

Travelling Stock Reserves

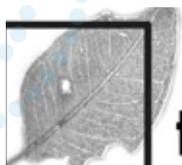
Vegetation Guide

Western Local Land Services



Local Land
Services

This project has been funded by NSW Environmental Trust



theenvirofactor

Western Local Land Services Travelling Stock Reserve Vegetation Guide

Prepared for NSW Local Land Services

Prepared by: The Envirofactor Pty Ltd

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Cover image: Riverine Chenopod Shrubland (Source: John Hunter)

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Background

This document provides basic descriptions of the vegetation classes, threatened ecological communities (both NSW and Commonwealth) and site managed species known to occur in the Western Local Land Services (Local Land Services) area (subsequently referred to as Western region). Western Local Land Services region is defined as shown in Figure 1. This information is especially relevant to Local Land Services staff managing Travelling Stock Reserves (TSRs) but is also suitable for other Local Land Services staff and land managers, as an aid to identifying vegetation communities and their conservation status. Links are provided throughout the document to enable a more thorough understanding of the matters described.



Figure 1: Western Local Land Services region

Landscape of Western region

The Western region spans more than 314,500 square kilometres (as shown in Figure 1) and comprises approximately 40 per cent of NSW (Western Local Land Services website accessed 2018). The region is bordered in the south by the Murry, Murrumbidgee and Lachlan Rivers, extending north and west to the Queensland and South Australian borders. The Barwon River forms the eastern boundary above Walgett, which then extends roughly south west to Hillston and Balranald. The Darling River flows through the centre of the region.

The topography of Western Local Land Services is relatively flat, comprising the floodplains of the Darling and Murray Rivers and their tributaries, broken by a number of stony ridges and ranges (Western Local Land Services website accessed 2018). Rainfall is low and highly variable, being summer dominant in the northern half of the region and winter dominant in the southern half. Drought is a regular feature of the climate cycle within this region (Western Local Land Services website accessed 2018).

Due to unreliable rainfall, drought frequency and soil constraints around 95 per cent of the Western Division remains under native vegetation which is used for livestock grazing (sheep, cattle and goats) (Western Local Land Services website accessed 2018). Cropping occurs in selected areas along the eastern and southern boundaries of the Western region (particularly in the north east) and pockets of extensive irrigated agriculture and horticulture are also present along the Barwon, Darling and Murray Rivers (Ferraro and Burnside 2001).



Vegetation of the Western region

As shown in Table 1, there are 28 vegetation classes within seven vegetation formations that occur in Western region. A brief summary of key information is given in the below to assist in the field identification and assessment of these vegetation classes.

Table 1: Vegetation Formations and their associated Vegetation Classes that occur in Western Local Land Services region

Vegetation formation	Vegetation classes	Vegetation formation	Vegetation classes
Grasslands	Riverine Plains Grasslands	Semi-arid Woodlands	Brigalow Clay Plain Woodlands
	Semi-arid Floodplain Grasslands		Desert Woodlands
	Western Slopes Grasslands		Dune Mallee Woodlands
Arid Shrublands	Aeolian Chenopod shrublands		Inland Floodplain Woodlands
	Gibber Chenopod Shrublands		Inland Rocky Hill Woodlands
	Gibber Transition Shrublands		North-west Alluvial Sand Woodlands
	North-west Plain Shrublands		North-west Floodplain Woodlands
	Riverine Chenopod Shrublands		Riverine Plain Woodlands
	Sandplain Mulga Shrublands		Riverine Sandhill Woodlands
	Stony Desert Mulga Shrublands		Sand Plain Mallee Woodlands
Grassy Woodlands	Floodplain Transition Woodlands		Semi-arid Sand Plain Woodlands
Freshwater Wetlands	Inland Floodplain Shrublands		Subtropical Semi-arid Woodlands
	Inland Floodplain Wetlands		Western Peneplain Woodlands
Forested Wetlands	Inland Riverine Forests	Saline Wetlands	Inland Saline Wetlands

It is important to note that not all the species listed within any community description will occur at any given site. But the most common tallest species, be they trees (woodlands), shrubs (shrublands) or grasses (grasslands), will indicate the likely presence of the community listed. There are however overlaps in species occurrence, as in nature there are rarely defined lines, so more than one description may need to be read before deciding which vegetation class is present on a site.

Grasslands

Riverine Plain Grasslands

Vegetation structure

Short, open tussock grassland with an abundance of herbs and occasional emergent shrubs. Trees absent or sparse.

Main species

Wallaby grasses (*Rytidosperma* spp), windmill grass (*Chloris truncata*), curly windmill grass (*Enteropogon acicularis*), fairy grass (*Sporobolus caroli*), and blown grass (*Agrostis* sp) with a variety of herbs including; common woodruff (*Asperula conferta*), rough burr daisy (*Calotis scabiosifolia*), goodenias, and various everlasting/paper daisy species.

Scattered slender-fruit saltbush (*Atriplex leptocarpa*), cottonbush (*Maireana aphylla*), bottle fissure-weed (*M. excavata*) hairy bluebush (*M. pentagona*), with/without occasional remnant individuals or regeneration of myall/boree (*Acacia pendula*) may also be present.

Site managed species

None applicable.

Threatened ecological communities

Myall Woodland; Natural Grasslands of the Murray Valley Plains; Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains.

