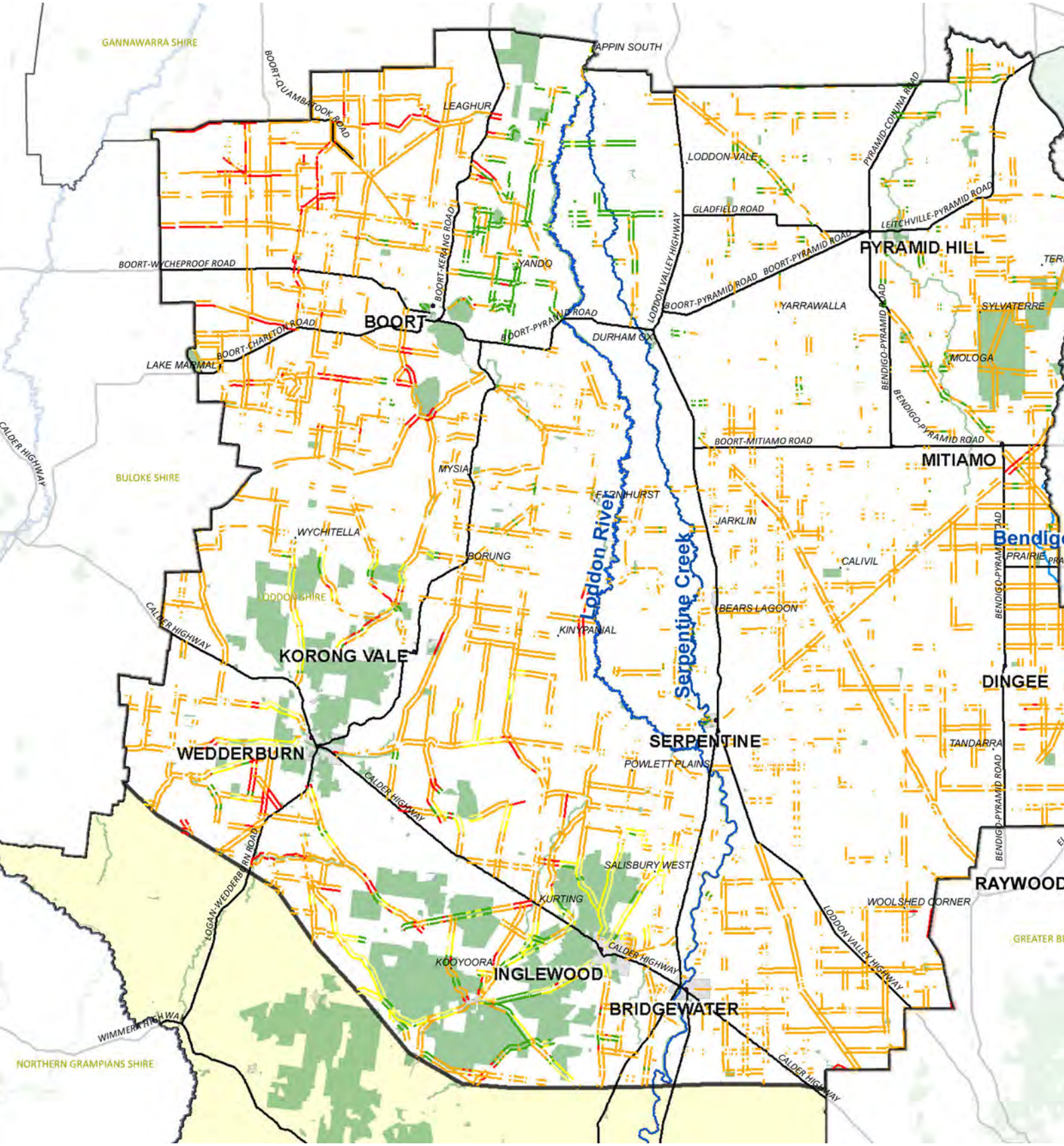
GANNAWARRA SHIRE
BOORT-QUAMBATOOK ROAD
APPIN SOUTH
LEAGHUR
LODDON VALE
PYRAMID-CORUNNA ROAD
GLADFIELD ROAD
LEITCHVILLE-PYRAMID ROAD
PYRAMID HILL
BOORT-WYCHEPROOF ROAD
BOORT-KEMANG ROAD
YANDO
LODDON VALLEY HIGHWAY
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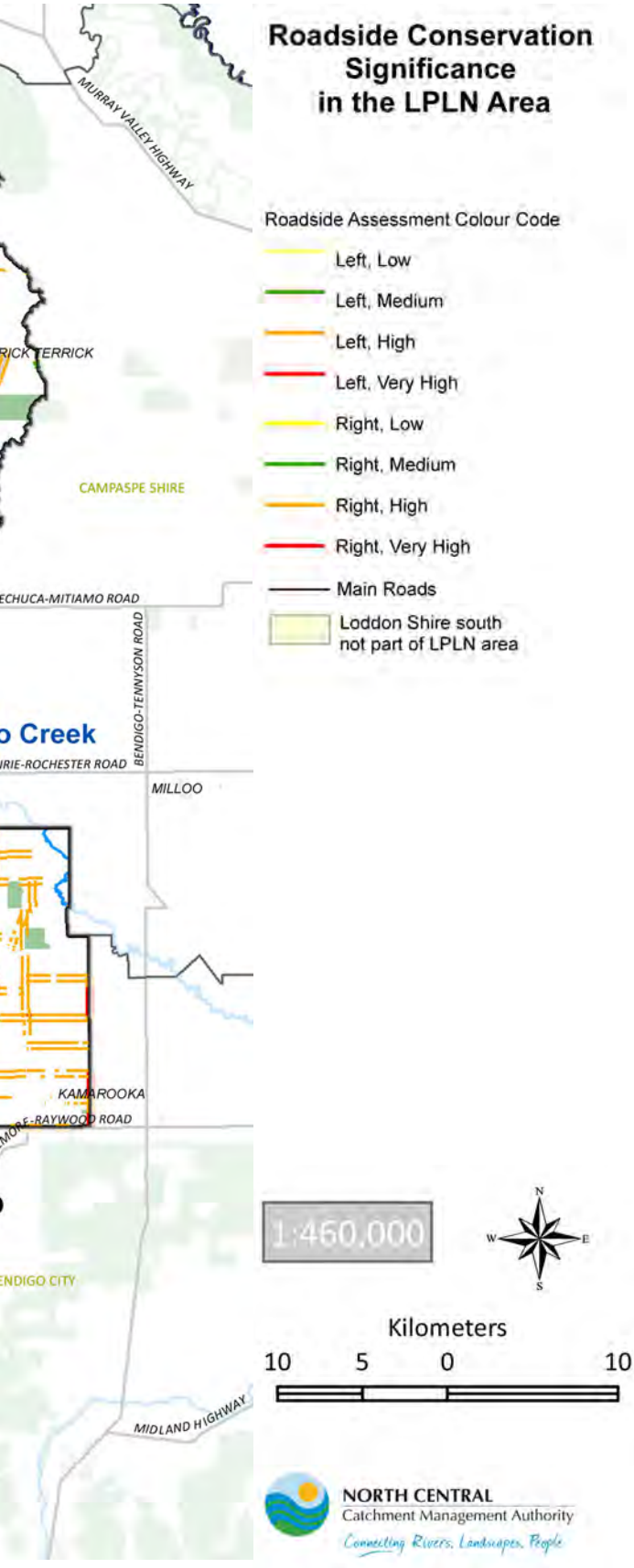
BOORT
BOORT-CHARLTON ROAD
YARRAWALLA
SYLVATERRE
BENDIGO-PYRAMID ROAD
LAKE MARMAL
DURHAM GOX
MOLOGA
CALDER HIGHWAY
BOORT-MITIAMO ROAD
MITIAMO
BULOKE SHIRE
MYSIA
FERNHURST
Loddon River
Serpentine Creek
JARKLIN
WYCHITELLA
BORUNG
CALIVIL
PRAIRIE
LODDON SHIRE
BEARS LAGOON
KINYPANIAL
KORONG VALE
DINGEE
SERPENTINE
WEDDERBURN
TANDARRA
POWLETT PLAINS
SALISBURY WEST
LOGAN-WEDDERBURN ROAD
KURTING
WOOLSHED CORNER
RAYWOOD
KOOYOORA
INGLEWOOD
BRIDGEWATER
WIMMERA HIGHWAY
NORTHERN GRAMPIANS SHIRE

