



# Regional Bushfire Planning Assessment

## HUME REGION

April 2012

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## RECOMMENDATION 38 of the Victorian Bushfires Royal Commission states...

*“The State implement a regional settlement policy that:*

- takes account of the management of bushfire risk, including that associated with small, undeveloped rural lots*
- includes a process for responding to bushfire risk at the planning stage ... ”*

## 1.0 INTRODUCTION

The 2009 Victorian Bushfires Royal Commission (VBRC) emphasised the importance of considering bushfire matters at all stages of the planning process, including through regional settlement planning and in the Local Planning Policy Framework. The State Planning Policy for Bushfire also identifies that strategic and settlement planning should assist to strengthen community resilience to bushfire.

The Regional Bushfire Planning Assessment (RBPA) supports this approach and is part of the Government's response to Recommendation 38 of the VBRC relating to the development of regional settlement policy in Victoria.

### 1.1 What is the RBPA?

The RBPA provides extra information about areas (referred to in this document as 'identified areas') where a range of land use planning matters intersect with a bushfire hazard to influence the level of risk to life and property from bushfire. This information should be addressed as part of strategic land use and settlement planning at the regional, municipal and local levels.

The RBPA will inform the Regional Growth Plans currently being prepared by the Department of Planning and Community Development in conjunction with councils. It provides a basis to initiate further detailed analysis as part of other planning processes such as settlement planning and preparing planning scheme amendments.

The RBPA is not a statutory planning provision and does not directly translate into planning schemes. However, it complements planning scheme provisions such as the Bushfire Management Overlay (BMO) by providing spatial and qualitative information from a variety of sources which together can inform considerations about where bushfire should be assessed early in the strategic planning process.

### 1.2 What information is contained in the RBPA?

The RBPA provides information on matters which may be relevant to strategic and settlement planning and focuses on the factors considered particularly important by the VBRC, including:

- areas where smaller sized lots (less than 0.4ha) which may be used for residential purposes are in or close to a bushfire hazard
- areas where medium sized lots (between 0.4-4ha) which may be used for residential purposes are in or close to a bushfire hazard
- areas where there is a settlement or urban interface with the bushfire hazard
- locations which may have limited access and egress, indicated by a single access road to and from a settlement in addition to roads which connect a number of settlements in areas with a bushfire hazard
- areas where future strategic directions contained in planning schemes may conflict with the bushfire hazard
- areas where the broader landscape is particularly affected by a bushfire hazard
- areas identified from local information provided by either the relevant fire authority or the council that may need to be considered in planning decision making
- areas where multiple issues occur in a single area.

This information is shown spatially on maps at a strategic scale. It is supported by a table that gives a brief explanation for each identified area.

### 1.3 How is the RBPA different to the BMO?

The BMO is applied to areas where there is potential for bushfire behaviour such as a crown fire, extreme ember attack and radiant heat. The application of the overlay is based on a technical evaluation of the bushfire hazard validated with relevant fire authorities and councils. The key purpose of the BMO is to identify areas where a planning permit is specifically required to consider the bushfire matters prior to development occurring.

The RBPA informs a broader consideration of bushfire issues by recognising that, in specific locations, the bushfire hazard increases the potential bushfire risk to life and property in very specific ways, for example, due to access constraints. Addressing these factors is an important way that strategic and settlement planning can respond to bushfire issues before specific development proposals are considered. This provides an opportunity to resolve issues and implement mitigation measures early in the planning process and at a strategic level.

### 1.4 How is an RBPA prepared?

The information in the RBPA has been identified through a two-step process:

**Step 1** – Base data on planning zones and overlays, vegetation quality, lot location, sizes and patterns and single roads into settlements was collected and correlated against the latest information on the bushfire hazard. For the RBPA a bushfire hazard was generally considered to be a significant extent of vegetation and the area of reference for identified areas was land in or in close proximity (200 metres) to the vegetation. Step 1 provided the initial identified areas.

**Step 2** – A qualitative review of the initial identified areas was undertaken with councils, the relevant fire authority and the Department of Sustainability and Environment and any further information based on local knowledge was included as identified areas.

## 1.0 INTRODUCTION cont..

The development of the RBPA was supported by a reference group of representatives from the Department of Planning and Community Development, Municipal Association of Victoria, councils, the Country Fire Authority, the Metropolitan Fire and Emergency Services Board, and the Growth Areas Authority.

### 1.5 How should an identified area be treated?

The bushfire risk in identified areas should be assessed as part of strategic and settlement planning and where land use issues are a factor in strengthening community resilience to bushfire (for example, where development and growth is occurring or planned).

*Minister's Direction No. 11 - Strategic assessment of amendments* requires a planning authority to evaluate and discuss how an amendment addresses bushfire risk. The RBPA will assist planning authorities in determining when bushfire risk should be addressed.

Not every identified area shown in the RBPA requires a specific planning response because:

- there are limited land-use planning responses that can be implemented where an area is not experiencing any change or development pressure
- the anticipated nature and extent of development in specific areas, including areas already zoned for particular uses, can be appropriately managed through the planning permit process where the BMO applies
- planning schemes cannot prevent the continuation of a lawful existing use where Clause 63 of planning schemes protects existing use rights
- bushfire issues may be best managed through non-planning responses such as Integrated Fire Management Planning.

### 1.6 Important things to note

The RBPA complements other information that can also inform planning decisions. This includes the Victorian Fire Risk Register, Integrated Fire Management Planning and its associated plans and strategies and the operations and workings of fire authorities, councils and communities. Investigation of an identified area should be informed by these and other activities that together support community resilience to bushfire.

The RBPA therefore does not include all information captured by other processes.

The RBPA is not a bushfire risk assessment of any of the identified areas. Identified areas are based on where the bushfire **hazard** correlates with land use planning considerations that may influence the bushfire risk. The RBPA has not sought to replicate bushfire risk assessments undertaken through other processes, particularly the Victorian Fire Risk Register.

## 2.0 HUME REGIONAL OVERVIEW

The Hume region is located in the north-east of Victoria and has an area of about 40 500 square kilometres. It has a population of about 274 200 across 12 municipalities including; Alpine, Benalla, Greater Shepparton, Indigo, Mansfield, Mitchell, Moira, Murrindindi, Strathbogie, Towong, Wangaratta and Wodonga. It contains the main centres of Benalla, Shepparton, Wangaratta and Wodonga, as well as the urban fringes of metropolitan Melbourne.

The Murray River extends along the northern boundary and the Great Dividing Range stretches south-east towards Melbourne.

The Murray River floodplains and hinterland includes the main centres of Wodonga and Shepparton and the Goulburn, Broken, Kiewa, King and Ovens Rivers. An irrigation network extends throughout the hinterland to supply an expansive agricultural area and scattered rural settlements. The Goulburn Murray catchment is widely regarded as the food bowl of Victoria. The floodplain also includes the Barmah National Park and internationally significant wetlands.

The Great Diving Range encompasses national and state parks, plantations, Lake Hume and Eildon Reservoir. The Falls Creek, Mount Hotham, Lake Mountain, Mount Buller and Mount Sterling Alpine Resorts are located in the Hume region. Small rural settlements are dispersed through the Alpine high country, foothills and river valleys.

The southern slopes of the Great Dividing Range extend into the fringes of Melbourne. The proximity of this area to Melbourne and its high amenity landscape supports a network of settlements.

The Mitchell, Murrindindi and Indigo Shires were affected by the Black Saturday bushfires in 2009.

### 2.1 The Riverina

The Riverina encompasses the northern boundary of the region and contains the Murray River, Barmah National Park and river red gum floodplains. Main centres and small rural settlements are located along the Murray River with direct interfaces to bushfire hazard. There is development pressure being experienced for rural-residential lots along the river frontage.

### 2.2 The Alpine high country

The Alpine National Park stretches across the high country of the Great Dividing Range and includes the alpine resorts which experience seasonal population fluctuations and include clusters of resort chalets in bushfire hazard areas. A number of alpine resorts due to their unique topographical context have access and egress constraints. The Falls Creek, Mount Hotham, Mount Buller and Mount Sterling Alpine Resorts are surrounded by the Alpine National Park.

### 2.3 The foothills and valleys

The foothills and valleys of the Great Dividing Range contain the fertile river valleys of the Goulburn, Kiewa, Ovens and King Rivers which are rich in biodiversity and native vegetation. Settlements are surrounded by or located at the fringes of national and state parks, plantations and vegetated riparian corridors. These settlements contain small residential and rural-residential lots which directly interface bushfire hazard areas. Some settlements have access and egress constraints. Grassland and scrubland are known bushfire hazards to rural-residential lots in valley areas.