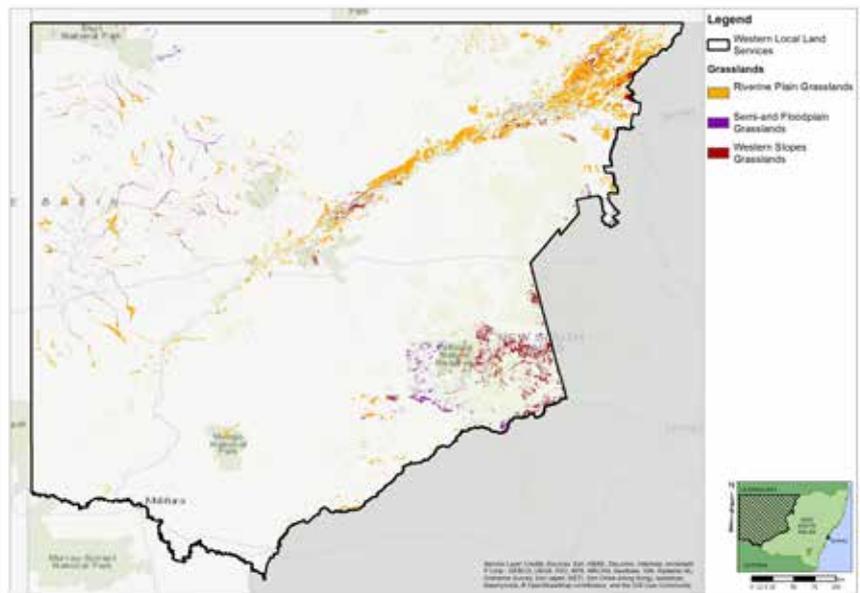
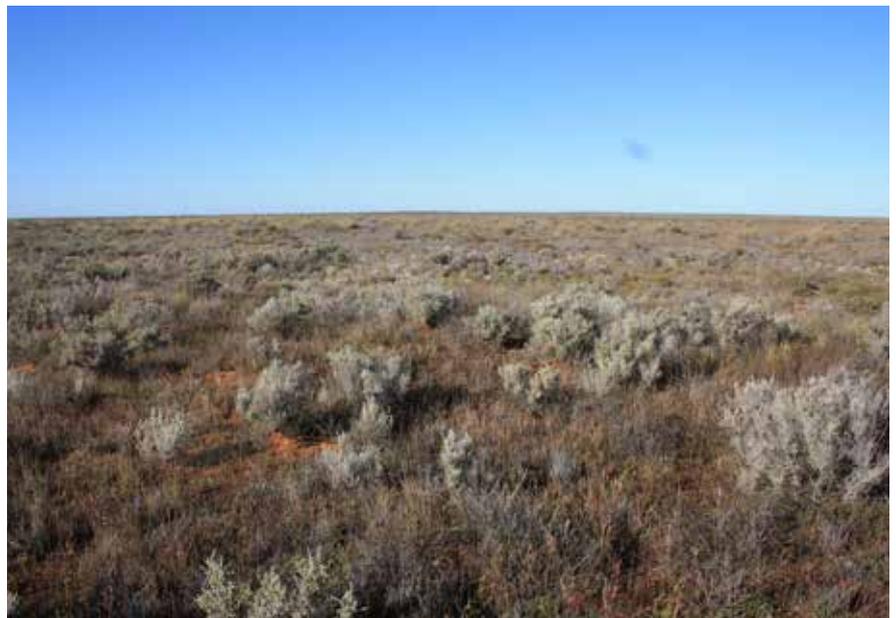


Figure 2: Riverine Plain Grasslands



Riverine Plains Grasslands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Riverine+Plain+Grasslands&habitat=C

Semi-Arid Floodplain Grasslands

Distribution

Occur on the black soil floodplains along the Darling River and its tributaries from Wilcannia to Moree and Nyngan (Keith 2004).

Vegetation structure

Closed tussock grassland with occasional chenopods and other shrubs.

Main species

Can be dominated by curly Mitchell grass (*Astrelba lappacea*) with varying densities of white speargrass (*Aristida leptopoda*), Queensland bluegrass (*Dichanthium sericeum*), stinkgrass (*Eragrostis cilianensis*), neverfail (*E. setifolia*), silky browntop (*Eulalia aurea*), katoora grass (*Sporobolus actinocladus*) and fairy grass (*S. caroli*) and a variety of forbs.

Scattered individuals of myall/boree (*Acacia pendula*), river cooba (*A. stenophylla*), rosewood (*Alectryon oleifolius*), slender-fruited saltbush (*Atriplex leptocarpa*), black cottonbush (*Maireana decalvans*) and/or mimosa (*Vachellia farnesiana*) maybe present.

Site managed species

None applicable.

Threatened ecological communities

Myall Woodland.

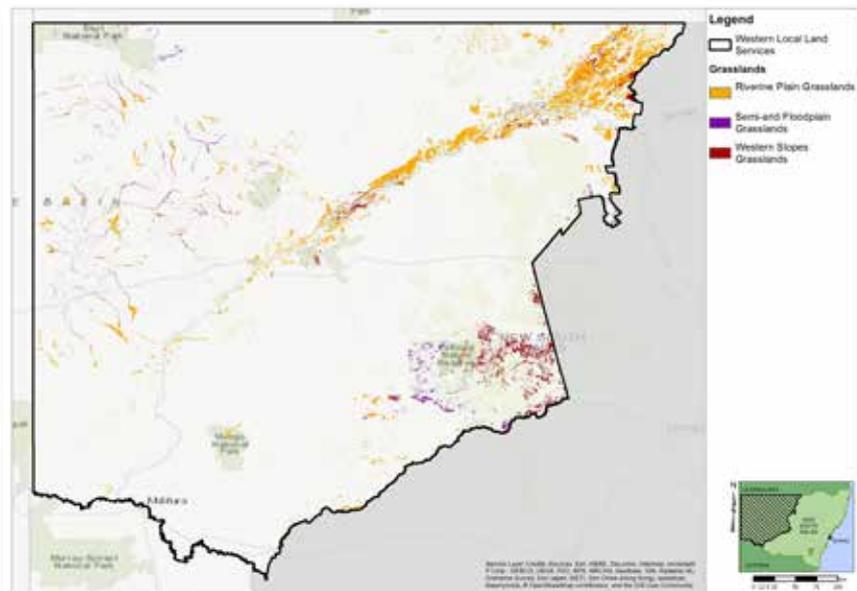


Figure 3: Semi-Arid Floodplain Grasslands



Semi-arid Floodplain Grasslands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Semi-arid+Floodplain+Grasslands&habitat=C

Western Slopes Grasslands

Distribution

Occur on alluvial plains on dark grey-brown clay soils. Although found primarily on the Liverpool Plains smaller scattered areas of these grasslands occur west to Warren and Brewarrina.

Vegetation structure

Closed tussock grassland with sporadic shrubs and herbs.

Main species

Dominated by plains grass (*Auustipa aristiglumis*), that may grow in dense swards as tall as 1.5 m, often excluding other grass species. Other associated species can include; Queensland bluegrass (*Dichanthium sericeum*), windmill grasses (*Chloris* spp), white speargrass (*Aristida leptopoda*), bandicoot grass (*Rytidosperma bipartitum*), slender rats-tail grass (*Sporobolus elongatus*), emu-foot (*Cullen tenax*), rough burrdaisy (*Calotis scabiosifolia*), tarvine (*Boerhavia dominii*). Occasional shrubs including; black rolypoly (*Sclerolaena muricata*) and/or mimosa (*Vachellia farnesiana*) may also be present.

Site managed species

None applicable.

Threatened ecological communities

None applicable.

