

# 5.0 Existing Landscape Character

## 5.1 Landscape Character Units

Generally one of the first steps in carrying out a landscape and visual assessment is to identify and map the Landscape Character of the surrounding area.

The landscape character of a site refers to the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how this is perceived by people. It reflects a particular combination of geology, landform, soils, vegetation, land use and human settlement and creates a particular sense of place for different areas within the landscape. (Horner and MacLennan et al, 2006).

The existing landscape context of the site and its surrounding environment are classified into distinct and relatively homogenous units of landscape character. These landscape character units (LCU) are summarised below and form the elements of the local visual context hence their quality also reflects to a degree its visual amenity.

The LCUs for the purpose of this report have been defined as:

- LCU 1 - Lake George Plain
- LCU 2 - Bungendore Plain
- LCU 3 - Collector Road/Tarago
- LCU 4 - Tarago-Bungendore Road
- LCU 5 - Grose/Governors Hill
- LCU 6 - Taylors Creek Catchment
- LCU 7 - Hammonds Hill
- LCU 8 - Lake George Road

The LCUs have been identified in Figure 6 and are described in detail in the following pages of this report.

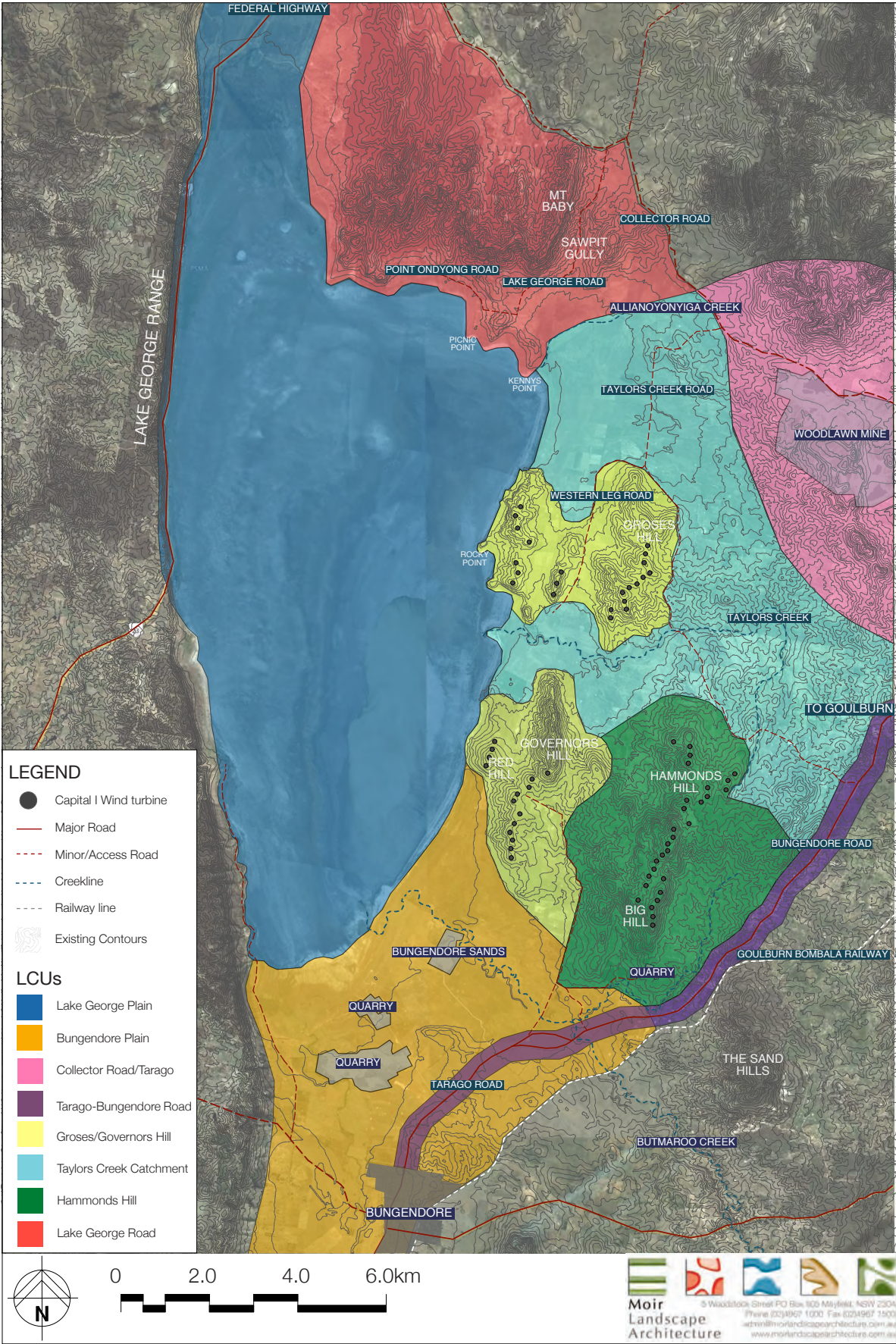


Figure 6: Identified Landscape Character Units.



# 5.0 Existing Landscape Character (contd.)

## 5.2 Description of Each LCU

### LCU 1: LAKE GEORGE PLAIN

The Lake George Plain LCU encompasses the open expanse of Lake George, the Federal Highway and rest areas, the northern section of Lake Road and the relatively uninhabited western fringe of Lake George. Lake George, located immediately west of the proposed wind farm, is approximately 25 kilometres long and 10 kilometres wide. It is long, large and extremely shallow with a relatively small catchment. The Lakes depth ranges from 1.5-4.5m when filled however in many areas it is only 0.8-1.0 metres deep.

Key features include:

#### VIEWS:

The existing Capital I Wind Farm is located on the eastern side of Lake George and clearly visible from the western edge of the lake. Unimpeded views are generally only available for motorists traveling in a southbound direction as dense vegetation between the divided roads limits views for northbound traffic. Views to the west are restricted by a steep wooded escarpment known as the Lake George Range. Weereewa lookout forms the most southern point where views across Lake George from the Federal Highway are available.

#### TOPOGRAPHY:

The escarpment known as ‘Lake George Range’ forms an abrupt interface to the west of the flat and expansive topography of Lake George, at a height of approximately 800m above sea level. The Great Dividing Range also contrasts with the flat expanse of Lake George to the east, visually containing the LCU.