### 2.4 The western hinterland

Settlement patterns in the western hinterland are linked to the extensive irrigation networks and flat agricultural landscape. Rural settlements surrounding the main centre of Shepparton generally interface with the Goulburn and Broken River

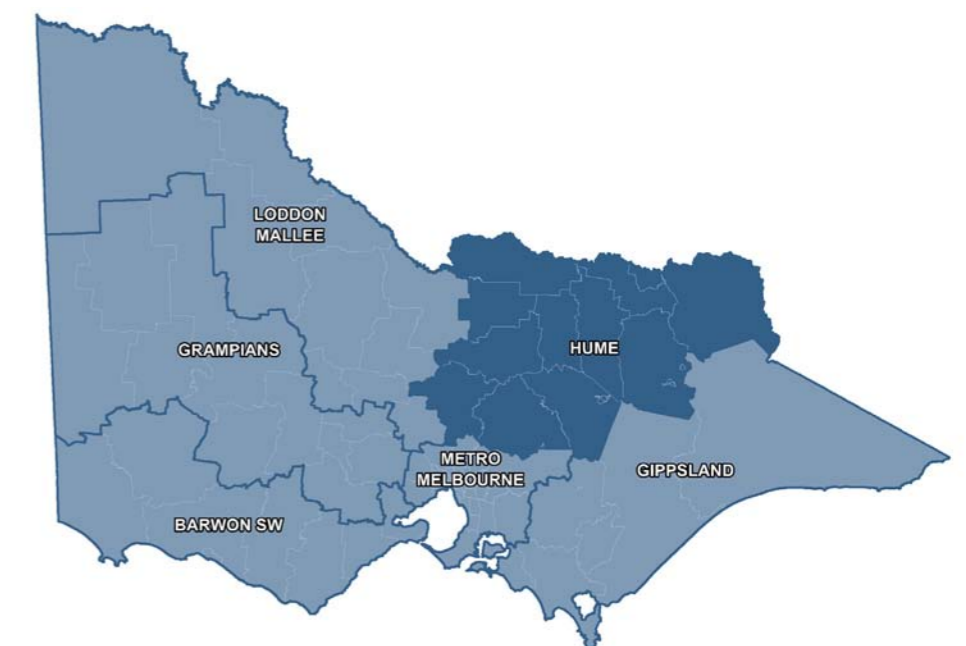
corridors. These rivers extend through several townships, with small residential lots directly interfacing with linear vegetation corridors containing bushfire hazard.

### 2.5 Metropolitan interface

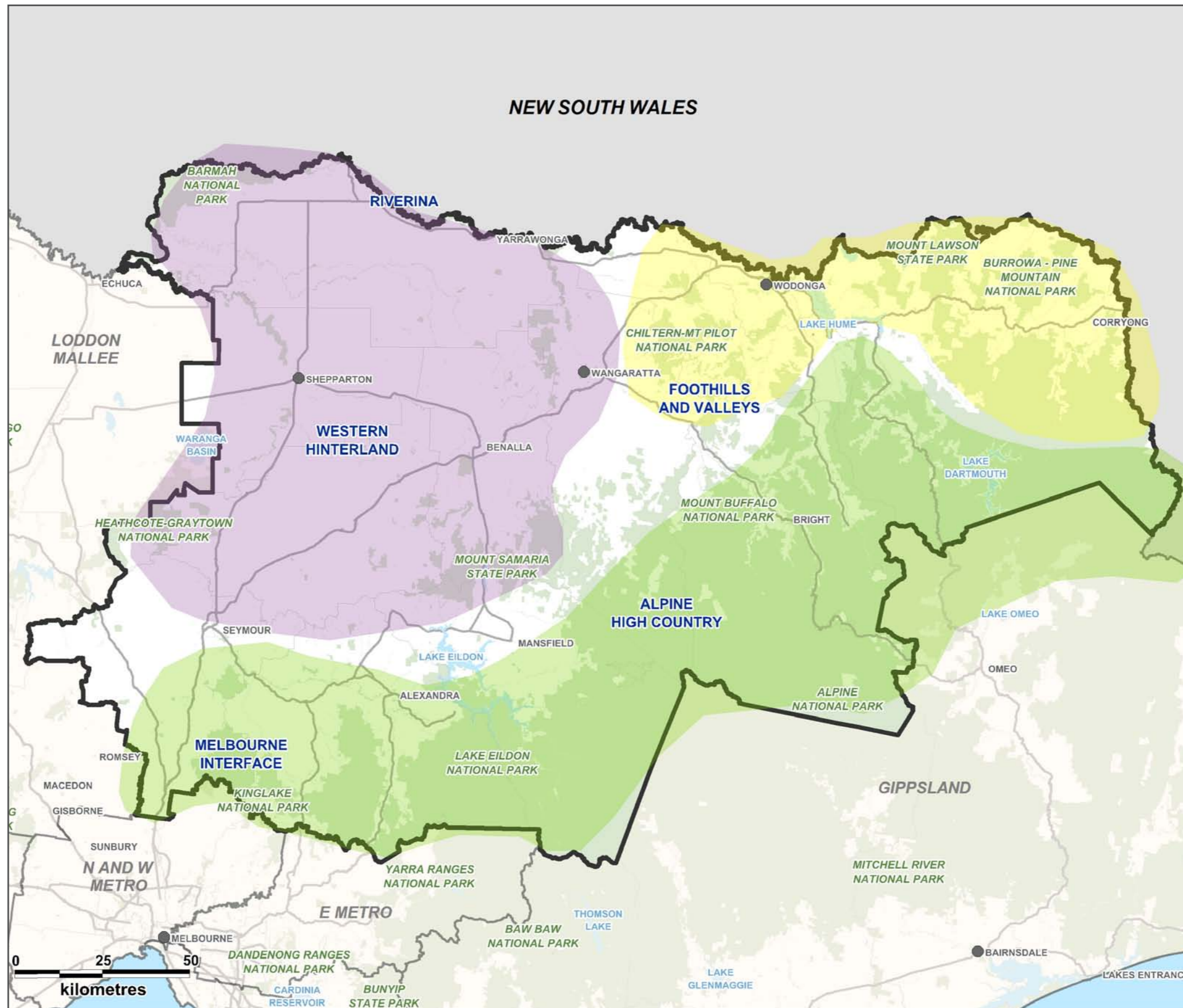
The southern area of the region is dominated by the Great Dividing Range and its associated dense vegetation coverage and steep topography. The area contains the Lake Mountain Alpine Resort, many small towns and villages, as well as scattered rural settlements in the valleys and on the slopes which directly interface with bushfire hazard areas.

Southern areas are located close to Melbourne's urban fringe, providing attractive rural living environments and contain a multitude of scattered settlements. Small lots are widespread across this region and are located in bushfire hazard areas with access and egress constraints.

This area of the region contains many of the townships affected during the 2009 Black Saturday bushfires including Marysville, Narbethong, Strath Creek, Flowerdale and Kinglake.



# HUME REGIONAL MAP



## 3.0 MUNICIPAL OVERVIEW – ALPINE SHIRE

Alpine Shire is located in the north-east of the region and has a land area of about 4800 square kilometres. It has a population of about 12850 mostly located in small rural settlements. The Shire's main centre is Myrtleford with a population of 2650, located approximately 270 kilometres north-east of Melbourne and approximately 70 kilometres south of Wodonga.

The Shire comprises approximately 92% of public land consisting of mountainous public forest such as Mount Buffalo National Park, state forests and significant sections of the Alpine National Park. The remaining area contains scattered settlements and farming land located along the flood plains of the Ovens and Kiewa valleys. Falls Creek and Mount Hotham resort areas are located in the Shire's borders, although excluded from the Alpine Shire municipal district.

Areas of significant biodiversity typically follow watercourses through undulating valleys on private land and throughout state and national parks. The protection of native vegetation is managed through the Significant Landscape Overlay which applies to a number of valleys in the Shire.

### 3.1 North-eastern area

The north-eastern area of the municipality contains scattered settlements along the Ovens Valley. This area contains small residential and rural-residential settlements with direct interfaces to state forests and corresponding bushfire hazard areas.

There is development pressure in the region, primarily along the road corridor east of and in small pockets adjacent to Mount Beauty which is an established settlement set amongst a treed and hilly environment.

Vegetated areas extend along the hillsides and along watercourses which traverse the valley, while agricultural land and small settlements exist throughout. Much of this vegetation is of very high or high conservation significance.