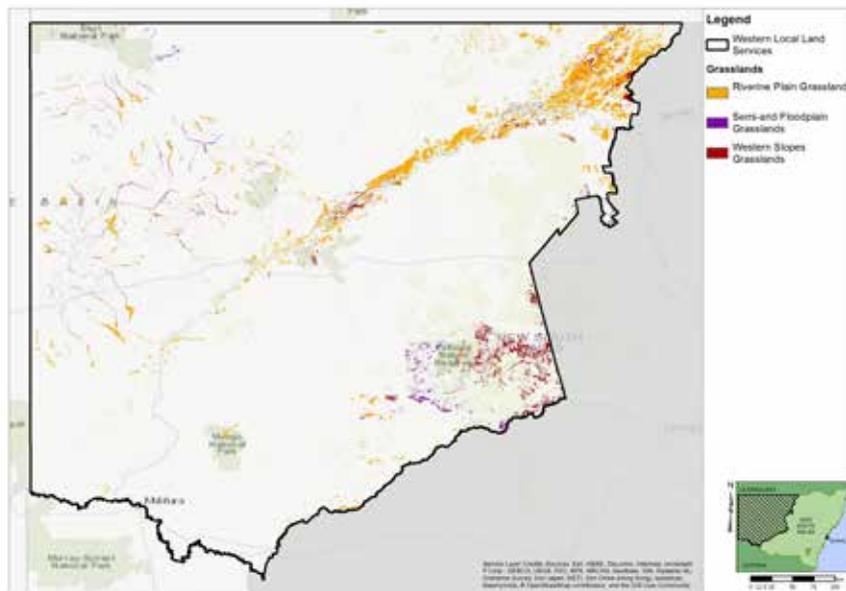


Figure 4: Western Slopes Grasslands



Western Slopes Grasslands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Western+Slopes+Grasslands&habitat=C

Arid Shrublands

Aeolian Chenopod Shrublands

Distribution

Occur on the calcareous red-brown sandy loams on wind formed (Aeolian) sandplains and lunettes of far western NSW (Keith 2004). Primarily found south of Ivanhoe-Menindee to Balranald-Wentworth, with scattered occurrences north to White Cliffs.

Vegetation structure

Open shrubland dominated by chenopods.

Main species

Black bluebush (*Maireana pyramidata*), pearl bluebush (*M. sedifolia*) tend to dominate with lesser occurrences of spreading saltbush (*Atriplex limbata*), bladder saltbush (*A. vesicaria*), ruby saltbush (*Enchylaena tomentosa*) and thorny saltbush (*Rhagodia spinescens*). Other associated species include: speargrasses (*Austrostipa* spp), daisies and sidas.

Occasional emergent; belah (*Casuarina pauper*), whitewood (*Atalaya hemiglauca*), mulga (*Acacia aneura*) and leopardwood (*Flindersia maculosa*), may occur in the northern part of the distribution.

Site managed species

A spear-grass (*Austrostipa nullanulla*); grey grasswren (*Amytornis barbatus barbatus*).

Threatened ecological communities

None applicable.

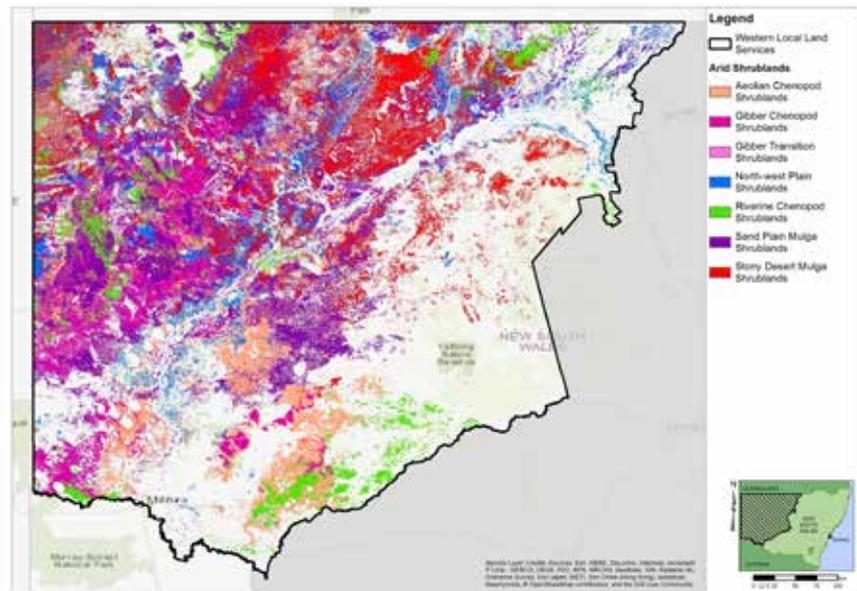


Figure 5: Aeolian Chenopod Shrubland



Aeolian Chenopod Shrublands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Aeolian+Chenopod+Shrublands&habitat=C

Gibber Chenopod Shrublands

(This vegetation class is currently under review)

Distribution

Occur on the slightly saline skeletal brown-clay loam soils of undulating gibber plains and stony ranges of far mid-western NSW (Keith 2004). Soils most commonly covered with a layer of small polished stones or 'gibbers' (Keith 2004). Large areas of this community occur on the foothills of the Barrier Range near Broken Hill, in the White Cliffs district and the Grey Range in the far northwest (Keith 2004).

Vegetation structure

Open chenopod shrubland with/without an extensive groundcover of grasses.

Main species

Slender-fruit saltbush (*Atriplex leptocarpa*), cottonbush (*Maireana aphylla*), and black bluebush (*M. pyramidata*) with or without Mitchell grasses (*Astrebla* spp), Queensland bluegrass (*Dichanthium sericeum*) and bottle washers (*Enneapogon* spp).

Occasionally present are scattered emergent mulga (*Acacia aneura*), cabbage-tree wattle (*A. cana*) and/or belah (*Casuarina pauper*).

Site managed species

Barrier Range dragon (*Ctenophorus mirrityana*).

Threatened ecological communities

Acacia loderi shrublands.

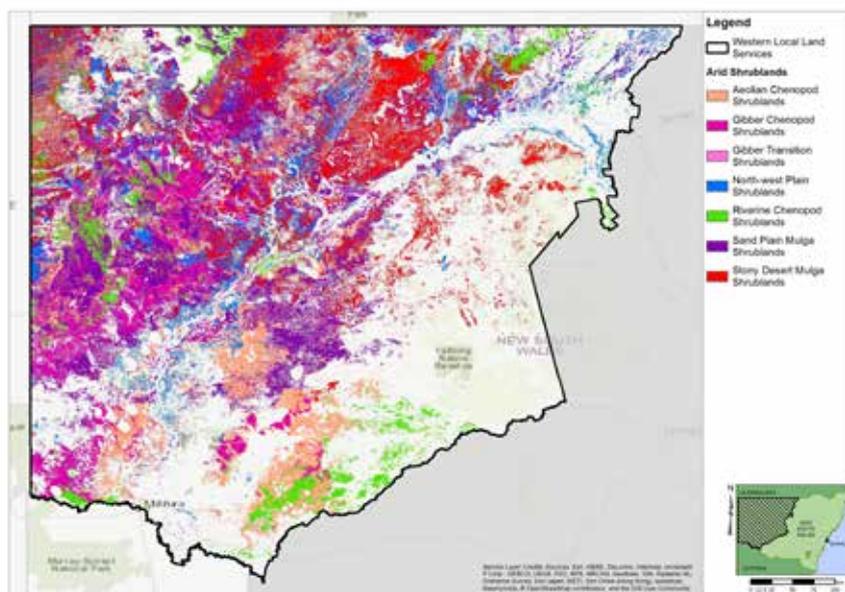


Figure 6: Gibber Chenopod Shrublands



Gibber Chenopod Shrublands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Gibber+Chenopod+Shrublands&habitat=C

Gibber Transition Shrublands

Distribution

Occur on heavy red-clay soils within the rarely flooded drainage depressions of the gibber plains, north of Bourke and Brewarrina and extending west to Wanaaring (Keith 2004).