Map 6. Roadside Conservation Significance in the LPLN Area



Interpreting this map

This data layer is the product of a project between the 14 Local Government Areas (LGA) in North Central Victoria and the NCCMA. The project was completed in 2008 and brought all LGA's up to the same standard for producing roadside management plans. Only Shire based roads were mapped therefore major Vic Roads and the smaller non-designated lanes and roads have not been included in this assessment. All data was geo-referenced at a 1:5000 scale by trained assessors.

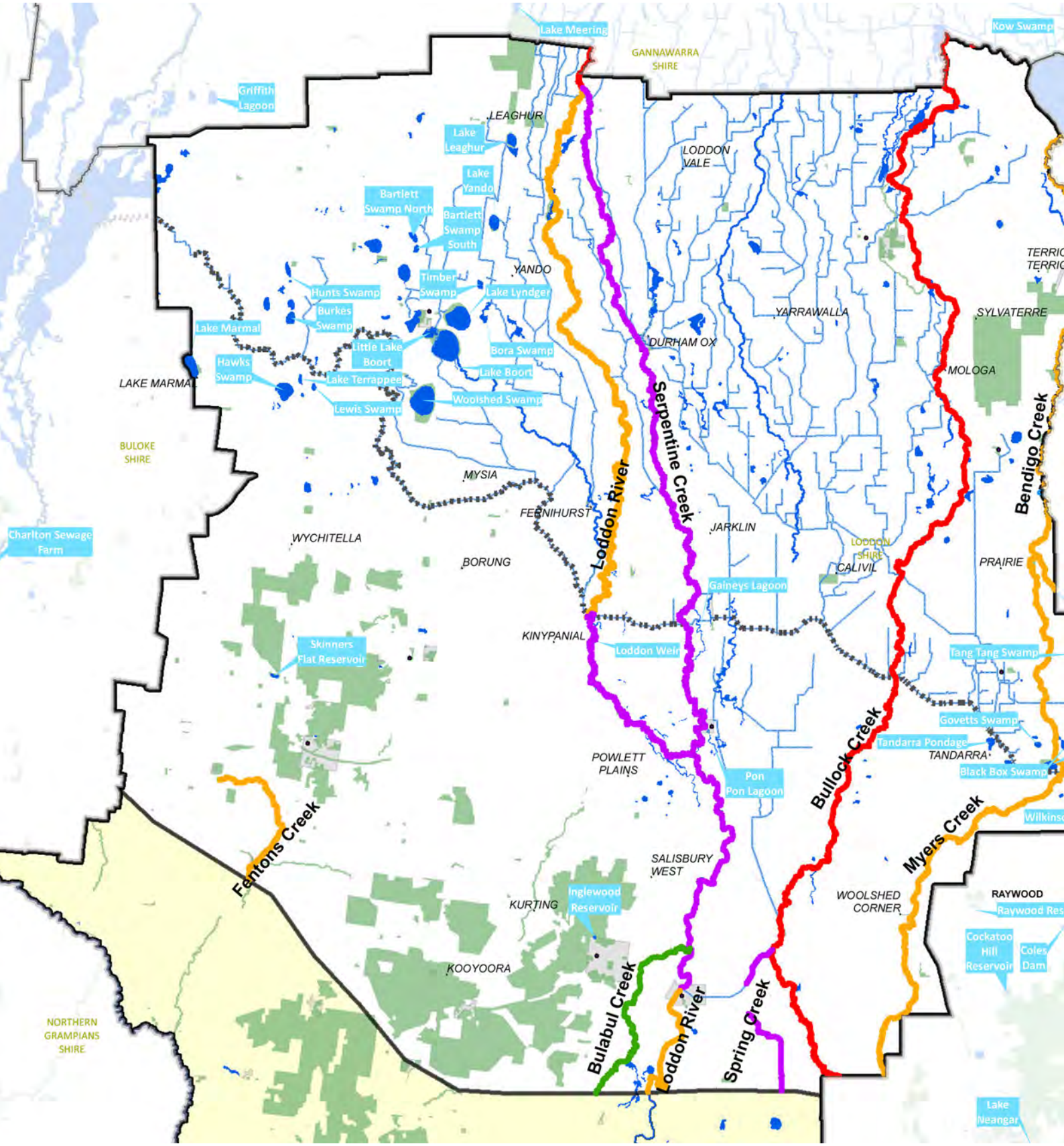
Across the NCCMA region less than 13% native vegetation cover remains. Roadsides represent one of our greatest natural assets and, in many places, contain the finest examples of vegetation that previously existed across the landscape.

Our roadsides provide very important habitat and can often be a precious refuge within an otherwise cleared landscape. In some places, roadsides contain high quality native vegetation remnants, or are home to threatened plants and animals.