### 3.2 North-western and central areas

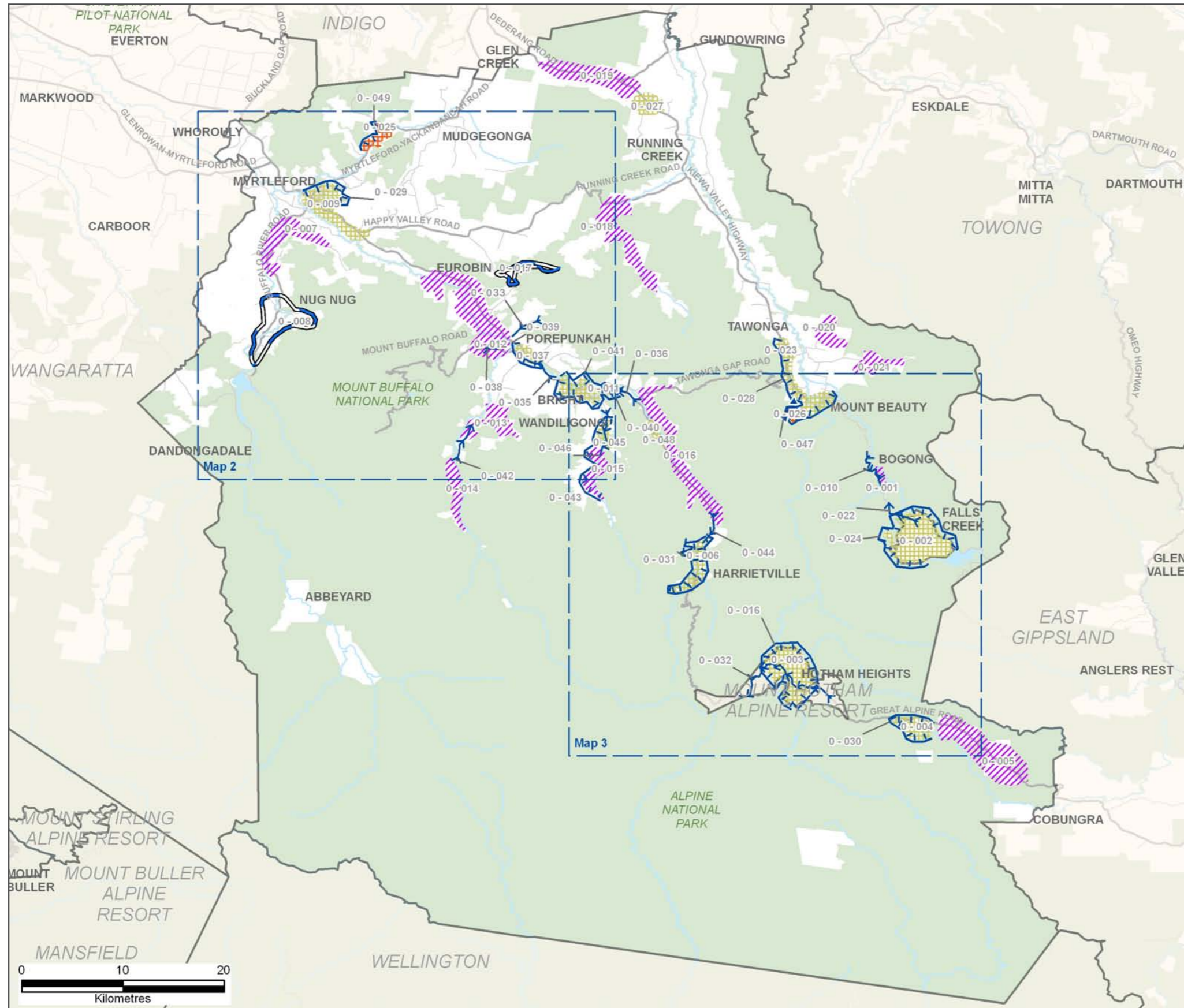
The Ovens Valley stretches between the north-western and central areas of the municipality and is the most developed area of the shire. The valley includes multiple townships which interface with bushfire hazard areas. Development pressure is being experienced in numerous pockets in the main valley floodplains, as well as in small valleys which stretch up into the hills.

Similar to other areas in the municipality, vegetated landscapes stretch along the hillsides and watercourses which traverse the valley, while agricultural land and small to medium sized lots and settlements exist throughout. Much of this vegetation is recognised as being of very high or high conservation significance and penetrates into established urban settlements.

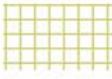







### 3.3 Southern area

The southern area of the shire is dominated by mountainous and forested public land including the Alpine National Park and is largely devoid of settlements.








# ALPINE MUNICIPAL MAP - MAP 1



## Identified Areas

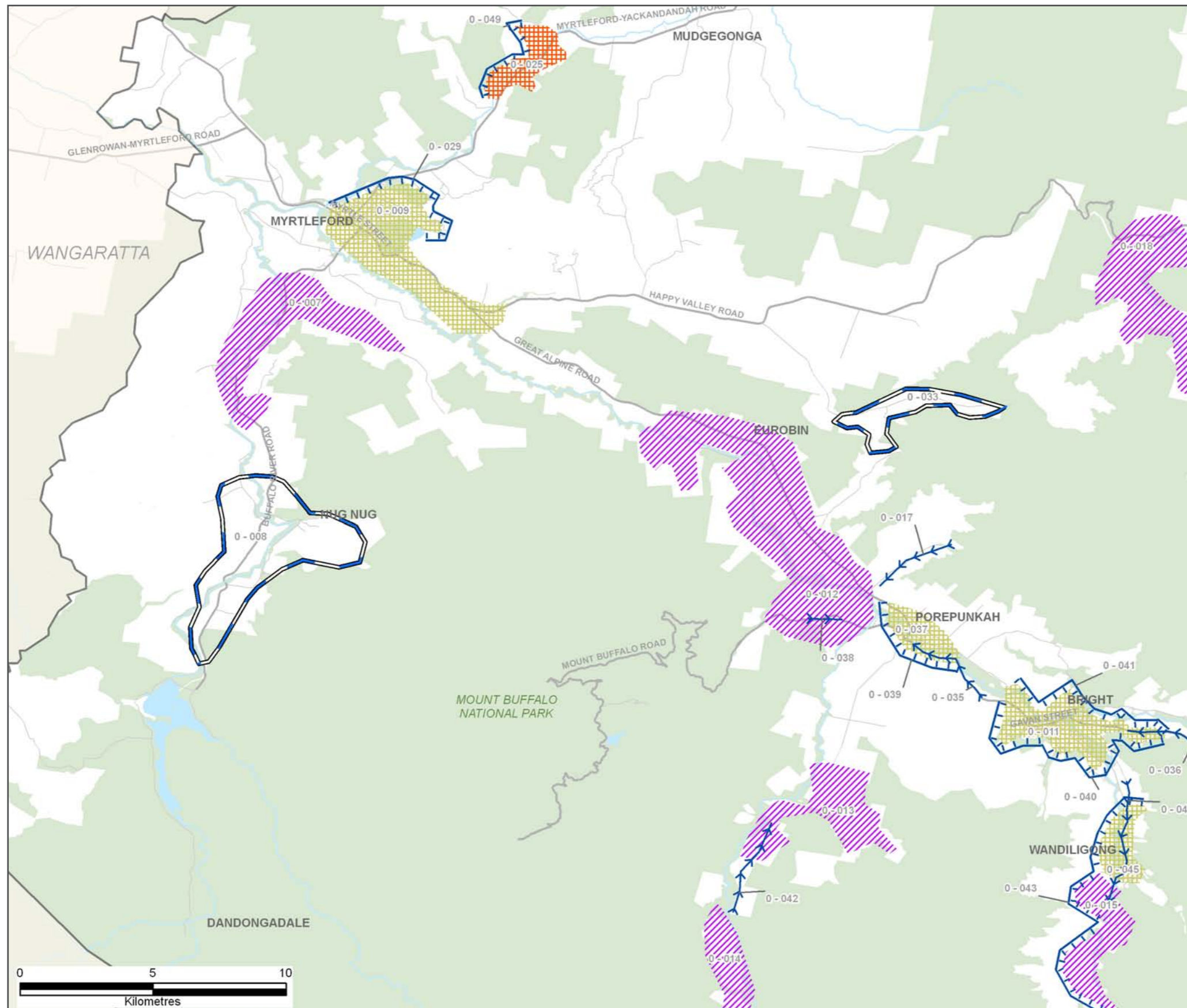
-  Small lots in or close to hazard (0 - 0.4 hectares)
-  Medium lots in or close to hazard (0.4 - 4 hectares)
-  Specific local knowledge
-  Other information of interest to planning
-  Multiple matters
-  Limited access and egress
-  Urban/bushfire hazard interface
-  Future strategic directions and bushfire hazard conflict