Vegetation structure

Variably dense shrublands up to 10 m tall with an understorey of perennial tussock grasses or scattered chenopod shrubs.

Main species

Gidgee (*Acacia cambagei*), mulga (*A. aneura*), belah (*Casuarina pauper*), leopardwood (*Flindersia maculosa*), whitewood (*Atalaya hemiglauca*), beefwood (*Grevillea striata*), warrior bush (*Apophyllum anomalum*), budda (*Eremophila mitchellii*), rosewood (*Alectryon oleifolius*), old man saltbush (*Atriplex nummularia*), thorny saltbush (*Rhagodia spinescens*), ruby saltbush (*Enchylaena tomentosa*) black bluebush (*Maireana pyramidata*). Ground layer species include; windmill grass (*Chloris truncata*), Queensland bluegrass (*Dichanthium sericeum*), finger panic grasses (*Digitaria* spp), *Eragrostis* spp, curly windmill grass (*Enteropogon acicularis*), umbrella canegrass (*Leptochloa digitata*), cow Mitchell grass (*Astrebala pectinata*) and/or copperburrs (*Sclerolaena* spp).

Site managed species:

None applicable.

Threatened ecological communities

Acacia loderi shrublands.

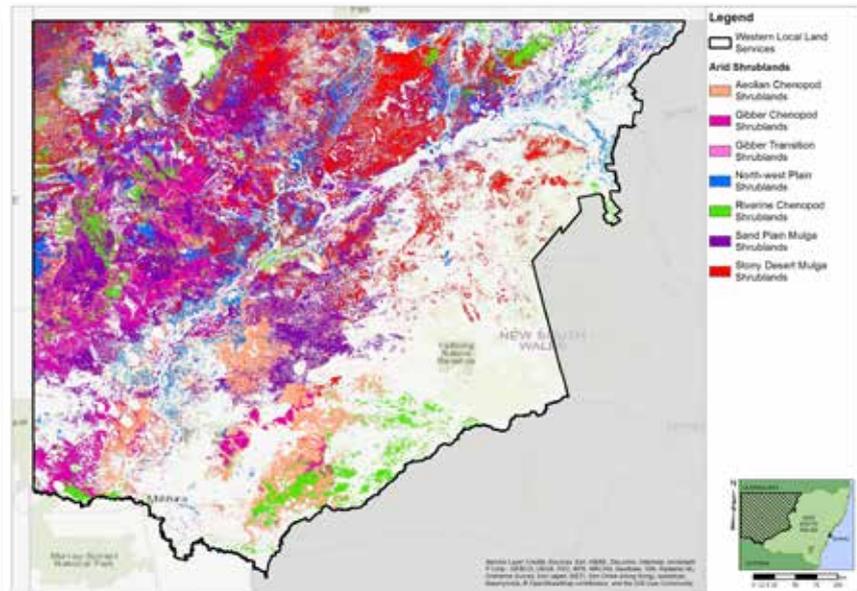


Figure 7: Gibber Transition Shrublands



Gibber Transition Shrublands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Gibber+Transition+Shrublands&habitat=C

North-west Plain Shrublands

Distribution

Occurs on well-drained, red-brown sandy loam soils on the flat to undulating plains found in the western parts of the Cobar Peneplain and between Enngonia and Wanaaring.

Vegetation structure

Diverse shrubland or low woodland up to 5-7m tall often with a second shrub layer 1-3m tall and an open to semi-continuous groundcover dominated by perennial tussock grasses.

Main species

Ironwood (*Acacia excelsa*), yarran (*A. homalophylla*), mulga (*A. aneura*), budda (*Eremophila mitchellii*), warrior bush (*Apophyllum anomalum*), turpentine bush (*E. sturtii*), beefwood (*Grevillea striata*), whitewood (*Atalaya hemiglauca*), needlewoods (*Hakea* spp), cassia (*Senna artemisioides*), hopbush (*Dodonaea viscosa* and leopardwood (*Flindersia maculosa*). Ground layer species include wiregrasses (*Aristida* spp), Queensland bluegrass (*Dichanthium sericeum*), cotton panic grass (*Digitaria brownii*), *Eragrostis* spp, daisies and copperburrs (*Sclerolaena* spp).

Occasionally present are emergent ironwood and white cypress pine (*Callitris glaucophylla*).

Site managed species

Curly-bark wattle (*Acacia curranii*);

Threatened ecological communities

Acacia loderi shrublands

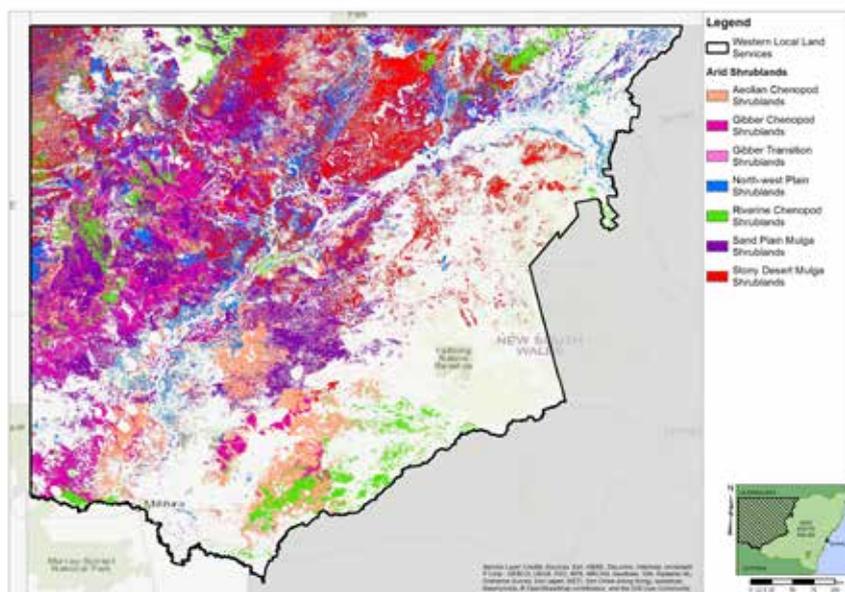


Figure 8: North-west Plain Shrublands



North-west Plain Shrublands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=North-west+Plain+Shrublands&habitat=C

Sand Plain Mulga Shrublands

Distribution

Occur on the extensive red sand plains and dunes west of Louth and Ivanhoe and north from Broken Hill.