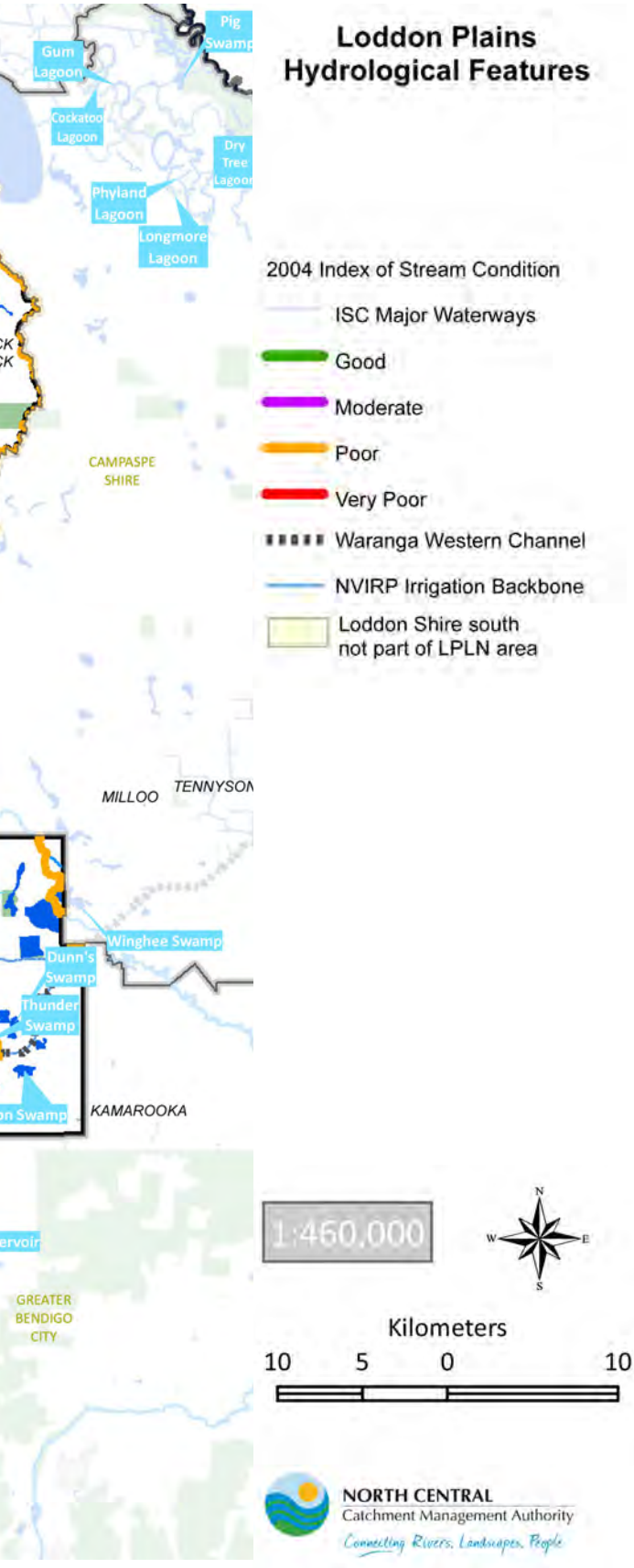
Roadsides by their very nature provide a permanent network of corridors across the landscape. They connect various habitats from hills to creeks, high rainfall to low rainfall, forests to woodlands. This connectivity across the landscape is even more critical in these times of climate change as connectivity allows for movement of animals, which assists in enabling species to adapt to changing conditions.

There are many threats to roadsides, such as illegal removal or destruction of native vegetation and the invasion of pest plants and animals. Understanding what currently exists along our roadsides is crucial in assisting land managers such as Local Government, Vic Roads and adjoining property owners to manage and protect this important natural asset.

There are many ways that members of the public can get involved in maintaining and enhancing our roadside environments. These include cleaning up discarded refuse along roadsides; allowing natural regeneration or planting buffer strips of native vegetation adjacent to roadsides; or working with local Landcare and other environment groups involved in weed management, native seed collection and propagation, and improving the quality of degraded roadsides (NCCMA, 2008).


Lake Meering
GANNAWARRA SHIRE
Kow Swamp
Griffith Lagoon
LEAGHUR
Lake Leaghur
LODDON VALE
Lake Yando
Bartlett Swamp North
Bartlett Swamp South
YANDO
Timber Swamp
Lake Lyndger
Hunts Swamp
Burkes Swamp
YARRAWALLA
SYLVATERRE
Lake Marmal
Little Lake Boort
DURHAM OX
Bora Swamp
Hawks Swamp
Lake Boort
MOLOGA
LAKE MARMAL
Lake Terrappee
Lewis Swamp
Woolshed Swamp
Serpentine Creek
Loddon River
Bendigo Creek
BULOKE SHIRE
MYSIA
FEENIHURST
JARKLIN
Charlton Sewage Farm
WYCHITELLA
BORUNG
LODDON SHIRE
CALIVIL
PRAIRIE
Gaineys Lagoon
KINYPANIAL
Skinners Flat Reservoir
Loddon Weir
Tang Tang Swamp
Govetts Swamp
Tandarra Pondage
TANDARRA
Bullock Creek
POWLETT PLAINS
Pon Pon Lagoon
Black Box Swamp
Fentons Creek
Myers Creek
SALISBURY WEST
WOOLSHED CORNER
RAYWOOD
Inglewood Reservoir
KURTING
Cockatoo Hill Reservoir
Coles Dam
KOOYOORA
Bulabul Creek
Loddon River
Spring Creek
NORTHERN GRAMPIANS SHIRE
Lake Neangar

Map 7. Loddon Plains Hydrological Features



Interpreting this map

This map displays the larger natural waterways and wetlands covering the LPLN area, along with the extensive Waranga and Northern Victorian Irrigation Renewal Project (NVIRP) irrigation 'backbone' schemes. Smaller unnamed creeks are not included to maintain clarity in the map.

Index of Stream Condition (ISC) is a water quality assessment project commissioned by DSE every five years with a large volunteer effort, mostly through the Waterwatch program. The 2004 dataset is still the most recent ISC layer released by DSE and is a snapshot in time. ISC measures water temperature, flow, Electrical Conductivity (Salinity), turbidity (cloudiness) and nutrient availability. Waterway health across the LPLN area is fairly low with few sections having avoided heavy modification from gold mining, urban and agricultural activities, which are still issues for waterway health.

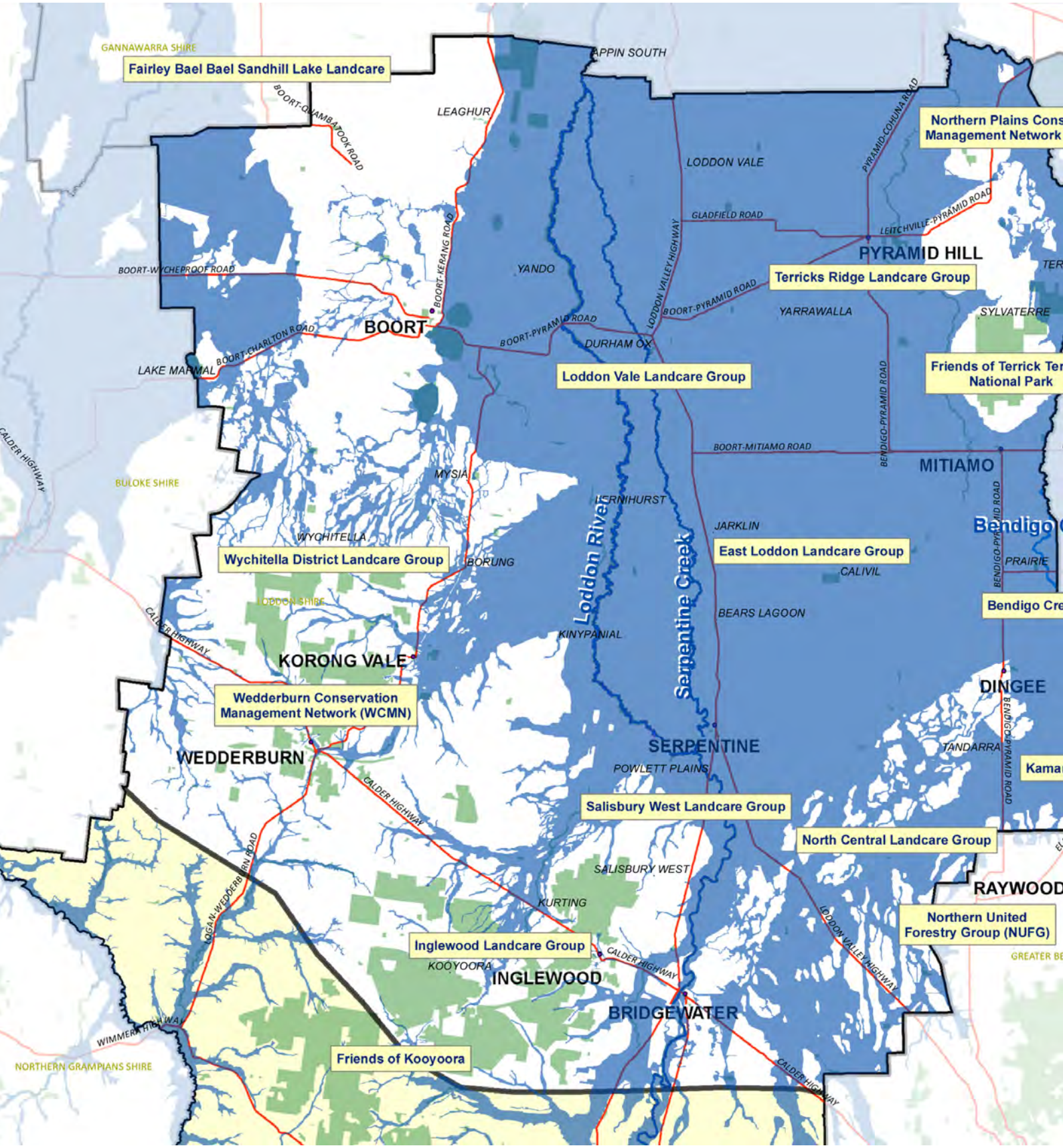
Waterway health can be improved by fencing out riparian corridors from stock to increase vegetation cover to stabilise banks and minimize soil erosion, discourage littering particularly in urban areas and exercise caution in the use of chemicals near waterways particularly insecticides.