## Features

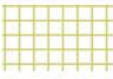
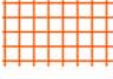






-  Major road
-  Road
-  Railway
-  Railway station
-  Watercourse
-  Waterbody
-  Public land










# ALPINE MUNICIPAL MAP – MAP 2



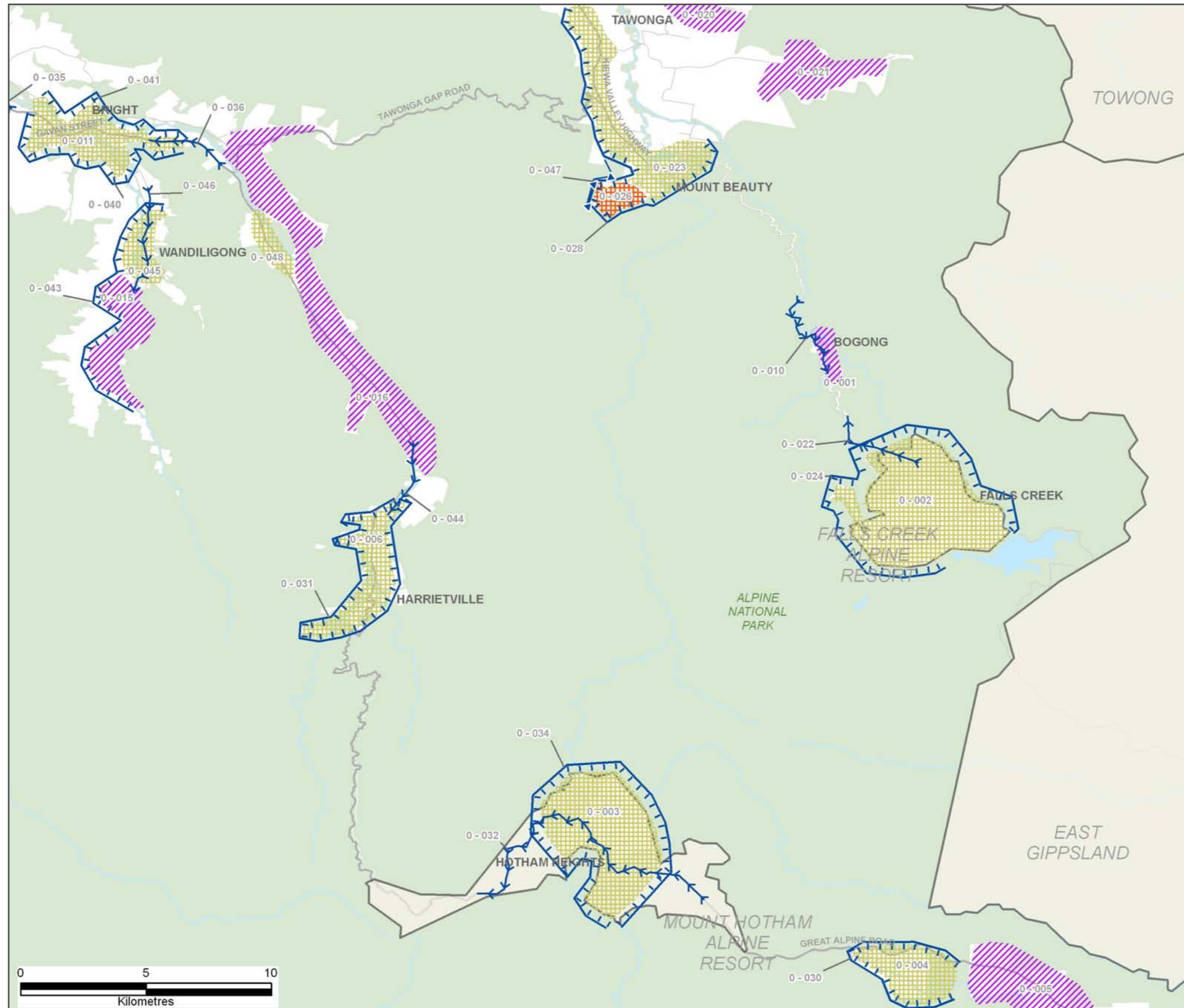
## Identified Areas

-  Small lots in or close to hazard (0 - 0.4 hectares)
-  Medium lots in or close to hazard (0.4 - 4 hectares)
-  Specific local knowledge
-  Other information of interest to planning
-  Multiple matters
-  Limited access and egress
-  Urban/bushfire hazard interface
-  Future strategic directions and bushfire hazard conflict

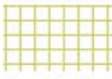
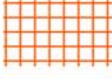






## Features

-  Major road
-  Road
-  Railway
-  Railway station
-  Watercourse
-  Waterbody
-  Public land




# ALPINE MUNICIPAL MAP – MAP 3



## Identified Areas

-  Small lots in or close to hazard (0 - 0.4 hectares)
-  Medium lots in or close to hazard (0.4 - 4 hectares)
-  Specific local knowledge
-  Other information of interest to planning
-  Multiple matters
-  Limited access and egress
-  Urban/bushfire hazard interface
-  Future strategic directions and bushfire hazard conflict

## Features

-  Major road
-  Road
-  Railway
-  Railway station
-  Watercourse
-  Waterbody
-  Public land

## ALPINE – IDENTIFIED AREA DESCRIPTION TABLE

IDENTIFIED AREA CODE	LOCATION	IDENTIFIED AREA DESCRIPTION
0-001	Bogong	Cluster of lots used for residential development in a bushfire hazard area. The lots are Crown land in a leased settlement, with direct interface with bushfire hazard areas and state park.
0-002	Falls Creek	Cluster of small lots containing resort chalets in bushfire hazard areas, associated with the surrounding Alpine National Park.
0-003	Hotham Heights	Cluster of small lots containing resort chalets in bushfire hazard areas associated with the surrounding Alpine National Park
0-004	Dinner Plain	Cluster of small lots, including chalets, in bushfire hazard area associated with the Alpine National Park, and scattered remnant vegetation patches.
0-005	Cobungra	Development pressure is being experienced throughout clusters of undeveloped lots east of Dinner Plain, following the Great Alpine Road, in a bushfire hazard area.
0-006	Harrietville	The township of Harrietville and associated small lots are in and surrounded by bushfire hazard area associated with the Mount Buffalo National Park.
0-007	Merriang South, Buffalo River	Development pressure is being experienced to the south and east of Merriang South for rural living towards bushfire hazard areas associated with mountains and a river corridor. Clusters of larger rural-residential lots already exist in this locality.
0-008	Nug Nug	Larger rural-residential lots, surrounding Nug Nug and along the Buffalo River Road, are in close proximity to bushfire hazard areas. Vegetation type and settlement pattern in the area may influence bushfire hazard. Vegetation in the area is of high conservation significance.
0-009	Myrtleford, Ovens	Township of Myrtleford and associated rural-residential lots extending to Ovens in the south are in or in proximity to a bushfire hazard area. Lots are largely developed with some undeveloped land in and surrounding the Myrtleford and Ovens townships. The settlements are surrounded by vegetated and hilly topography which includes scattered remnant vegetation.
0-010	Bogong	Bogong settlement relies on a single constructed road extending north from Bogong High Plains Road to Falls Creek to the south.
0-011	Bright	Small residential lots in the township of Bright, including undeveloped lots located in a bushfire hazard area associated with the surrounding state park. Existing vegetation includes areas of high and very high conservation significance.
0-012	Noonamena / Eurobin	Development pressure is being experienced in the Noonamena area and north of the Porepunkah settlement along the Great Alpine Road between One Mile Creek Road and Fernydale Lane in close proximity to bushfire hazard area. Multiple houses are located on larger lots in this area.
0-013	Buckland	Development pressure is being experienced to the south-west of Porepunkah along the Buckland-Valley Road in proximity to and in a bushfire hazard area.
0-014	Buckland	Development pressure is being experienced south of Porepunkah settlement along the Buckland-Valley Road between Goldie Spur Track and the head of the valley in a bushfire hazard area. A historical subdivision exists in this area.
0-015	Wandiligong	Development pressure is being experienced south of Bright along the Morses Creek Road for lifestyle living in a bushfire hazard area.
0-016	Germantown, Smoko, Freeburgh	Incremental approval of low-density dwellings along Great Alpine Road between Bright and Harrietville in bushfire hazard area. This area includes Smoko, Freeburgh and Germantown.
0-017	Havilah	Larger rural-residential lots, along Havilah Road, in a valley surrounded by bushfire hazard areas. Vegetation type and settlement pattern in the area may influence bushfire hazard. Vegetation in the area is of high conservation significance.
0-018	Kancoona	Development pressure and access issues along Kancoona South Road surrounded by state forest and associated bushfire hazard area.