#### ROADS / INFRASTRUCTURE:

The Federal Highway follows the western edge of the Lake for an approximate distance of 11km. The highway forms the major transport connection between Sydney and Canberra. A secondary, minor road Lake Road, is accessed off Bungendore Road and follows the lakes edge to the southwest. The road terminates at Silver Wattle Point, approximately 6km to the north of the southwestern most point of the Lake. The road is mostly unsealed, providing access to a small number of rural dwellings.

#### VEGETATION:

The Western escarpment has dense coverage of native vegetation. Lake George comprises an open expanse of pasture grasses devoid of trees.

#### CULTURAL ACTIVITIES:

Three rest areas are located along the edge of the Federal Highway, with views in an easterly direction across the lake. The VC rest areas form part of the Remembrance Driveway between Sydney and Canberra, and honour those who were awarded the Victoria Cross for acts of valour. Pastoral land across Lake George is for the most part inaccessible and when dry, is primarily used for grazing. Activities within and around the lake include scientific research, grazing of sheep (when dry) and fishing after high water and the stocking of fish. Hang gliders also utilise the escarpment.



Lake George from Federal Highway



Federal Highway at base of Lake George Range

# 5.0 Existing Landscape Character (contd.)

## LCU 2: BUNGENDORE PLAIN

Escarpments and steep ranges adjoin the west and east side of Lake George. The open flat valley to the south of the lake is referred to as the Bungendore Plain. The LCU incorporates the relatively flat rural plains, the township of Bungendore and recent rural residential subdivisions northeast of the township.

Key features include:

### VIEWS:

Views to Lake George Range to the west and the Great Dividing Range to the northeast. From Bungendore Road views to Lake George and the study site are partially obscured by a combination of vegetation (especially along Turallo Creek) and the relatively flat topography of the area. The existing Capital 1 Wind Farm is visible on the ridge line at a distance of approximately 9kms (to the nearest turbine from Bungendore).

### TOPOGRAPHY:

The topography of the LCU is generally flat, pastoral land. Land to the immediate west of Tarago Road incorporating isolated residential subdivisions has been included and generally rises to the west.

### ROADS / INFRASTRUCTURE:

Bungendore Road traverses the unit providing access between the Federal Highway and the town. The southern extents of Lake Road, Tarago Road and Currandooley Road also form part of this unit. Minor unnamed farm roads provide access to properties and homesteads.