The Northern Victoria Irrigation Renewal Project (NVIRP)

The NVIRP project will affect the north-eastern corner of the LPLN area and also provides a unique revegetation opportunity. Some channels will be decommissioned as properties join onto the main irrigation backbone. Rather than these areas becoming an area for weed infestation, they could be revegetated to create new 'biolinks' in the landscape.

NVIRP is responsible for planning, designing and delivering Australia's largest irrigation modernisation project, upgrading irrigation infrastructure in the Goulburn Murray Irrigation District. Community feeling is mixed with some very pleased and others hesitant about the cost of the scheme and what it will mean to the final price of water being delivered.

NVIRP is installing automated technology and doing repairs to outdated channels to enhance water delivery and efficiency. It is estimated that up to 900 GL (Long Term Cap Equivalent) of water in the Goulburn Murray Irrigation District is lost through leaks, evaporation and other inefficiencies. NVIRP with its $2 billion investment aims to recover nearly half of this water and increase irrigation water use efficiency from approximately 70% to >85% (NVIRP, 2010).


Fairley Bael Bael Sandhill Lake Landcare
Northern Plains Cons Management Network
Terricks Ridge Landcare Group
Loddon Vale Landcare Group
Friends of Terrick Ter National Park
Wychitella District Landcare Group
East Loddon Landcare Group
Bendigo Cre
Wedderburn Conservation Management Network (WCMN)
Salisbury West Landcare Group
North Central Landcare Group
Northern United Forestry Group (NUFG)
Inglewood Landcare Group
Friends of Kooyoora
Kama
GANNAWARRA SHIRE
APPIN SOUTH
LEAGHUR
LODDON VALE
PYRAMID HILL
YANDO
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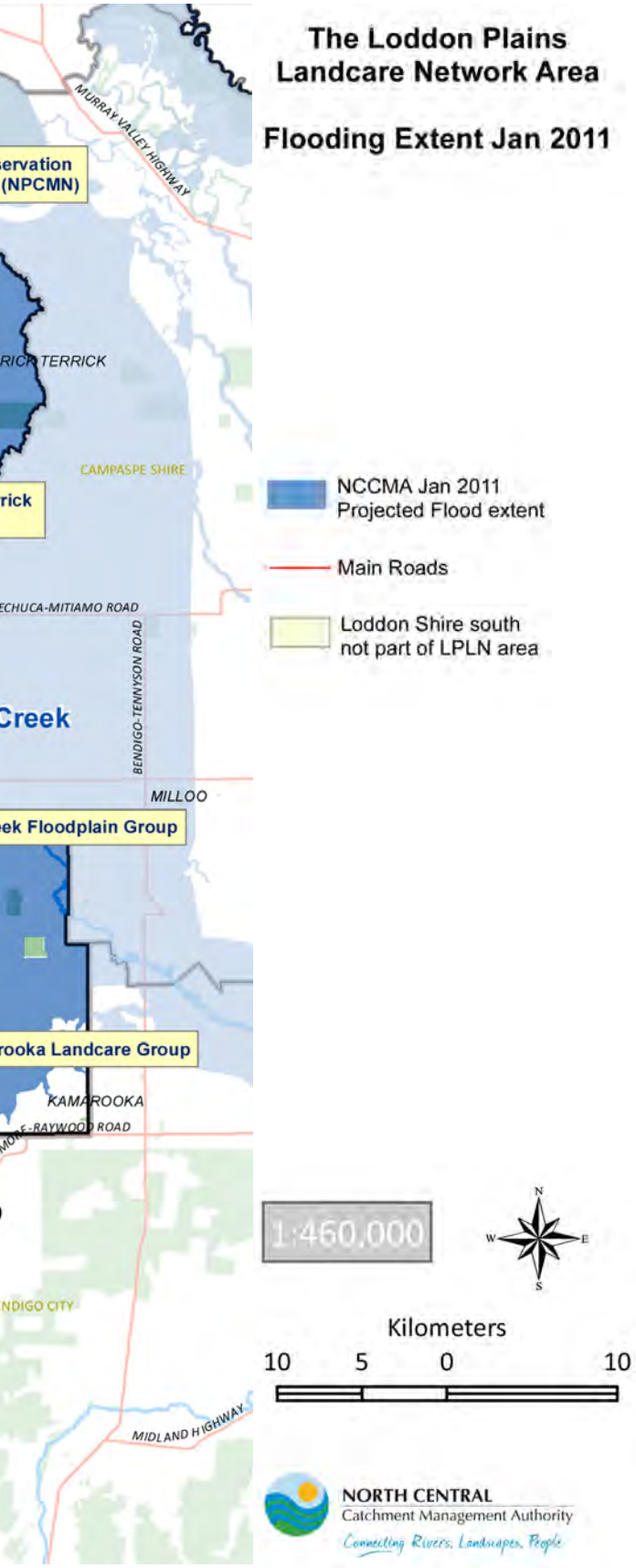
SYLVATERRE
BOORT
DURHAM OX
LAKE MARMAL
MITIAMO
BULOKE SHIRE
MYSIA
ISRNIHURST
JARKLIN
WYCHITELLA
BORUNG
CALIVIL
PRAIRIE
LODDON SHIRE
BEARS LAGOON
KINYPANIAL
KORONG VALE
DINGEE
SERPENTINE
TANDARRA
WEDDERBURN
POWLETT PLAINS
SALISBURY WEST
RAYWOOD
KURTING
KOOYOORA
INGLEWOOD
BRIDGEWATER
NORTHERN GRAMPIANS SHIRE
Loddon River
Serpentine Creek
BOORT-QUAMBATOOK ROAD
BOORT-KERANG ROAD
BOORT-WYCHEPROOF ROAD
BOORT-CHARLTON ROAD
BOORT-PYRAMID ROAD
LODDON VALLEY HIGHWAY
GLADFIELD ROAD
PYRAMID-COHUNA ROAD
LEITCHVILLE-PYRAMID ROAD
BENDIGO-PYRAMID ROAD
BOORT-MITIAMO ROAD
CALDER HIGHWAY
LOGAN-WEDDERBURN ROAD
WIMMERA HIGHWAY