## ALPINE – IDENTIFIED AREA DESCRIPTION TABLE cont...

IDENTIFIED AREA CODE	LOCATION	IDENTIFIED AREA DESCRIPTION
0-019	Dederang	Development pressure is being experienced along Kiewa Valley Highway, to the north-west of Dederang township and towards Wodonga, in proximity to bushfire hazard associated with adjoining state park.
0-020	Tawonga	Development pressure is being experienced north of Tawonga along and surrounding Kellers Road, in a bushfire hazard area.
0-021	Tawonga	Development pressure is being experienced east of Tawonga along Mountain Creek Road in a bushfire hazard area associated with the state park.
0-022	Falls Creek	Falls Creek resort and chalet area relies on a single arterial road for access and egress from the bushfire hazard area.
0-023	Mount Beauty	Mount Beauty township and associated small rural lots, including some undeveloped, are in or in proximity to a bushfire hazard area. The settlement is surrounded to the east and south by state park.
0-024	Falls Creek	Boundaries of Falls Creek resort area interface with remnant vegetation and associated bushfire hazard.
0-025	Barwidgee	Cluster of rural-residential lots at Barwidgee, to the north-east of Myrtleford, are in a bushfire hazard area. The area is surrounded by the vegetated state park on the north and south.
0-026	Mount Beauty	Cluster of rural-residential lots to the south-east of Mount Beauty township in close proximity to a bushfire hazard area. The area is in proximity to a heavily vegetated area of the state park to the south, west and north.
0-027	Dederang	Dederang township and nearby rural-residential properties are in proximity to bushfire hazard area associated with Mount Jack to the south-west.
0-028	Mount Beauty	West and south boundary of Mount Beauty and surrounding settlement interfaces with remnant vegetation and bushfire hazard associated with surrounding state park.
0-029	Myrtleford	Northern area of Myrtleford interfaces with an area of remnant vegetation and bushfire hazard.
0-030	Dinner Plain	North, south and west boundaries of Dinner Plain interface with remnant vegetation patches and with bushfire hazard.
0-031	Harrietville	Harrietville township is entirely surrounded by an interface with the Mount Buffalo National Park and associated bushfire hazard.
0-032	Hotham Heights	Resort at Mt Hotham relies on single constructed road extending, Great Alpine Road, for access and egress from bushfire hazard area.
0-033	Porepunkah	Limited access and egress to cluster of dwellings to the north-east of Porepunkah.
0-034	Hotham Heights	Boundaries of Hotham Heights interface with remnant vegetation and associated bushfire hazard.
0-035	Porepunkah	Dwellings to east of Porepunkah in a bushfire hazard area have limited access and egress.
0-036	Bright	Single constructed road extending east (Great Alpine Road) servicing the Bright settlement and surrounding settlements..
0-037	Porepunkah	Residential lots and rural-residential lots (including undeveloped lots) in Porepunkah are in a bushfire hazard area associated with the surrounding state park.
0-038	Noonamena	Dwellings utilise single access roads which extend through bushfire hazard areas including development which is serviced by Mt Buffalo Road.
0-039	Porepunkah	South western boundary of the Porepunkah settlement and surrounding settlements interfaces with remnant vegetation and bushfire hazard.
0-040	Bright	Southern boundary of Bright interfaces with remnant vegetation and bushfire hazard included in mountainous landscapes connecting to the Alpine National Park area.
0-041	Bright	Northern boundary of Bright interfaces with remnant vegetation included in mountainous landscapes containing bushfire hazard.
0-042	Buckland	Dwellings in the Buckland Valley have limited access and egress – provided principally by a single constructed road (Buckland Valley Road).

## ALPINE – IDENTIFIED AREA DESCRIPTION TABLE cont...

IDENTIFIED AREA CODE	LOCATION	IDENTIFIED AREA DESCRIPTION
0-043	Wandiligong	Wandiligong interfaces with surrounding state park and bushfire hazard.
0-044	Harrietville	Great Alpine Road serves as the only arterial access route for cluster settlements which interface with the Alpine National Park.
0-045	Wandiligong	Cluster of small rural lots in bushfire hazard area.
0-046	Wandiligong	Single constructed road extending north to south through the town of Wandiligong
0-047	Mount Beauty	Structure plan provides for some new residential development and intensification of existing areas towards the bushfire hazard area on the west side of the township.
0-048	Freeburgh	Small residential lots are surrounded by state forest and are in the associated bushfire hazard area.
0-049	Barwidgee	Western boundary of the Barwidgee settlement interfaces with remnant vegetation and associated bushfire hazard.

## 4.0 MUNICIPAL OVERVIEW – BENALLA RURAL CITY

Benalla Rural City is located in the northern centre of the region and has a land area of about 2350 square kilometres. The municipality has a population of about 14300. Benalla township with a population of 8950 is located approximately 200 kilometres north of Melbourne and 40 kilometres south of Wangaratta.

The landscape is characterised by a patchwork of foothills, valleys and cleared grazing country. Mount Samaria, Reef Hills and Warby Ranges State Parks are the city's major environmental features. Primary production is the predominant land use covering the northern and central areas of the municipality including broad acre cropping and prime lamb and beef production.

Areas of significant biodiversity are located throughout the landscape, along road reserves, watercourses and in and adjacent to state parks. The protection of native vegetation is managed through the Vegetation Protection, Environmental Significance and Significant Landscape Overlays which apply to the selected habitat, scattered tree areas and biodiversity environs throughout the municipality.

### 4.1 Northern and central areas

The northern and central areas of the municipality are dominated by rural land uses and scattered settlements. Within this area is Lake Mokoan; once a reservoir, it is now a wetland reserve. The wetland area is a known bushfire hazard with direct interfaces to small and rural-residential lots.

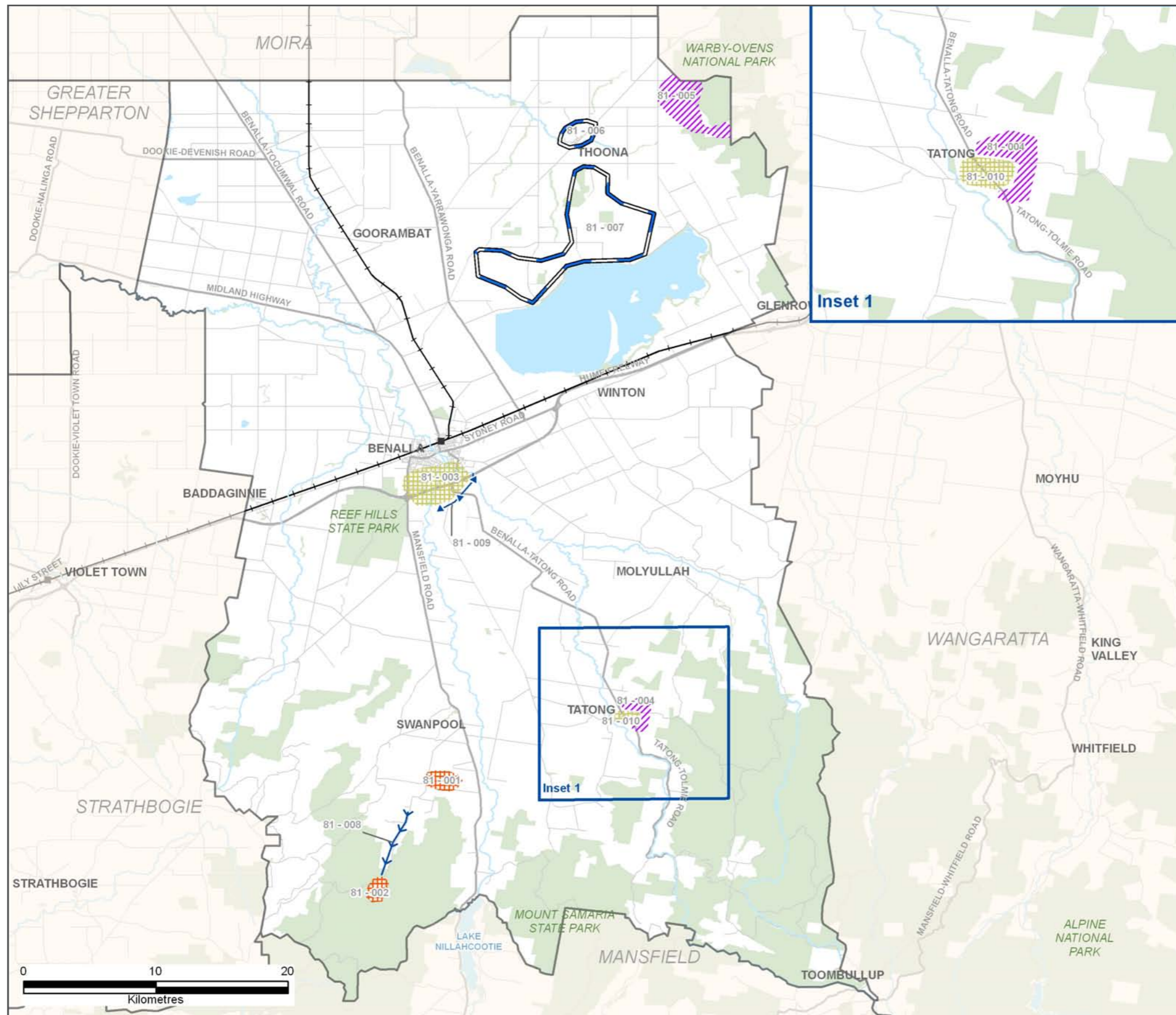
Growth opportunities have been identified south of Benalla, towards the Reef Hills State Park and known bushfire hazard areas. Development pressure (residential and tourism) is being experienced in land adjacent to the Warby Ranges.