### VEGETATION:

The majority of the plain is pasture grasses. Trees occur in scattered clumps or linear bands associated with roads or windbreaks. Two creek lines traverse the unit. Butmaroo Creek is largely devoid of any vegetation however Turallo to the south has established vegetation for the majority of its length.

### CULTURAL ACTIVITIES:

Land between the Federal Highway and Bungendore is primarily utilised for grazing. Occasional homesteads on the northern and southern side of Bungendore Road contribute to the patterning through the built form and cultural plantings creating small focal points in the landscape. Bungendore show ground is located south of Bungendore Road approximately 2.5km out of town. Two sand mines occur on the relatively flat land between the southern extents of Lake George and Tarago Road.

## BUNGENDORE

Bungendore is the main township in the area located at the crossroads of Bungendore and Tarago Roads, to the south of Lake George. Bungendore forms part of the Palerang Local Government Area (LGA). The town is a popular tourist centre, steeped in history with a number of buildings and precincts under heritage protection. The town has experienced recent growth in the form of residential houses and functions as a dormitory suburb of Canberra. The LCU encompasses rural residential estates north east of Bungendore and east of Tarago Road. Prior to European settlement the area was occupied by the Ngarigu people.



Homestead with wind break planting and paddock within Bungendore Plain LCU .



Established exotic roadside planting between Tarago Road and paddock within the Bungendore Plain LCU.



# 5.0 Existing Landscape Character (contd.)

## LCU 3: COLLECTOR ROAD/TARAGO

Collector Road runs north of the study site between Bungendore Road and the Federal Highway, concluding at the town of Collector. The extent of the LCU has been identified as Collector Road, the forested escarpment to the north and the Woodlawn Mine site to the south. The eastern perimeter of the LCU runs from the entry of Taylors Creek Road along the edge of the Taylors Creek Catchment. Collector Road is assessed as being a minor road. It is a partially unsealed road utilised for heavy vehicle transport associated with the Woodlawn Mine site and rural residential access.

Key features include:

### VIEWS:

Tarago is screened by the escarpment to the north of the town, preventing views to the Study Area. For the most part, when traveling NE along Collector Road the existing wind farm is screened from view. The existing wind turbines forming part of the Grose Hill and Hammonds Hill Groups become visible at the intersection with Taylors Creek Road.

### TOPOGRAPHY:

The topography of the Collector Road/Tarago Landscape Character Unit ranges from gently undulating to steep. Forested ranges provide good screening of the site. The forested escarpment to the north provides a sense of enclosure when traveling along Collector Road.

### ROADS / INFRASTRUCTURE:

Collector Road connects with to the Federal Highway to the north of Lake George. Roads are heavily utilised by trucks transporting waste from the train terminal at Tarago and transport associated with the Woodland Mine. A number of access roads and property driveways branch off Collector Road including Taylors Creek Road (which is an access road for the Study Site). The sealed section of Collector Road north east of Woodlawn mine appears to have been improved to facilitate the transportation of goods from the mine.

### VEGETATION:

Vegetation along Collector Road is typically grazing land with a large tracts of natural vegetation. Ranges, to the north of the Collector Road form part of the Great Dividing Range and are generally steep and well vegetated.

### CULTURAL ACTIVITIES:

The Woodlawn Mine occurs on the southern side of Collector Road covering a large portion of land. Parts of the mine are visible from Collector Road, however the full extent is visually buffered by topography and vegetation.



Typical landscape character of Tarago.



Woodlawn Mine, Collector Road.



Main Road through Tarago.



# 5.0 Existing Landscape Character (contd.)

## LCU 4: TARAGO-BUNGENDORE ROAD

Bungendore/Tarago Road runs along the southeastern edge of the Study Area in a generally northeast direction from the town Bungendore to Tarago. The road transects the Bungendore Rural Plain LCU and Hammond's Hill LCU, yet is included as a separate LCU due to the distinct character of the road. As it reaches Bungendore, Tarago Road connects with the Kings Highway which then continues to Canberra. Tarago Road is generally utilised by residents and the occasional heavy transport. In this context, it is identified as a minor road.

Key features include:

### VIEWS:

Traveling southwest along Tarago/Bungendore Road from Tarago towards Bungendore, glimpse views of turbines from the existing Capital Wind Farm are visible depending on variations in the topography and density of vegetation coverage. Embankments and alterations in topography associated with the Great Dividing Range screen views. Traveling in the opposite direction (northeast) along Tarago/Bungendore Road views of the existing wind farm are prominent due to the flat topography and direction of travel.