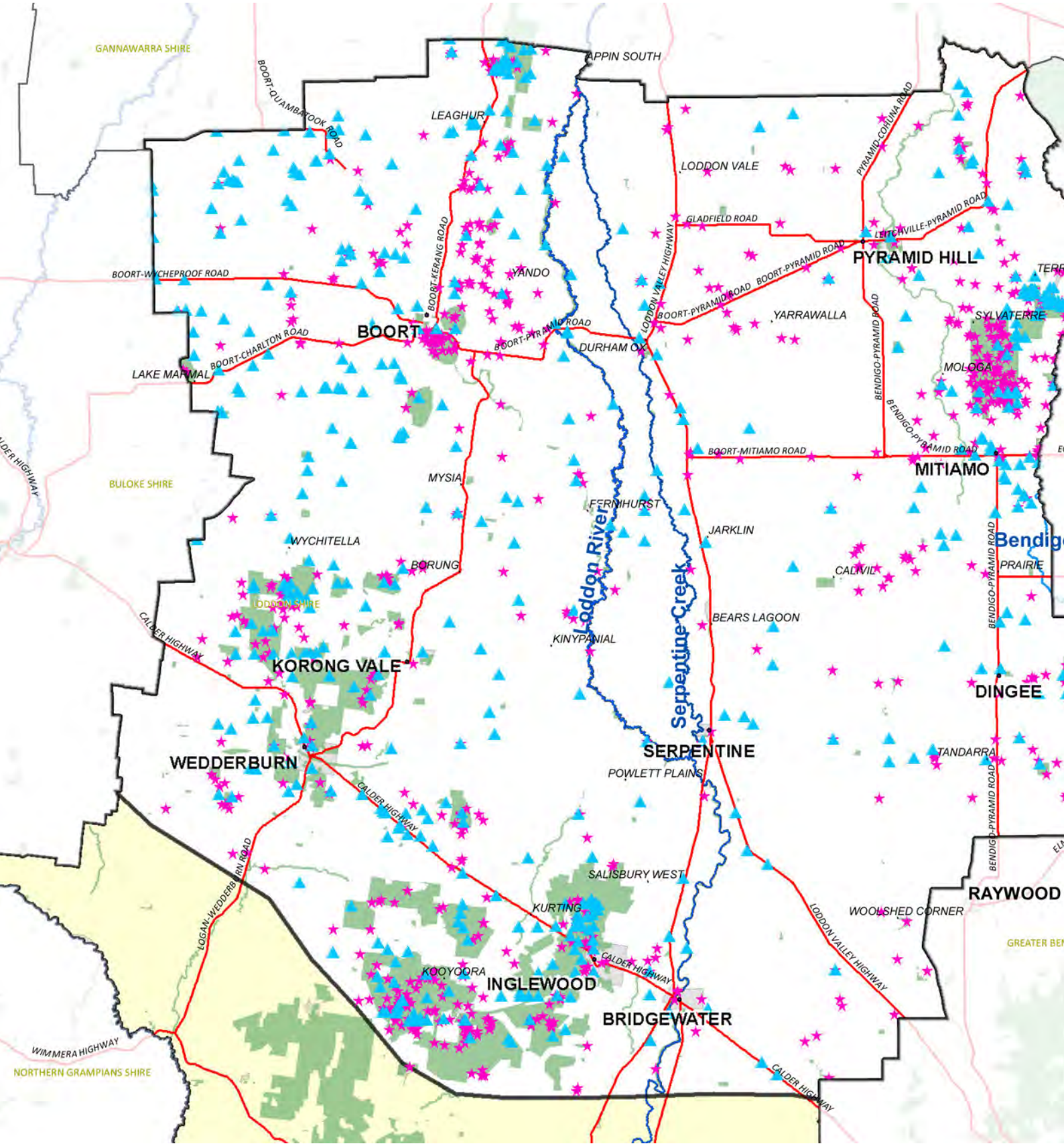
Map 8. The Loddon Plains Landcare Network Area Flood Extent Jan 2011



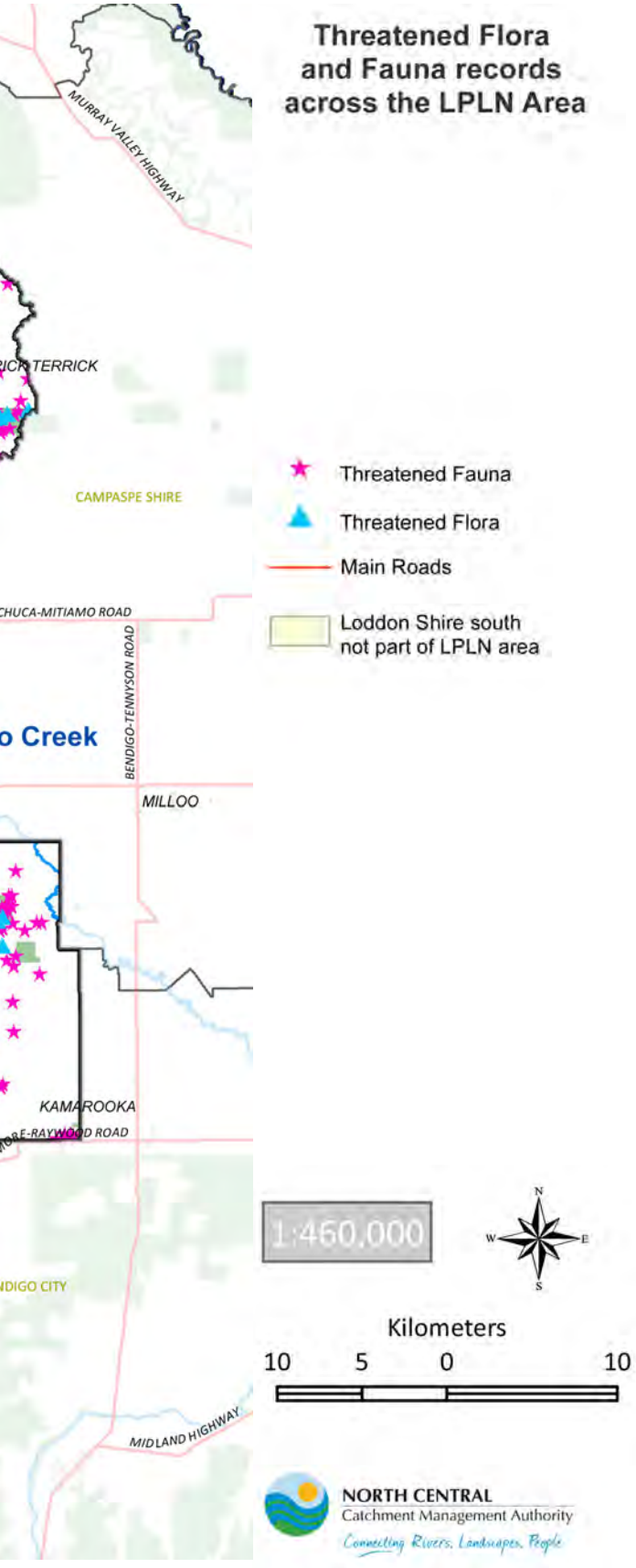
The Floods of 2010-11

North central Victoria, and indeed much of Australia, experienced a decade of below average rainfall. Few would have predicted that 2010 would deliver so much rainfall in the manner that it did. Indeed 2010 was Australia's third wettest year on record and Victoria's wettest year since 1974. The period from July to December 2010 was Australia's wettest ever and cruelly brought devastating floods to the Loddon Shire and large parts of Victoria. The major driver of this above average rainfall in 2010-11 has been the strong La Nina in the tropical Pacific Ocean. Adding to this, especially during winter and spring 2010 was the negative Indian Ocean Dipole (IOD-ve). The last time both La Nina and IOD-ve combined was 35 years ago in 1975. The only event to have exceeded the 1975 spring rainfall is the spring rainfall of 1992 (Department of Primary Industries, 2011).