Highly vegetated areas are generally located on public land. These include the Warby Ranges State Park in the north-east and areas mapped as being of very high and high conservation significance scattered throughout the landscape.

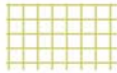
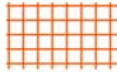






### 4.2 Southern area

The southern area of the municipality is characterised by the foothills of the Mount Samaria State Park. Limited settlements exist in this area however development pressure is being experienced in small pockets and towards the head of valley landscapes. There are some existing lots which interface with corresponding bushfire hazard and have single road access arrangements. The foothills of the state park have been highly modified and as such only have limited areas of vegetation identified as being high or very high conservation significance.








# BENALLA MUNICIPAL MAP



## Identified Areas

-  Small lots in or close to hazard (0 - 0.4 hectares)
-  Medium lots in or close to hazard (0.4 - 4 hectares)
-  Specific local knowledge
-  Other information of interest to planning
-  Multiple matters
-  Limited access and egress
-  Urban/bushfire hazard interface
-  Future strategic directions and bushfire hazard conflict

## Features

-  Major road
-  Road
-  Railway
-  Railway station
-  Watercourse
-  Waterbody
-  Public land

## BENALLA – IDENTIFIED AREA DESCRIPTION TABLE

IDENTIFIED AREA CODE	LOCATION	IDENTIFIED AREA DESCRIPTION
81-001	Lima East	Rural living subdivision (including some undeveloped lots) in remote area north of Lima East in proximity to a bushfire hazard area.
81-002	Lima East	Rural-residential lots in remote area, southern end of Lima East Road, surrounded by state park and associated bushfire hazard.
81-003	Benalla	South western extent of Benalla is proximate to bushfire hazard associated with Reef Hills State Park (south-west of the Hume Hwy and Midland Freeway intersection).
81-004	Tatong	Township of Tatong is experiencing development pressure in proximity to a bushfire hazard area.
81-005	Warby Ranges	Development pressure, including for tourism activities, is being experienced adjacent to the Warby Ranges in a bushfire hazard area.
81-006	Thoona	Woodland vegetation surrounds the Thoona township at the intersection of Sargent Street and Thoona-Devenish Road. Established development is surrounded by woodland vegetation.
81-007	Lake Mokoan	Settlement along the old Lake Mokoan foreshore interfaces with the known bushfire hazard associated with the grassland area.
81-008	Lima East	Single dirt access road services rural-residential lots in a mountainous and vegetated environment.
81-009	Benalla	Strategic Framework Plan for Benalla provides for residential development south-west towards the Reef Hills State Park and associated bushfire hazard.
81-010	Tatong	Residential and nearby rural-residential lots at Tatong are in proximity to the bushfire hazard area associated with the reserve to the south-east.



## 5.0 MUNICIPAL OVERVIEW – CITY OF GREATER SHEPPARTON

The City of Greater Shepparton is located in the north-west of the region and has an area of about 2422 square kilometres. It has a population of about 63 350 dispersed between the larger settlements of Shepparton and Mooroopna and numerous smaller townships.

The rural landscape is generally flat and irrigated. It is used mainly for dairy farming and horticulture, including wineries and orchards with the region being a major fruit and vegetable processing centre. The City's growth has been associated with the development of agricultural industries such as stone fruit, pear, apple, tomato and dairy production as well as cattle, sheep and grain production.

The natural landscape of the municipality and wider region has been modified significantly as a result of pastoral activities and more recently through extensive irrigation activities. As a result, areas of remnant native vegetation are primarily limited to watercourses, road reserves and public land although some larger lots in private ownership which have not been utilised for agricultural purposes also contain pockets of significant vegetation. These vegetated corridors provide important habitat links for flora and fauna and for the fostering of biodiversity. The main rivers through the municipality are the Broken and Goulburn Rivers.

### 5.1 Western area

The western area of the municipality contains flat, rural land with scattered remnant vegetation along roadsides and infrastructure corridors. Most land holdings are large and associated with farming activities. This area contains settlements with developed or undeveloped small residential or rural-residential lots. The Salinity Management Overlay applies to most of the area. It controls the removal of native vegetation and minimises land disturbance. The western portion of the municipality is largely a modified environment devoid of vegetation interfacing with existing settlements.

### 5.2 Central area

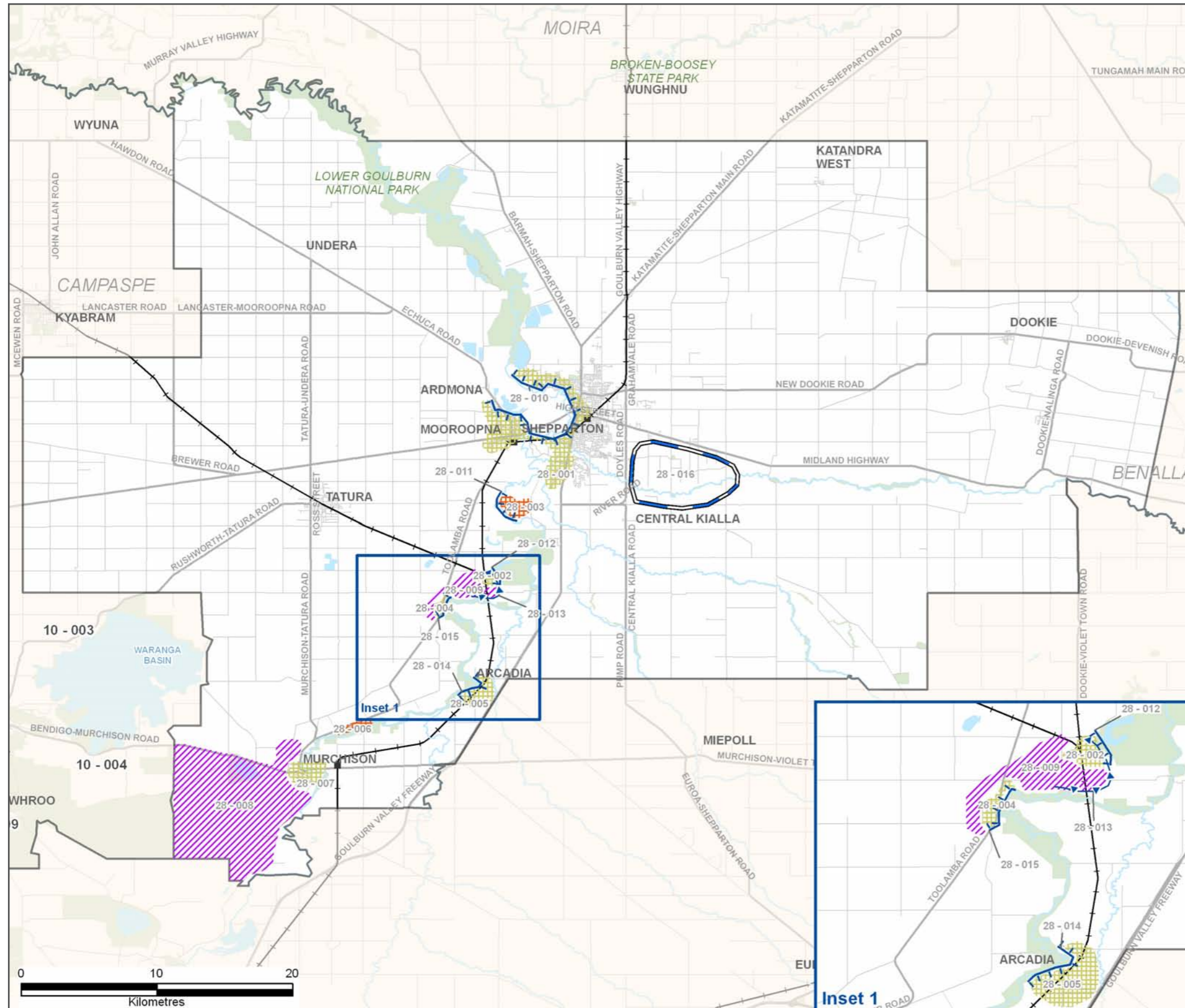
Settlement in the central area of the municipality is generally developed around the Goulburn and Broken Rivers. These rivers and their associated riparian corridors extend through several townships, with small residential lots directly backing onto them. To the north-west, the Goulburn River floodplain extends into Shepparton and Mooroopna. The bushfire hazard associated with this floodplain directly interfaces with small residential lots on the western side of Shepparton and Mooroopna. New subdivisions have also been developed which take advantage of these frontages to enhance residential amenity.