Vegetation structure

Tall open shrubland with an open understorey of smaller shrubs and perennial tussock grasses.

Main species

Mulga (*Acacia aneura*), belah (*Casuarina pauper*), sandhill wattle (*A. ligulata*), elegant wattle (*A. victoriae*), neali (*A. loderi*), cabbage-tree wattle (*A. cana*), needlewoods (*Hakea* spp), sandhill spider-flower (*Grevillea stenobotrya*), rosewood (*Alectryon oleifolius*), hophbush (*Dodonaea viscosa*), leopardwood (*Flindersia maculosa*), whitewood (*Atalaya hemiglauca*), cassia (*Senna artemisioides*), turpentine bush (*Eremophila sturtii*), berrigan (*E. longifolia*), black bluebush (*Maireana pyramidata*), thorny saltbush (*Rhagodia spinescens*). Ground layer species include; wiregrasses (*Aristida* spp), *Eragrostis* spp, bottle washers (*Enneapogon avenaceus*), purple needlegrass (*Triraphis mollis*) and/or burr/paper daisies. In creeklines lemon grass (*Cymbopogon ambiguous*) and kangaroo grass (*Themeda australis*).

Site managed species

None applicable.

Threatened ecological communities

Acacia loderi Shrublands; *Acacia melvillei* Shrublands.

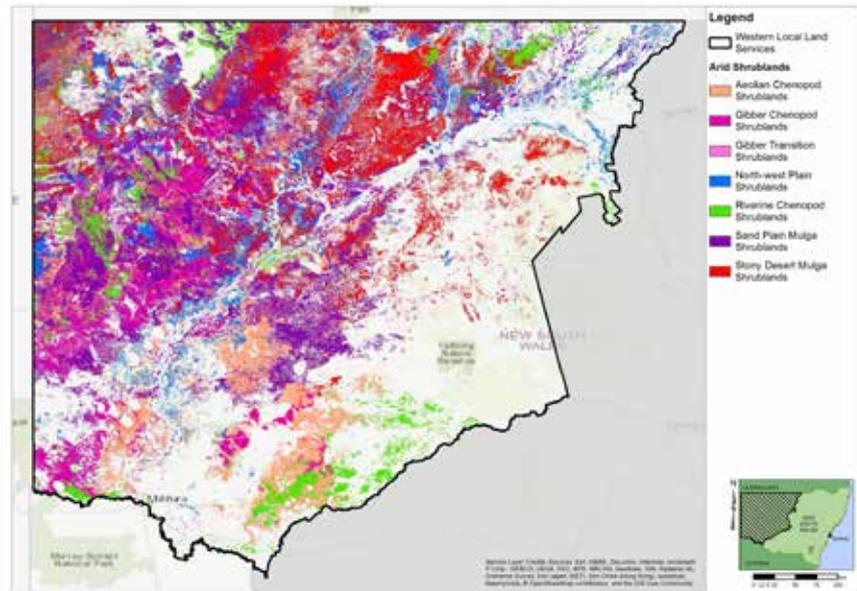


Figure 9: Sand Plain Mulga Shrublands



Sand Plain Mulga Shrublands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Sand+Plain+Mulga+Shrublands&habitat=C

Riverine Chenopod Shrublands

Distribution

Occur on the often salty deep grey-brown clays of the flat alluvial plains and dry lake beds of the western region (Keith 2004). Most commonly found on the higher floodplain areas of the Murrumbidgee, Lachlan and Murray Rivers between Hay, Ivanhoe and Balranald (Keith 2004) as well as the Darling and Paroo Rivers (OEH website accessed 2018)

Vegetation structure

Open chenopod shrubland with groundcover of forbs and grasses.

Main species

In high quality sites old man saltbush (*Atriplex nummularia*), bladder saltbush (*A. vesicaria*), ruby saltbush (*Enchylaena tomentosa*) and thorny saltbush (*Rhagodia spinescens*) dominate. While in more disturbed sites cottonbush (*Maireana aphylla*), nitre bush (*Nitraria billardieri*) and *Sclerolaena* spp become common. Other associated species include; daisies and wallaby grasses (*Rytidosperma* spp).

Site managed species:

None applicable.

Threatened ecological communities

Myall Woodland; grey grasswren (*Amytornis barbatus barbatus*)

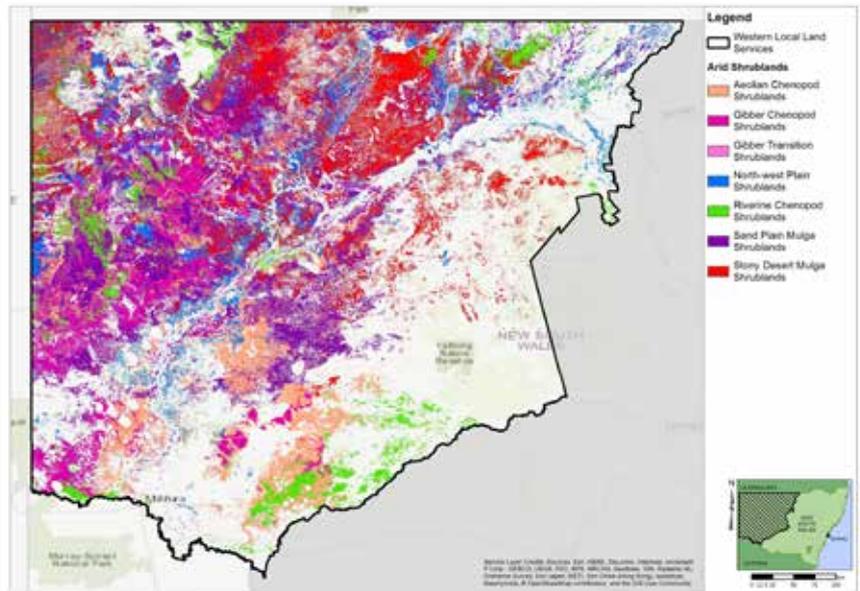


Figure 10: Riverine Chenopod Shrublands



Riverine Chenopod Shrublands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Riverine+Chenopod+Shrublands&habitat=C

Stony Desert Mulga Shrublands

Distribution

Occur on the hard baked red clay soils of the stony ridges, downs and gibber plains, north from Broken Hill and White Cliffs to Tibooburra extending east to Bourke.