### TOPOGRAPHY:

The topography varies along the LCU, ranging from flat to undulating. Traveling north east along Tarago/Bungendore Road, the topography is typical of the Bungendore plain, flat and low-lying. After the road dissects Dry Creek at the base of the Sand Hills, the topography rises and becoming undulating as it runs through the Great Dividing Range.

### ROADS / INFRASTRUCTURE:

Tarago/Bungendore Road runs from Braidwood Road, in the north and to the Kings Highway in the south in a northwesterly direction, connecting to the Federal Highway. A number of unsealed and private access roads stem from Bungendore/Tarago Road. A few hundred meters to the south of Tarago Road is the Goulburn-Bombala Railway.

### VEGETATION:

For the most part, Tarago/Bungendore Road extends through cleared pastoral land, generally devoid of native vegetation. Mature exotic bands of pines planted as visual and wind buffers associated with property and paddock edges border Tarago Road. Some portions of native woodland exist generally associated with rises in topography and creeklines.

### CULTURAL ACTIVITIES:

Land along Bungendore/Tarago Road is primarily utilised for grazing whilst occasional homesteads contribute to the cultural value. The road is mainly used by residents and by heavy transport vehicles associated with the quarries and rubbish tip located along the road.



Bungendore Road.



Embankments along Tarago Road.



Pine wind break planting along Tarago Road.



# 5.0 Existing Landscape Character (contd.)

## LCU 5: GROSES/GOVERNORS HILL

The Groses/Governor Hill Landscape Character Unit is generally defined by the ridge lines along the eastern edge of Lake George. These ridge lines include Red Hill, Groses Hill, Governors Hill and associated high points. The existing wind turbines of the Ellenden and Governors Hill groups are sited along these ridge lines. These hills are of a generally similar landscape character typified by cleared rural land and steep topography.

Key Features Include:

### VIEWS:

This LCU is visible from most aspects within the study area. From the Federal Highway the LCU is visible, visually defining the eastern edge of Lake George. Existing wind turbines (Groses Hill Group and Ellenden Group) associated with the Capital Wind Farm are positioned along the ridge lines within the LCU. From access roads along the ridge line within the LCU the height of the topography allows for expansive views over the study site. Views within the LCU at the base of the hills are altered along access roads, due to the height of the topography obstructing views.

### TOPOGRAPHY:

The LCU contains several hills including Red Hill, Governors Hill, Groses Hill and other associated high points. The topography is relatively steep in areas with elevations reaching 902 metres above sea level at the highest point on Governors Hill.

### ROADS/INFRASTRUCTURE:

The northeastern perimeter of the Groses/Governors Hill LCU is bordered by Taylors Creek Road, a mostly unsealed access road. Western Leg Road runs along the base of Groses Hill and the foothills to the west within the LCU. A number of sealed and unsealed access roads stem from Western Leg Road providing access to Capital One turbines the Wind Farms and homesteads. Currandooley Road also runs through the southern end of the LCU, between the foothills of Governors and Red Hill. Small private roads also branch off Currandooley Road, providing access to homesteads and wind turbines.

### VEGETATION:

Vegetation within the LCU is typically characterised by cleared grazing land. Occasional wind break plantings of mature exotic pines occur along boundaries of paddocks and associated with homesteads. A small coverage of remnant woodland vegetation occurs on Governors Hill.

### CULTURAL ACTIVITIES:

Land within the LCU is typically grazing land associated with homesteads and occupied cottages accessed off Western Leg and Taylors Creek Road. Existing groups of wind turbines (Ellenden and Groses Hill Group) associated with the Capital Wind Farm are located along the ridge lines within the LCU.



Groses Hill Wind Turbines.



Governors Hill.



Groses Hill Group Wind Turbines.

# 5.0 Existing Landscape Character (contd.)

## LCU 6: TAYLORS CREEK CATCHMENT

The Taylors Creek Catchment LCU covers an extensive area of flat, low-lying land on the eastern side of Lake George. Included in this LCU is Taylors Creek Road and Taylors Creek. Taylors Creek Road runs through the study area connecting with Collector Road to the north and Bungendore/Tarago Road to the south. The catchment includes Taylors Creek and associated drainage lines which run into Lake George.

