominately modified and disturbed landscape with defining features in the form of built environment, even the most highly urbanised areas of the Tweed Shire display have pockets of undisturbed natural areas, and many are located adjacent to areas defined by natural environment including beaches, rivers and creeks, coastal forests or agriculture.

### **Anticipated Future Changes and Pressures**

Changes to coastal settlement character from once distinctive character of small scale modest beach shacks, and housing types with a relatively low intensity residential setting to modern and larger dwellings that mimic the design characteristics of common metropolitan suburban neighbourhoods.

In order to meet the building height limit and density targets within regional and local growth projections for Tweed Heads and Tweed coast, and protect against loss of coastal forests and agriculture, existing built form character will need to change from single dwellings and low rise medium density development to higher density residential and mixed use towers.

The North Coast Regional Plan 2036 “*Direction 20: Maintain the region’s distinctive built character*” seeks to deliver high-quality development according to the North Coast Urban Design Guidelines.

### **Scenic Quality Analysis**

The urban landscape unit contains pockets of land that are not available or suitable for urban development such as areas of protected vegetation and foreshores.

These areas, coupled with dedicated public open space, are of high visual importance within the altered landscape. They provide a connection to nature in an otherwise unnatural environment, and a visual green belt to the highly organised and artificial urban landscape. These sites also enable viewers to access important view corridors, for example, Main St Murwillumbah and Murwillumbah Bridge, Jack Evans Boat Harbour to Razorback, Kingscliff to Cook Island, Terranora Road to Gold Coast and south over the Tweed.

In some areas the cumulative visual impact of colour and texture can be overwhelming to the point of being off putting to the observer. By way of example, traveling along Minjungbal Drive through the linear retail and commercial strip at South Tweed Heads, the viewer is bombarded by large and obtrusive advertising, directional signage, traffic lights, large expanses of roadside car parking etc.

Large and mature trees provide highly valued natural visual feature to streetscapes as they can screen or soften the harsh or bold lines, textures, reflectivity of highly developed landscapes.

### **Management Principles**

Subdivision design of urban areas to maintain the distinctive and diverse character of the North Coast, by drawing from its natural environmental landscape attributes, and ensuring open space and road network enables publicly accessible viewing opportunities of key and natural landscape attributes within the urban area and to adjacent landscapes.

For example:

- Maintain and promote large and mature trees as distinctive visual features,
- Retain and enhance public sight-lines, with emphasis on corridors formed by streets,

to iconic scenic landscape features such as the Pacific Ocean and Tweed River, Wollumbin / Mt Warning, Razorback Mountain, the Caldera rim, Terranora and Bilambil forested ridgelines, by avoiding view-taking or visual interruption caused by built structures, infrastructure facilities or transmission lines, or signage.

Develop green edges to major roadways of regional significance, such as the Pacific Highway, Tweed Valley Way, Tweed Coast Road, to screen views of urban development. Exceptions would be where such views contribute to viewer experiences, for example, cresting Sexton's Hill and where the first panoramic views of Tweed Heads/Coolangatta urban centre are seen which creates an experience of arrival or transition from the natural landscapes south of the river to the urban landscape of the built up areas of Tweed Heads and the Gold Coast further north.

Develop Street and Public Domain Vegetation Management Plan or Guide for existing urban areas. For example the use of appropriate species for street trees that won't grow so large as to become a public safety hazard or interfere with power lines and require lopping, pruning or trimming, which is considered visual detractors to some viewers.

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## 11 Future Urban Land Release

### Location

Future Urban land release areas include:

- Kings Forest
- Cobaki Lakes
- Bilambil Heights Urban Release Area
- Wardrop Valley
- Dunloe Park
- West Kingscliff

This Landscape Character Unit currently covers approximately 2,296 hectares or 1.7% of the Shire.

### Example



Figure 2 - Cobaki Lakes. Image Source: <http://www.degenhartshedd.com.au/ourvillage/designmanagement/>

An additional category called ‘future urban land release’ is included in the landscape character assessment and mapping, to encompass areas identified for urban release as part of the approved planning strategies including the North Coast Regional Plan 2036 or local growth management strategies.

Whilst these areas are for the most part undeveloped at this point and are predominately rural in character, the landscape character of these areas is expected to change dramatically in the future through anticipated or planned future urban development, resulting in a significantly different and as yet undefined visual landscape.

This will require specific planning options for addressing the more prominent impacts that may be caused by such large scale urban developments and warrants separation of these areas and the application of specific management priorities. Some of these areas are yet to undergo an LEP amendment or master planning process and when they do they will need to consider scenic management principles and apply the Visual Impact Assessment process, however flagging them at this point in the assessment will enable the intended future use as identified by planning strategies and policies to be taken into consideration when assessing acceptable levels of visual impact.



# TWEED

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