Vegetation structure

Open shrubland dominated by *Acacia*, usually less than 4 m tall with sparse perennial ground layer with variable ephemeral forb component.

Main species

Mulga (*Acacia aneura*), dead finish (*A. tetragonophylla*), bastard mulga (*A. sibirica*), horse mulga (*A. ramulosa*), umbrella mulga (*A. brachystachya*), harlequin fuschia bush (*Eremophila duttonii*), crimson turkey bush (*E. latrobei*), turpentine bush (*E. sturtii*), hopbush (*Dodonaea viscosa*), bluebushes (*Maireana* spp), ruby saltbush (*Enchylaena tomentosa*), thorny saltbush (*Rhagodia spinescens*), cassia (*Senna artemisioides*), warrior bush (*Apophyllum anomalum*), beefwood (*Grevillea striata*), hill hibiscus (*Hibiscus sturtii*), lantern bush (*Abutilon leucopetalum*). Ground layer species include; bunched kerosene grass (*Aristida contorta*), curly Mitchell grass (*Astrebla lappacea*), speargrasses (*Austrostipa* spp), bottle washers (*Enneapogon avenaceus*), small saltbushes (*Atriplex* spp), copperburrs (*Sclerolaena* spp) and/or sidas. Curly mallee (*Eucalyptus gillii*) identifies this community in parts of the Barrier Range.

Site managed species

Barrier Range dragon (*Ctenophorus mirrityana*).

Threatened ecological communities

Acacia loderi Shrublands; Porcupine Grass-Red Mallee-Gum Coolabah hummock grassland/low sparse woodland.

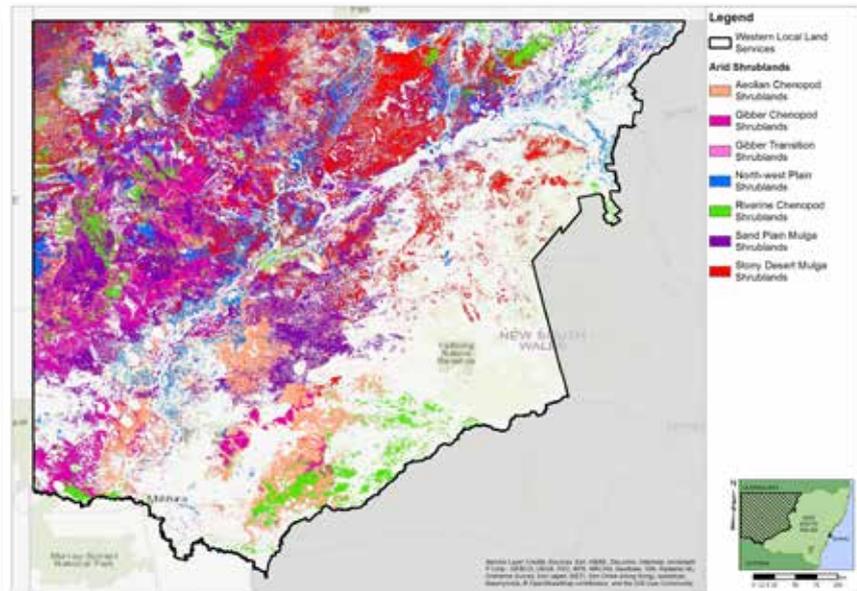


Figure 11: Stony Desert Mulga Shrublands



Stony Desert Mulga Shrublands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Stony+Desert+Mulga+Shrublands&habitat=C

Grassy Woodlands

Floodplain Transition Woodlands

Distribution

Eastern fringes of the Western region from the Queensland to Victorian borders, on fertile soils on upper floodplains and peneplain margins.

Vegetation structure

Open woodland 15-25 m tall dominated by box eucalypts with a largely continuous grassy ground cover and sparse layer of shrubs.

Main species

Grey box (*Eucalyptus microcarpa*) occurs throughout these woodlands. In the southern and central parts of NSW it occurs with yellow box (*E. melliodora*), while in the north this is replaced by fuzzy box (*E. conica*), narrow-leaved grey box (*E. pilligaensis*) and belah (*Casuarina cristata*). In drier parts of the range yarran (*Acacia homalophylla*), bullock (*Allocasuarina luehmannii*), white cypress pine (*Callitris glaucophylla*) and belah (*Casuarina pauper*), bimble box (*E. populnea*) and occasionally kurrajong (*Brachychiton populneus*) occur in the canopy. Ground layer species include: wallaby grasses (*Rytidosperma* spp), speargrasses (*Austrostipa* spp), windmill grasses (*Chloris* spp), burr-daisies (*Calotis* spp) and/or saltbushes. Shrubs are sparse but may include: hopbush (*Dodonaea viscosa*), wattles (*Acacia* spp), wild orange (*Capparis mitchellii*), rosewood (*Alectryon oleifolius*) and/or wilga (*Geijera parviflora*).

Site managed species

Greenhood orchid (*Pterostylis cobarensis*)

Threatened ecological communities

This community comprises the Inland Grey Box Woodland TEC and may also support areas of Brigalow and/or Carbeen Open Forest.

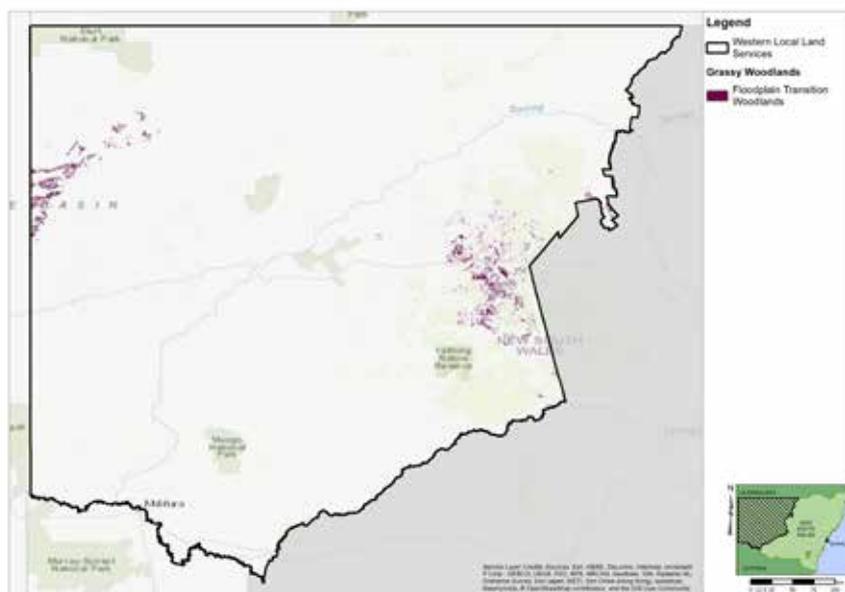


Figure 12: Floodplain Transition Woodlands



Floodplain Transition Woodlands (Source: Wendy Hawes)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Floodplain+Transition+Woodlands&habitat=C

Semi-arid Woodlands

Brigalow Clay Plain Woodlands

Distribution

In the Western region this community occurs on floodplain areas north of Bourke extending into Qld.