Key Features Include:

### VIEWS:

As the LCU is close to the existing Capital Wind Farm, a number of existing wind turbines are visible when travelling along Taylors Creek Road. Topography and foreground screen planting provides some visual screening of turbines sited on lower ground, however for the most part, turbines are clearly visible along the ridge lines within Ellenden, Grose Hill and Hammonds Hill groups.

### TOPOGRAPHY:

The land within the LCU is generally flat, low lying land. The LCU is surrounded by the Great Dividing Range to the east, and the Grose Hill and Governors Hill groups of hills to the north and south of the LCU. The hills define the catchment both visually and physically.

### ROADS/INFRASTRUCTURE:

Taylors Creek Road is a predominately unsealed local road that provides access to rural properties and existing wind turbine infrastructure. The road extends from Collector Road to Bungendore Road with a number of unsealed access roads and private driveways branching from the road.

### VEGETATION:

Vegetation within the Taylors Creek Catchment LCU is generally flat pastoral land devoid of native trees. Occasional linear bands of mature exotic pine plantings occur on property boundaries. Native riparian vegetation associated with Taylors Creek is visible through the LCU.

### CULTURAL ACTIVITIES:

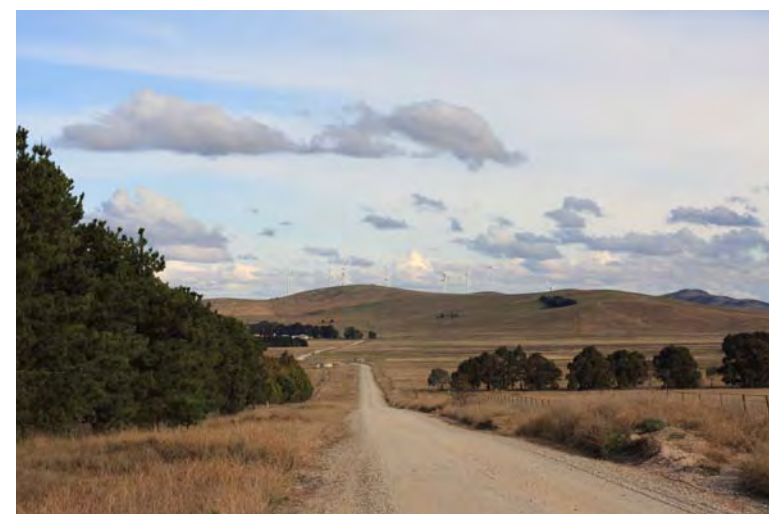
The area within the LCU is characterised by rural properties and homesteads located along Taylors Creek Road. The pastoral land typical of the LCU is utilised as grazing land. Exotic windbreak plantings associated with the property boundaries are a defining element of the landscape character.



Property off Taylors Creek Road.



Paddock off Taylors Creek Road.



Taylors Creek Road.



# 5.0 Existing Landscape Character (contd.)

## LCU 7: HAMMONDS HILL

Hammonds Hill LCU is generally defined by the extent of Hammonds Hill and Big Hill. The LCU is defined to the north by land identified in the Taylors Creek Catchment LCU, to the east by the Great Dividing Range and to the southwest by the Bungendore Rural Plain LCU. The LCU is characterised by a steep rise in topography and density of vegetation associated with the Hammonds Hill Ridgeline. The existing Capital I wind turbines dominate the ridgelines.

Key features Include:

### VIEWS:

Due to the relatively inaccessible nature of Hammonds Hill, views from the LCU were not assessed. However, the ridge line of Hammonds Hill creates a visual catchment from all directions. Hammonds Hill creates a visual barrier from the west, when traveling along Tarago Road, obscuring views towards Lake George. The existing wind turbines sited along the ridge line of Hammonds Hill are visible from a range of viewpoints within the study area.

### TOPOGRAPHY:

The topography of Hammonds Hill LCU is steep, consisting of the ridge line which extends from Big Hill in the south, to Hammonds Hill in the north. At its highest point, the ridge line reaches 930m above sea level on Hammonds Hill.

### ROADS/INFRASTRUCTURE:

The LCU is defined along the western edge by Currandooley Road, an unsealed access road utilised mostly by residents. The ridge line is occupied by the Hammonds Hill Group of wind turbines (29 turbines in total) associated with the existing Capital Wind Farm.