Four major flooding events have occurred across the Loddon Shire since September 2010. The January 2011 event was particularly severe from the combination of intense rainfall onto an already waterlogged catchment. These flood events have caused significant damage to towns, infrastructure, businesses, properties and roads across the Loddon Shire, especially as the floodwaters have moved very slowly down the floodplain. Clean up and recovery from the personal and economic losses, particularly after a period of very long drought will take this region many years to recover from. This is true for many groups in the network.


GANNAWARRA SHIRE
BOORT-QUAMBATOOK ROAD
APPIN SOUTH
LEAGHUR
LODDON VALE
PYRAMID-COHUNA ROAD
GLADFIELD ROAD
LEITCHVILLE-PYRAMID ROAD
PYRAMID HILL
BOORT-WYCHEPROOF ROAD
BOORT-KERANG ROAD
YANDO
LODDON VALLEY HIGHWAY
BOORT-PYRAMID ROAD
YARRAWALLA
SYLVATERRE
BOORT
BOORT-CHARLTON ROAD
DURHAM OX
MOLOGA
LAKE MARMAL
BENDIGO-PYRAMID ROAD
BOORT-MITIAMO ROAD
MITIAMO
BULOKE SHIRE
MYSIA
FERNIHURST
JARKLIN
WYCHITELLA
Loddon River
Serpentine Creek
PRAIRIE
BORUNG
CALIVIL
LODDON SHIRE
BEARS LAGOON
CALDER HIGHWAY
KINYPANIAL
KORONG VALE
DINGEE
SERPENTINE
WEDDERBURN
TANDARRA
POWLETT PLAINS
SALISBURY WEST
RAYWOOD
KURTING
WOOLSHED CORNER
LOGAN-WEDDERBURN ROAD
GREATER BEN
KOOYOORA
INGLEWOOD
BRIDGEWATER
WIMMERA HIGHWAY
NORTHERN GRAMPIANS SHIRE

Map 9. Threatened Flora and Fauna records across the LPLN Area



Interpreting this map

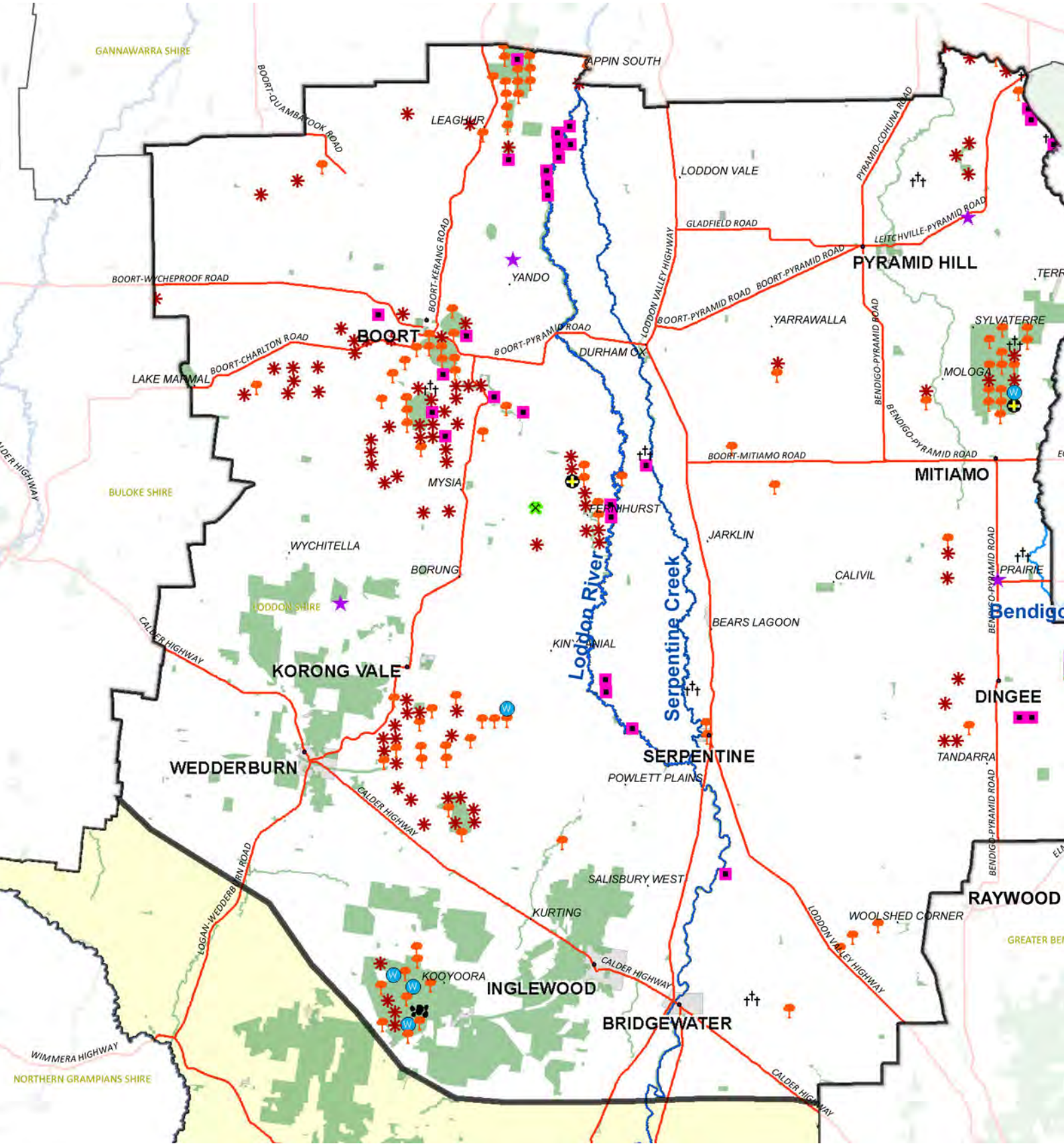
This mapping layer was last updated in 2005 by DSE and therefore represents a snapshot in time.

Significant Fauna

The LPLN is home to numerous endangered bird species, some of which are the Plains Wanderer, Bush Stone Curlew, Grey Crowned Babbler. The Fat Tailed Dunnart and Brush Tailed Phascogale are listed mammal species. The LPLN's flagship species, the Lace Monitor (Goanna) is listed as vulnerable on DSE's Advisory list. As such there is the potential for the Goanna's extinction if steps are not taken to conserve and enhance its habitat, primarily Plains Grassy Woodland and Plains Grassland.