Vegetation structure

Woodland 5-15 m tall with a sparse understorey of shrubs and ground layer of grasses or forbs.

Main species

Dominated by brigalow (*Acacia harpophylla*), with or without belah (*Casuarina cristata*), bimble box (*E. populnea*), mulga (*Acacia aneura*) and/or leopardwood (*Flindersia maculosa*). Shrubs present may include; hopbush (*Dodonaea viscosa*), wilga (*Geijera parviflora*), berrigan (*Eremophila longifolia*) and/or budda (*E. mitchellii*). Ground layer species may include; bandicoot grass (*Rytidosperma bipartitum*), rough speargrass (*Austrostipa scabra*), windmill grasses (*Chloris* and *Enteropogon* spp), woollybutt (*Eragrostis eriopoda*), *Leptochloa divaricatissima*, creeping saltbush (*Atriplex semibaccatum*), common sneezeweed (*Centipeda cunninghamii*) and/or giant redburr (*Sclerolaena tricuspis*).

Site managed species

None applicable.

Threatened ecological communities

This community is the Brigalow TEC and also may support Brigalow-Gidgee woodland/shrubland.

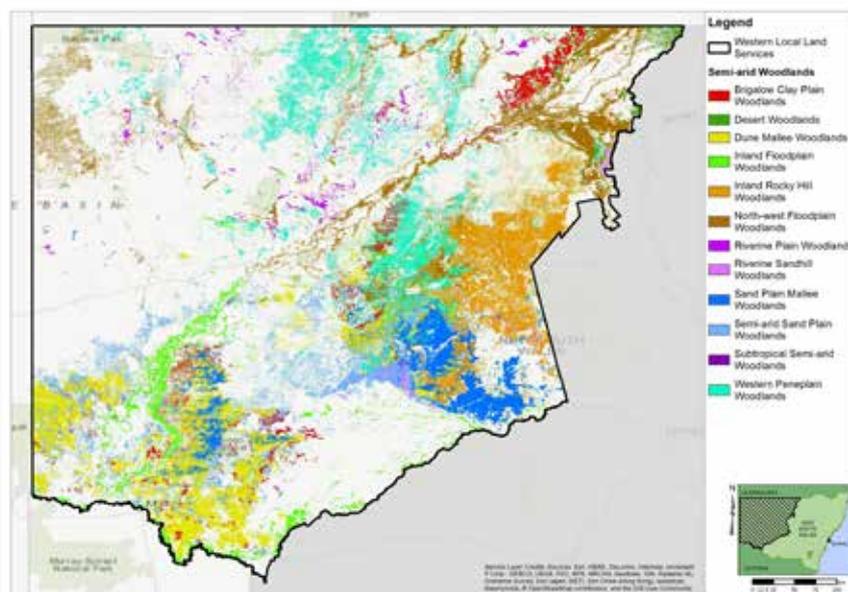


Figure 13: Brigalow Clay Plain Woodlands



Brigalow Clay Plain Woodlands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Brigalow+Clay+Plain+Woodlands&habitat=C

Desert Woodlands

Distribution

Occur on areas of higher moisture content at the base of rocky outcrops, north-west of Wanaaring, with an outlier near Tibooburra.

Vegetation structure

Low open eucalypt woodland to 12m tall with mixed shrub and grass understorey.

Main species

Desert bloodwood (*Corymbia tumescens*) with or without bimble box (*Eucalyptus populnea*). Shrubs present may include; beefwood (*Grevillea striata*), corkbark (*Hakea ivoryi*), cassia (*Senna artemisioides*), whitewood (*Atalaya hemiglauca*) and/or hopbush (*Dodonaea viscosa*). Ground layer species; wiregrasses (*Aristida* spp), bottle washers (*Enneapogon avenaceus*) and/or mulga Mitchell grass (*Thyridolepis mitchelliana*).

Site managed species

None applicable.

Threatened ecological communities

None applicable.

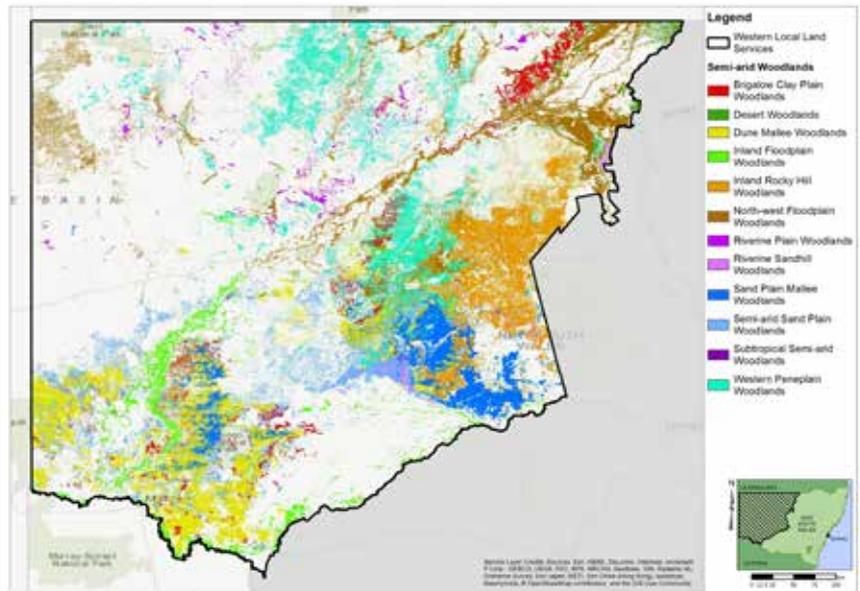


Figure 14: Desert Woodlands



Desert Woodlands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Desert+Woodlands&habitat=C

Dune Mallee Woodlands

Distribution

Occur on the infertile soils of the red dunes on the southern Cobar peneplain north of Griffith and from Balranald and Pooncarie to the South Australian border.

Vegetation structure

Mallee eucalypt woodland 6m tall with an open layer of shrubs and prominent layer of hummock grasses.