### VEGETATION:

Vegetation within the Hammonds Hill LCU is defined by a broad grassed vegetation along the ridge top. Remnant woodland vegetation occurs on the western side of Hammonds Hill ridge line. The southern end of the LCU a plantation of exotic pines occupies the base of Big Hill.

### CULTURAL ACTIVITIES:

The site is characterised by the wind turbines sited along the ridge line. A total of 29 turbines in total occupy the ridge line. The southern end of the LCU is occupied by a large pine plantation and Bungendore Quarry. Occupied cottages and homesteads associated with Currandooley Road are also located within this LCU.



Remnant vegetation along the ridgeline of Hammonds Hill.



Hammonds Hill group of wind turbines associated with Capital I Wind Farm.



View towards the ridgeline of Hammonds Hill from Bungendore Quarry.



# 5.0 Existing Landscape Character (contd.)

## LCU 8: LAKE GEORGE ROAD

The Lake George Road LCU includes the area to the north of Lake George, up to Collector road. The area is generally defined by the hills connecting with Mt Baby, Lake George Road and Sawpit Gully. The Landscape Character Unit is defined by views from the northern edge of Lake George, over Lake George towards the capital wind farm and contained by the Lake George western Range. The LCU is bordered to the south and east by the Lake George Plain LCU, to the west by Allianoyonyiga Creek on the perimeter of the Taylors Creek Catchment LCU and the north by Collector Road LCU.

Key Features Include:

### VIEWS:

Traveling south along Lake George Road, there are expansive views over Lake George towards the existing Capital Hill Wind Farm. The existing Ellenden and Grose Hill group of wind turbines are visible from rises in the road. Views across Lake George to the Federal Highway are also visible, contained by the Lake George Range. Raised hills at the northern tip of Lake George on Picnic Point and Kennys Point obstruct views towards the existing wind turbines from Point Ondyong Road.

### TOPOGRAPHY:

Topography within the Lake George Road LCU is generally steep, undulating land. Lake George Road runs along the base of Mt Baby, following Sawpit Gully. The topography along the road is undulating and slopes downwards towards Lake George. Topography at the southern end of Lake George Road rises with two distinct hills on Picnic and Kennys Points.

### ROADS/INFRASTRUCTURE:

The LCU encompasses Lake George Road which branches off Collector Road. The road is an unsealed access road used to service a number of rural properties and homesteads. Lake George Road continues to Point Ondyong Road, where it terminates. A landing ground is sited within the LCU associated with a property adjacent to Willeroo Creek.

### VEGETATION:

Mt Baby is densely covered in native woodland vegetation. The vegetation continues down Mt Baby, thinning as it reaches lower altitude towards its base. The land surrounding Lake George Road is typically pastoral land with pockets of native vegetation generally occurring on high points and within drainage lines. Tree plantings of both exotic and native species occur around homesteads and rural properties.

### CULTURAL ACTIVITIES:

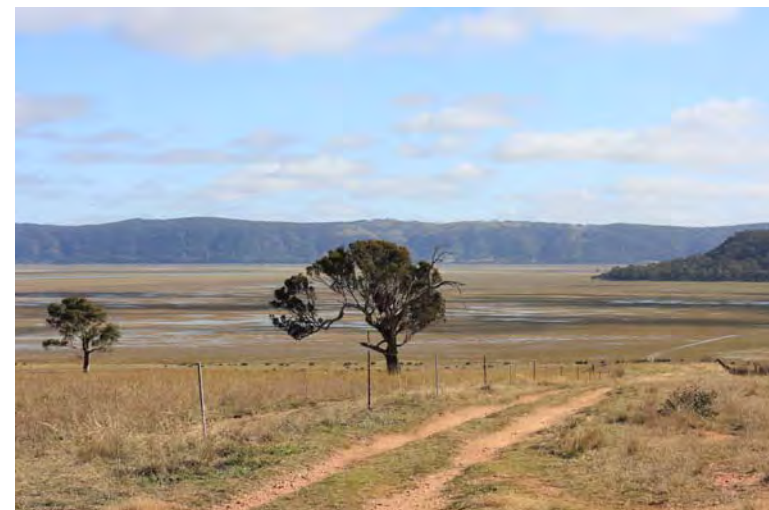
Land within the LCU is mostly used as grazing land, with rural residential properties occurring along Lake George Road. An access road within the LCU off the Federal Highway on the western edge of the LCU leads to an abandoned quarry and sand mine.



Sawpit Gully, north of Lake George.



Lake George Road.



Point Ondyong Road.