Significant Flora

Terrick Terrick National Park contains the most significant remaining area of Plains Grassland in northern Victoria and is home to many threatened flora and fauna species. Box Grassy Woodland communities are listed as endangered nationally under the EPBC Act (1999). These communities are found right across the LPLN and are highly fragmented. Some individual species listed as endangered include Yellow-lipped Spider orchid, Red Swainson pea, Downy Swainson pea and Turnip Copper Burr. The Robust Greenhood orchid (Pterostylis valida) declared nationally extincet in 1999, was re-discovered in the Wedderburn CMN area in 2009 and had not been seen since 1941.


GANNAWARRA SHIRE
BOORT-QUAMBATOOK ROAD
LEAGHUR
TAPPIN SOUTH
LODDON VALE
PYRAMID-COHUNA ROAD
GLADFIELD ROAD
LEITCHVILLE-PYRAMID ROAD
PYRAMID HILL
BOORT-WYCHEPROOF ROAD
BOORT-KERANG ROAD
YANDO
LODDON VALLEY HIGHWAY
BOORT-PYRAMID ROAD
BOORT-PYRAMID ROAD
YARRAWALLA
SYLVATERRE
BOORT
BOORT-CHARLTON ROAD
BOORT-PYRAMID ROAD
DURHAM CX
LAKE MARMAL
MOLOGA
BENDIGO-PYRAMID ROAD
BENDIGO-PYRAMID ROAD
BOORT-MITIAMO ROAD
MITIAMO
BULOKE SHIRE
MYSIA
FERNIHURST
JARKLIN
WYCHITELLA
BORUNG
Loddon River
Serpentine Creek
CALIVIL
PRAIRIE
LODDON SHIRE
BEARS LAGOON
CALDER HIGHWAY
KIN[illegible]NIAL
KORONG VALE
DINGEE
SERPENTINE
WEDDERBURN
TANDARRA
POWLETT PLAINS
CALDER HIGHWAY
BENDIGO-PYRAMID ROAD
SALISBURY WEST
RAYWOOD
LOGAN-WEDDERBURN ROAD
KURTING
WOOLSHED CORNER
LODDON VALLEY HIGHWAY
KOOYOORA
CALDER HIGHWAY
INGLEWOOD
BRIDGEWATER
WIMMERA HIGHWAY
NORTHERN GRAMPIANS SHIRE
CALDER HIGHWAY

Map 10. Indigenous Cultural Heritage

Interpreting this map

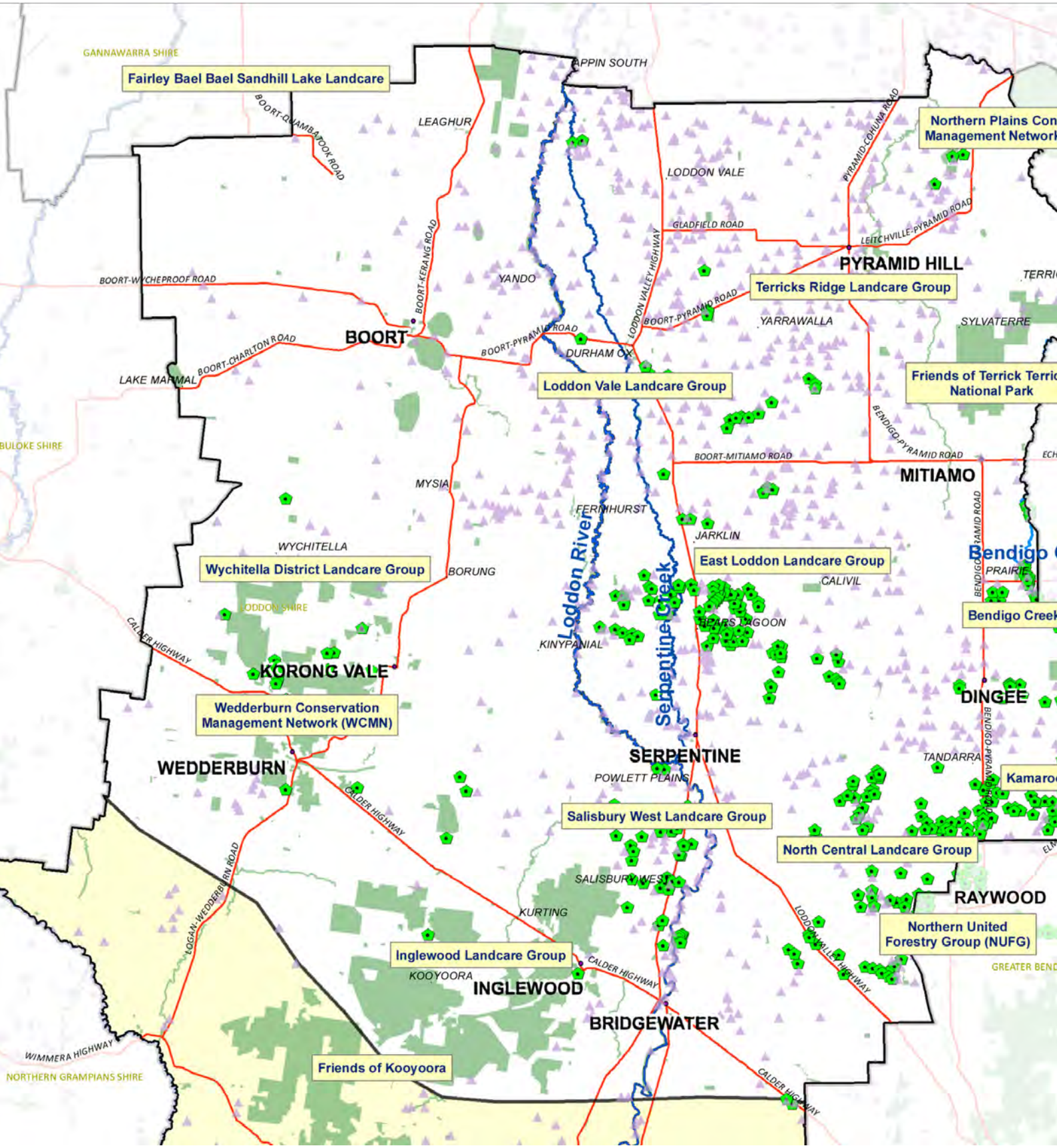
This mapping layer was produced in 2005 and is an extract from the Victorian Aboriginal Heritage Information System. It is a snapshot in time and it is very likely that more sites have been recorded since then. The dots on the map represent frequencies for each cultural heritage place type, total numbers of places and the predominant place within 1 x 1 km squares. No square is created unless there has been a site (or sites) recorded within an area. Additional unregistered places do exist on the Loddon Plains. For example Powlett Swamp and areas along the Loddon River are not represented on this map, although there is clear evidence of scarred trees in these two areas.