Land on the bends of the Goulburn River has been developed or has approved subdivisions for rural-residential lots. Most of these subdivisions interface directly with a bushfire hazard as they contain remnant vegetation on developed and undeveloped land.

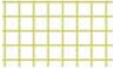







### 5.3 South eastern area

The bushfire hazard extends through the main settlement in this area, which has developed on both sides of the Goulburn River and contains small residential lots that directly adjoin the riparian corridor. Land to the south-west and north are identified as bushfire hazard areas. The bushfire hazard interfaces for these places are identified for future residential or rural-residential development.






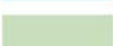
# GREATER SHEPPARTON MUNICIPAL MAP



## Identified Areas

-  Small lots in or close to hazard (0 - 0.4 hectares)
-  Medium lots in or close to hazard (0.4 - 4 hectares)
-  Specific local knowledge
-  Other information of interest to planning
-  Multiple matters
-  Limited access and egress
-  Urban/bushfire hazard interface
-  Future strategic directions and bushfire hazard conflict

## Features

-  Major road
-  Road
-  Railway
-  Railway station
-  Watercourse
-  Waterbody
-  Public land

## GREATER SHEPPARTON – IDENTIFIED AREA DESCRIPTION TABLE

IDENTIFIED AREA CODE	LOCATION	IDENTIFIED AREA DESCRIPTION
28-001	Shepparton, Mooroopna	Residential areas of Shepparton, Mooroopna and Kialla are in proximity to remnant vegetation which follows the Goulburn River floodplain and associated bushfire hazard area. Existing vegetation includes vegetation of high and very high conservation significance.
28-002	Toolamba	Residential lots in Toolamba are in proximity to bushfire hazard associated with the reserve to the east and riparian vegetation of the Goulburn River.
28-003	Kialla	Rural-residential subdivision between Rafferty Road and the Goulburn River floodplain is in close proximity to remnant vegetation patches along the Goulburn River corridor and associated bushfire hazard area.
28-004	Toolamba	Cluster of residential lots to the south-west of Toolamba adjoins the bushfire hazard area associated with riparian vegetation of the Goulburn River to the east.
28-005	Arcadia	Residential lots in the township of Arcadia are in proximity to the bushfire hazard area associated with the remnant vegetation along the Goulburn River corridor,
28-006	Murchison North	Cluster of rural-residential lots between Mooroopna-Murchison Road and the Goulburn River. Lots are in close proximity to remnant vegetation along the Goulburn River corridor and associated bushfire hazard area.
28-007	Murchison	Residential lots in the township of Murchison are in proximity to remnant vegetation in the Goulburn River Corridor, which passes through the settlement, and associated bushfire hazard area. Existing vegetation includes vegetation of high and very high conservation significance.
28-008	Murchison	Development pressure is being experienced in a large area between Bendigo-Murchison Road and Murchison-Goulburn Weir Road. This area is in an area of scattered remnant vegetation, including vegetation of high and very high conservation significance, and associated bushfire hazard.
28-009	Toolamba	Development pressure is being experienced in and surrounding Toolamba in proximity to riparian vegetation and associated bushfire hazard areas.
28-010	Shepparton, Mooroopna	The western boundary of the Shepparton and the eastern boundary of Mooroopna interface with remnant vegetation along the Goulburn River floodplain and associated bushfire hazard.
28-011	Kialla	Western boundary of the rural-residential subdivision in Kialla interfaces with remnant vegetation along the Goulburn River corridor and associated bushfire hazard.
28-012	Toolamba	Eastern and southern boundary of Toolamba interface with a reserve and remnant vegetation along the Goulburn River corridor and associated bushfire hazard.
28-013	Toolamba	Strategic direction for growth is to the east of Toolamba, towards a bushfire hazard area.
28-014	Arcadia	Western boundary of Arcadia interfaces with remnant vegetation and associated bushfire hazard area.
28-015	Toolamba	Cluster of residential lots to the south of Toolamba interface with the bushfire hazard area associated with riparian vegetation of the Goulburn River to the east.
28-016	Broken River	Includes scattered developed lots adjacent to and in the Broken River riparian vegetation corridor. Broader area both north and south of the river contains developed agricultural land.

## 6.0 MUNICIPAL OVERVIEW – INDIGO SHIRE

Indigo Shire is located in the north-east of the region and has a land area of about 2044 square kilometres. It has a population of 16 100 located primarily in rural settlements. The shire's main centre is Beechworth with a population of 2600 located approximately 270 kilometres north-east of Melbourne and 56 kilometres south of Wodonga.

The Shire's historic towns, grape production areas, high altitude fruit growing areas, productive river flats and close proximity to the rapidly growing centre of Albury-Wodonga have produced a diverse combination of land uses and attributes. The shire sits at the junction of three distinct landscapes. The north is home to the Murray River and its flood plains, the east comprises hilly country and highly productive river flats, while the west is where the Great Dividing Range transitions to the Western Plains. Areas of significant biodiversity are mostly found adjacent to, and in the valleys that exist between public land. Environmental Significance and Significant Landscape Overlays manage the protection of native vegetation across large areas of the municipality.

In 2009 the areas around Beechworth and Mudgegonga were affected by the Black Saturday bushfires.

### 6.1 North western area

The north-western area of the municipality contains the Chiltern Box-Iron Bark National Park. It also contains a number of settlements which interface with bushfire hazard areas. Some of these settlements are experiencing development pressures in locations where vegetation is of high or very high conservation significance and are also susceptible to bushfires.

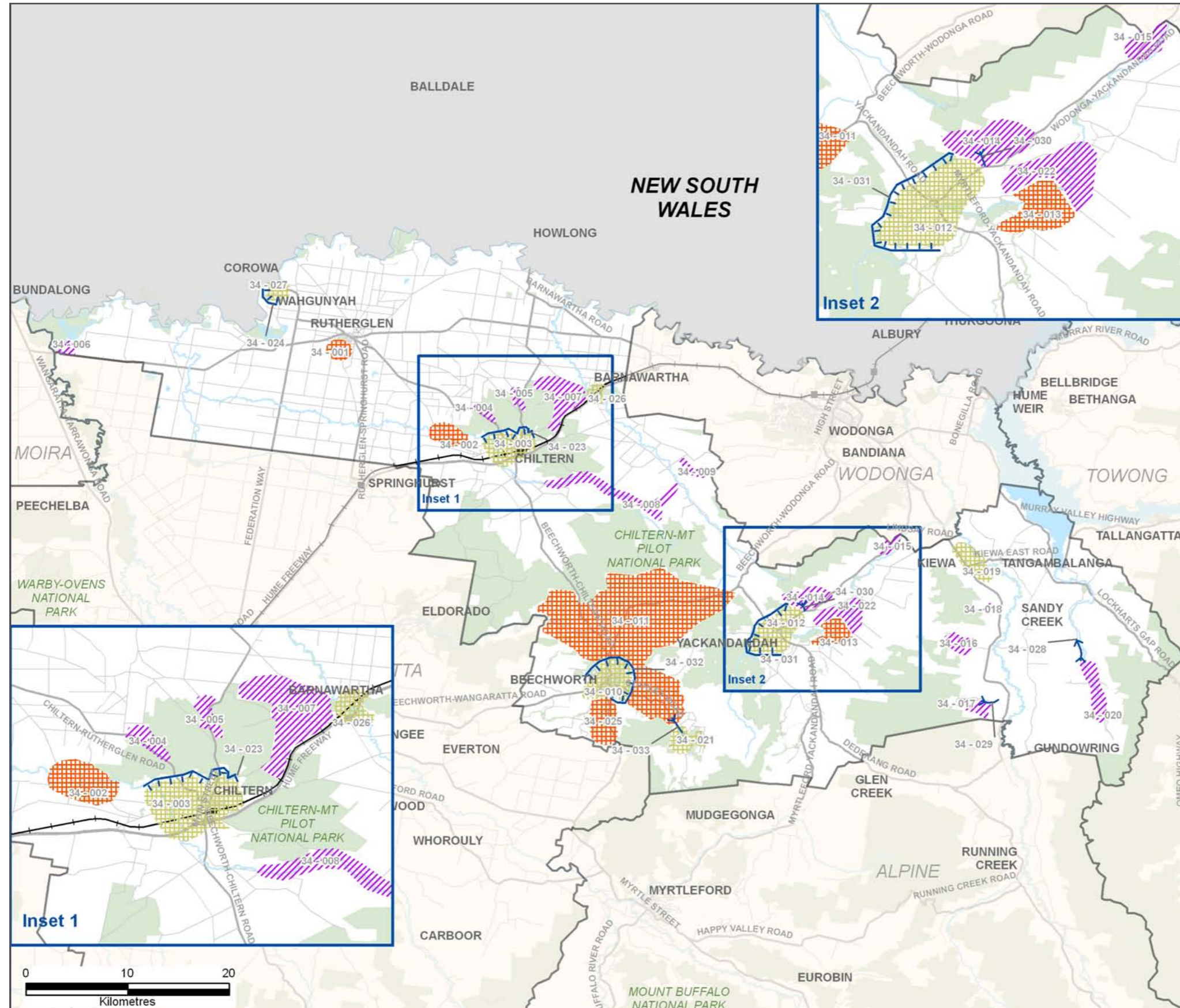
### 6.2 Central area

The central area of the municipality contains a large amount of vegetation which has been mapped as being of high or very high conservation significance. There are two main settlements in this area which make up much of the private land between valleys and state parks. The settlements contain clusters of small lots and of rural-residential lots in close proximity or directly interfacing with bushfire hazard areas. Some areas are also experiencing development pressure or contain undeveloped lots on the settlement outskirts with direct interfaces to surrounding vegetation.









### 6.3 Eastern area

The eastern area of the municipality is not as densely vegetated as the other areas however it does include some vegetation which is of high or very high conservation significance. This region includes lots which are in proximity to a bushfire hazard area. Additionally, there are pockets of land adjacent to vegetated public land that is experiencing development pressure. Settlements in these areas are generally serviced by single access roads.








# INDIGO MUNICIPAL MAP



## Identified Areas

-  Small lots in or close to hazard (0 - 0.4 hectares)
-  Medium lots in or close to hazard (0.4 - 4 hectares)
-  Specific local knowledge
-  Other information of interest to planning
-  Multiple matters
-  Limited access and egress
-  Urban/bushfire hazard interface
-  Future strategic directions and bushfire hazard conflict

## Features

-  Major road
-  Road
-  Railway
-  Railway station
-  Watercourse
-  Waterbody
-  Public land

## INDIGO – IDENTIFIED AREA DESCRIPTION TABLE

IDENTIFIED AREA CODE	LOCATION	IDENTIFIED AREA DESCRIPTION
34-001	Rutherglen	Cluster of rural-residential lots south-west of Rutherglen, off Sheridans Bridge Road, is in close proximity to a bushfire hazard area associated with scattered remnant vegetation to the south.
34-002	Chiltern Valley	Cluster of rural-residential lots in Chiltern Valley along Chiltern Valley Road in proximity to a bushfire hazard area associated with the Chiltern Box-Ironbark National Park to the north-east.
34-003	Chiltern	Township of Chiltern is in proximity to the Chiltern Box-Ironbark National Park (north and south-east) and associated bushfire hazard area. Existing vegetation includes areas of vegetation of high and very high conservation significance.
34-004	Chiltern	Development pressure is being experienced along Chiltern Rutherglen Road adjacent to the Chiltern Box-Ironbark National Park and associated bushfire hazard area.
34-005	Chiltern	Development pressure is being experienced along Old Howlong Road adjacent to the Chiltern Box-Ironbark National Park and associated bushfire hazard area.
34-006	Brimin	Residential accommodation uses adjacent to Ovens River accessed via Murray Valley Highway in Brimin in close proximity to remnant vegetation to the west and associated bushfire hazard.
34-007	Chiltern / Barnawartha	Incremental approval of low-density dwellings and future growth potential is being experienced between Chiltern and Barnawartha along Chiltern-Barnawartha Road and adjacent to the Chiltern Box-Ironbark National Park and associated bushfire hazard.
34-008	Indigo Valley	Development pressure is being experienced along Watchbox Road and Black Dog Creek Road towards a bushfire hazard area associated with remnant vegetation.
34-009	Indigo Valley	Development pressure is being experienced along Long Gully Road in proximity to bushfire hazard associated with remnant vegetation.
34-010	Beechworth	Township of Beechworth and associated rural-residential lots are in proximity to a bushfire hazard area associated with nearby remnant vegetation and plantations.
34-011	Beechworth	Combination of clusters of small rural lots and larger rural-residential lots in close proximity to a bushfire hazard area (with potential for future pressures) in the foothills which surround Beechworth. Existing vegetation includes areas of vegetation of high and very high conservation significance.
34-012	Yackandandah	Yackandandah township and surrounding small rural lots are in proximity to a bushfire hazard area associated with state forest and remnant vegetation in the settlement area.
34-013	Osbornes Flat	Rural-residential lots at Osbornes Flat are in proximity to a bushfire hazard area associated with the reserve to the west and riparian vegetation of the Yackandandah Creek, which passes through the area.
34-014	Yackandandah	Development pressure is being experienced along Basin Creek Road and Hodges Lane north of the Yackandandah settlement towards a bushfire hazard area associated with state forest.
34-015	Staghorn Flat	Development pressure is being experienced south of Wodonga along Yackandah-Wodonga Road towards a bushfire hazard area associated with the Baranduda Range Regional Park.
34-016	Kergunyah	Development pressure is being experienced along Simpson Road, towards a bushfire hazard area associated with state forest.
34-017	Kergunyah	Development pressure is being experienced along Besley Lane and Hellhole Creek Road towards a bushfire hazard area associated with state forest.
34-018	Kiewa	Development pressure is being experienced along Steinhausers Track towards a bushfire hazard area associated with state forest.

## INDIGO – IDENTIFIED AREA DESCRIPTION TABLE cont...

IDENTIFIED AREA CODE	LOCATION	IDENTIFIED AREA DESCRIPTION
34-019	Kiewa	Cluster of small lots in and surrounding Tangambalanga in proximity to a bushfire hazard area associated with state forest to the west.
34-020	Sandy Creek	Development pressure is being experienced along Sandy Creek Road towards a bushfire hazard area associated with state forest.
34-021	Stanley	Township of Stanley and surrounding rural-residential lots are in and in proximity to the bushfire hazard area associated with the Mount Stanley scenic reserve to the west and south.
34-022	Osbornes Flat	Undeveloped Rural Living Zone land exists in proximity to a bushfire hazard area associated with the reserve to the west and riparian vegetation of the Yackandandah Creek which passes through the area.
34-023	Chiltern	Northern boundary of Chiltern interfaces with bushfire hazard associated with the Chiltern Box-Ironbark National Park.
34-024	Wahgunyah	Western boundary of Wahgunyah interfaces with bushfire hazard associated with riparian corridor along the Murray River.
34-025	Beechworth	Cluster of rural-residential lots surrounding Buckland Road south of Beechworth is in proximity to a bushfire hazard area associated with remnant vegetation to the east and riparian vegetation traversing the area.
34-026	Barnawartha	Cluster of residential lots (including undeveloped lots) in and surrounding Barnawartha in proximity to remnant vegetation and bushfire hazard area to the east. Existing vegetation includes areas of vegetation of high and very high conservation significance.
34-027	Wahgunyah	Residential lots in the township of Wahgunyah are in proximity to a bushfire hazard area associated with the Murray River riparian corridor.
34-028	Sandy Creek	Sandy Creek Road, a single constructed road, services dwellings.
34-029	Kergunyah	Hellhole Creek Road, a single constructed road, services dwellings.
34-030	Yackandandah	Basin Creek Road, a single constructed road, services dwellings.
34-031	Yackandandah	Western boundary of Yackandandah interfaces with bushfire hazard associated with state forest.
34-032	Beechworth	Northern, eastern and western boundaries of Beechworth interface with bushfire hazard associated with remnant vegetation and plantations.
34-033	Stanley	The township of Stanley relies on Stanley Road for access and egress from bushfire hazard area.