Indigenous Cultural Heritage

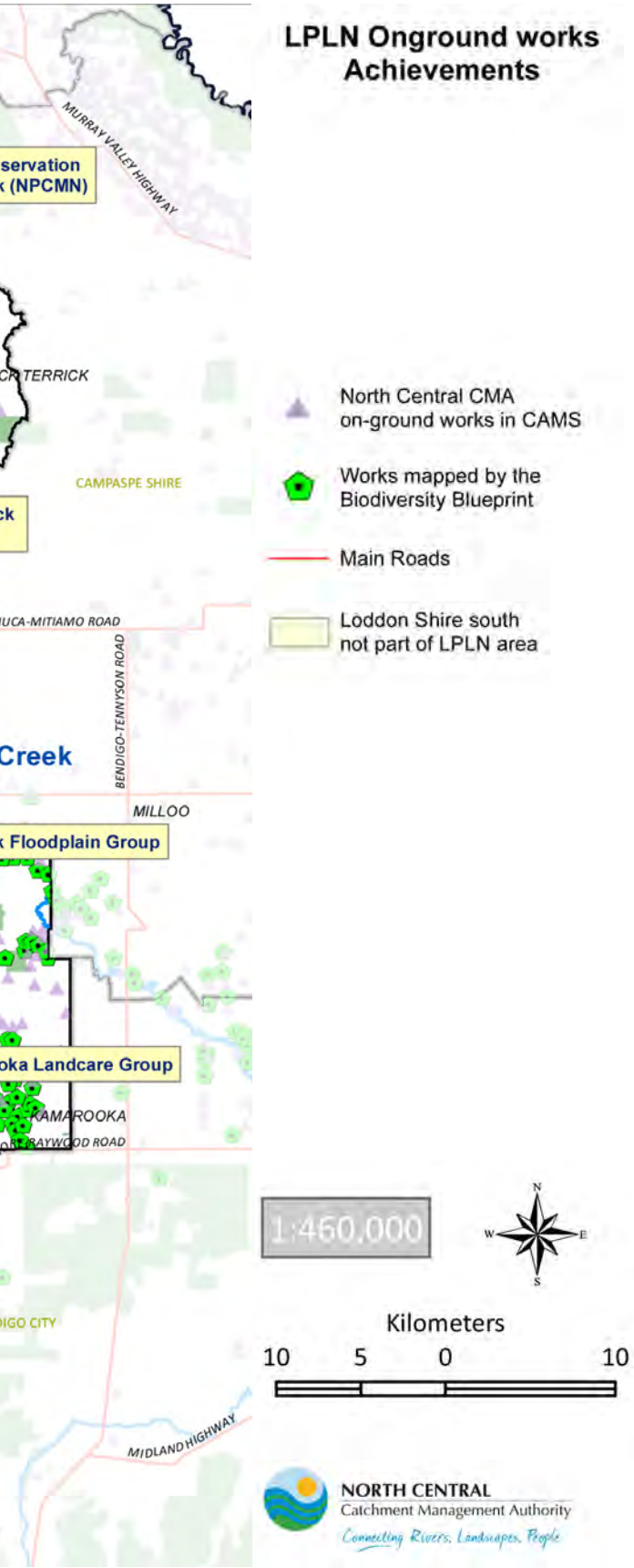
The Loddon Plains is home to the Dja Dja Wurrung – Jaara People and comprised of possibly 16 clans, varying between 50 and 120 in number. The clans occupied the Upper Avoca and Loddon Basins, suggesting a pre European contact population of between 900 and 1800. Plant foods were the mainstay of the Dja Dja Wurrung diet, with hundreds of plants such as Yam daisy, Cumbungi and Nardoo being nurtured. Ruby Saltbush and Creeping Saltbush were also productive even in the most severe droughts. The riverine environment of the Lower Loddon would have provided a relatively rich environment, with economies adjusted to the river's seasonal patterns.

There is considerable archaeological evidence of Aboriginal use of the environment in the local area, concentrated near streams and wetlands. There are numerous mounds often called ovens or middens, although middens are actually heaps of discarded material, especially shell. Mounds are mainly found along the edges of streams and are quite numerous on the shores of lakes. They can be found along the Loddon River and Kinypaniel Creek and near many local wetlands. Other evidence includes scarred trees, scarred by the removal of bark and exposing the sapwood to make canoes, shelters, containers and shields. Scarred trees are often the most easily visible archaeological relics in the district and provide Aboriginal people today with an important link to their culture and past.

Rocks and stones were also used for ritual ceremonies, food processing, tools and weapons. Stones were traded as much as 2000 km along trading routes. Most axe heads from this area came from Carisbrook, near Maryborough and many hours went into their shaping and grinding (Foreman, Hall, Haw, Haw, Foreman, & Millsom, 1995) (Haw & Munro, 2010).


GANNAWARRA SHIRE
Fairley Bael Bael Sandhill Lake Landcare
BOORT-QUAMBATOOK ROAD
LEAGHUR
APPIN SOUTH
Northern Plains Con
Management Network
PYRAMID-COHUNA ROAD
LODDON VALE
GLADFIELD ROAD
LEITCHVILLE-PYRAMID ROAD
PYRAMID HILL
BOORT-KERANG ROAD
BOORT-WYCHEPROOF ROAD
YANDO
LODDON VALLEY HIGHWAY
Terricks Ridge Landcare Group
BOORT-PYRAMID ROAD
YARRAWALLA
SYLVATERRE
BOORT
BOORT-PYRAMID ROAD
DURHAM OX
BOORT-CHARLTON ROAD
LAKE MARMAL
Loddon Vale Landcare Group
Friends of Terrick Terric
National Park
BULOKE SHIRE
BENDIGO-PYRAMID ROAD
BOORT-MITIAMO ROAD
MITIAMO
MYSIA
FERNIHURST
JARKLIN
WYCHITELLA
Wychitella District Landcare Group
BORUNG
East Loddon Landcare Group
CALIVIL
Loddon River
Serpentine Creek
PRAIRIE
Bendigo Creek
LODDON SHIRE
CALDER HIGHWAY
KINYPANIAL
KORONG VALE
DINGEE
Wedderburn Conservation
Management Network (WCMN)
SERPENTINE
TANDARRA
WEDDERBURN
POWLETT PLAINS
Kamaro
CALDER HIGHWAY
Salisbury West Landcare Group
North Central Landcare Group
LOGAN-WEDDERBURN ROAD
SALISBURY WEST
RAYWOOD
KURTING
Northern United
Forestry Group (NUFG)
Inglewood Landcare Group
CALDER HIGHWAY
KOOYOORA
INGLEWOOD
BRIDGEWATER
WIMMERA HIGHWAY
NORTHERN GRAMPIANS SHIRE
Friends of Kooyoora
CALDER HIGHWAY

Map 11. LPLN On-ground Works Achievements



Interpreting this map

This map is a snapshot in time and combines information about on-ground works projects mapped in the government's CAMS database and also those that had not been recorded before, that is until this Biodiversity Blueprint project was initiated. This project has captured over 600 projects and there are many more out there that could now be recorded using the interactive mapping tool. The proposed network interactive website gives the community the power to record their own observations and share information about their local environment with one another.

Illustrating the vast amount of project work that has occurred in the region presented some difficulties. Each point depicts the project centre, however it does not indicate how large the project site was, as this cluttered the map and subsequently made it difficult to read. The full spectrum of NRM works is represented in those dots and ranges from large district wide pest plant and animal campaigns, farm forestry plantations, fencing of remnant vegetation, waterways and tree plantings from stock, environmental management strategies or property management plans, stock containment areas, tree planting sites and erosion control works. The delivery of these projects is also varied with some through Landcare groups, individual properties liaising with an agency, conservation management network activities or other initiatives that have covered the region in the past 30 years.

CAMS (Catchment Activity and Management System) is an online tool managed by DSE and one that the DPI, DSE, CMAs and associated Agencies have used to record projects for over ten years. Many projects particularly in the historical salinity management areas or older Landcare group projects pre-date the existence of CAMS and there were very few records of these achievements. Three Landcare groups in the eastern part of the LPLN had drawn their project work onto aerial photos and the funding for this project has allowed their recording into an electronic format. This in some small way recognises those efforts by dedicated people in helping to protect and enhance their natural environment.