Main species

Mallee pine (*Callitris verrucosa*), ridge-fruited mallee (*Eucalyptus socialis*), white mallee (*E. dumosa*), red mallee (*E. costata*), with less commonly narrow-leaved red mallee (*E. leptophylla*) and/or snap and rattle (*E. gracilis*). Shrubs present may include; wattles (*Acacia* spp), desert poplar (*Codonocarpus cotinifolius*), daisy-bushes (*Olearia* spp), hopbush (*Dodonaea viscosa*), smooth wallaby-bush (*Beyeria opaca*), tarbush (*Eremophila glabra*) and/or turpentine bush (*E. sturtii*). Ground layer species include; speargrasses (*Austrostipa* spp), porcupine grass (*Triodia scariosa*), small purselane (*Calandrinia eremaea*), mattrush (*Lomandra leucocephala*) and/or copperburrs (*Sclerolaena* spp).

Site managed species

Greenhood orchid (*Pterostylis cobarensis*); striated grasswren (*Amytornis striatus*); red-lored whistler (*Pachycephala rufogularis*); regent parrot (eastern subspecies) (*Polytelis anthopeplus monarchoides*).

Threatened ecological communities

This community is the Porcupine Grass-Red Mallee- Gum Coolabah hummock grassland/low sparse woodland TEC.

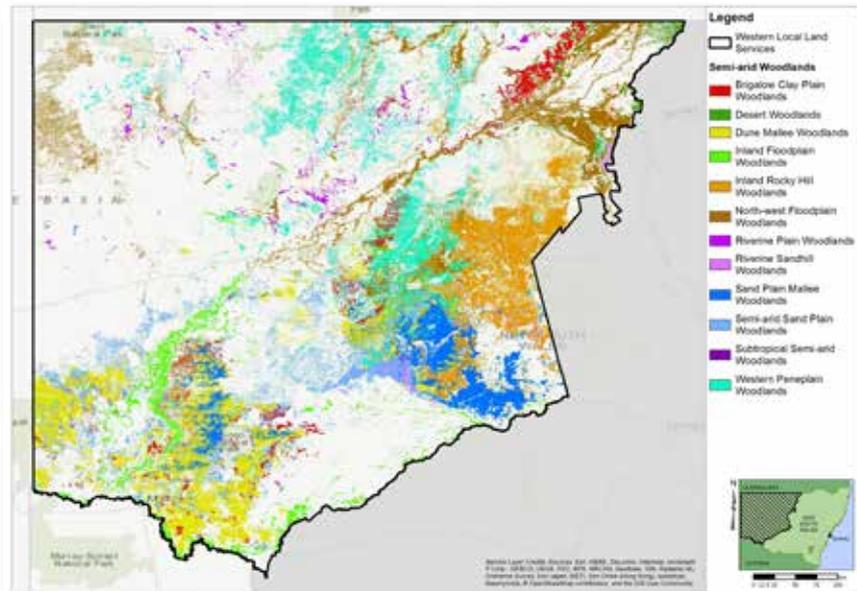


Figure 15: Dune Mallee Woodlands



Dune Mallee Woodlands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Dune+Mallee+Woodlands&habitat=C

Inland Floodplain Woodlands

Distribution

Extensively distributed on heavy alluvial clays on upper levels of active floodplains, intermittent creeklines and lake margins. Extending to the Macquarie River in the northeast and intermittent watercourses in the far north-west.

Vegetation structure

Woodland up to 25 m tall with a variable shrub stratum of saltbushes and semi-continuous groundcover of grasses and forbs.

Main species

Often occurs as pure stands of black box (*Eucalyptus largiflorens*) but may also co-occur with river red gum (*E. camaldulensis*), grey box (*E. microcarpa*), yellow box (*E. melliodora*) and/or coolibah (*E. coolabah*). Common shrubs present may include; nitre goosefoot (*Chenopodium nitrariaceum*), thorny saltbush (*Rhagodia spinescens*), ruby saltbush (*Enchylaena tomentosa*), saltbushes (*Atriplex* spp) lignum (*Duma florulenta*), with occasionally emergent cooba (*Acacia salicina*) and river cooba (*A. stenophylla*). Ground layer species include; knob sedge (*Carex inversa*), blown grass (*Lachnagrostis filiformis*), tarvine (*Boerhavia coccinea*), climbing saltbush (*Einadia nutans*) and/or less commonly windmill grass (*Chloris truncata*) and fairy grass (*Sporobolus caroli*).

Site managed species

Greenhood orchid (*Pterostylis cobarensis*); southern bell frog (*Litoria raniformis*); regent parrot (eastern subspecies) (*Polytelis anthopeplus monarchoides*).

Threatened ecological communities

Coolibah-Black Box Woodlands.

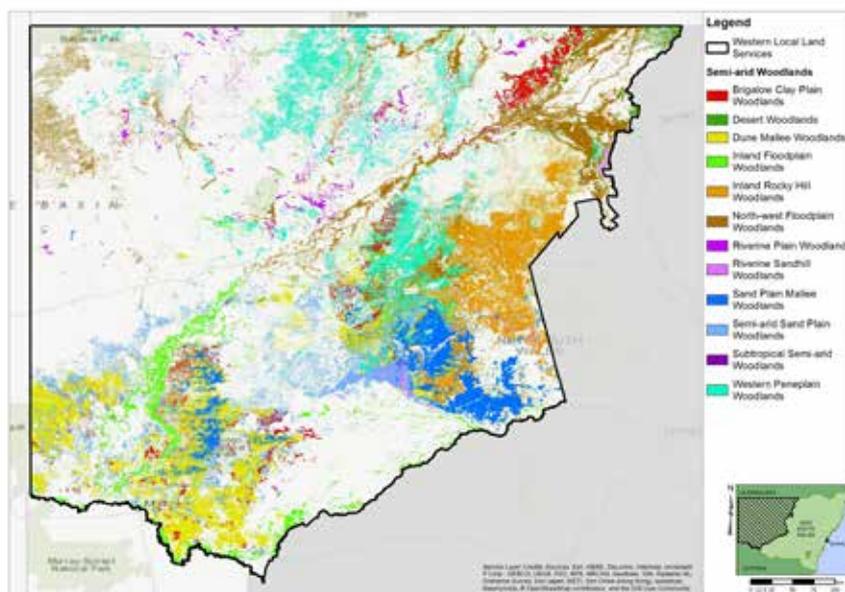


Figure 16: Inland Floodplain Woodlands



Inland Floodplain Woodlands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Inland+Floodplain+Woodlands&habitat=C

Inland Rocky Hill Woodlands

Distribution

Occurs on sandstone, conglomerate, granite and occasionally basalt soils on the rocky hills and ranges of the peneplains and floodplains, north from Griffith to Brewarrina and Bourke and extending east to Forbes.

Vegetation structure

Open eucalypt and pine woodland with scattered shrubs and a sparse ground layer.

Main species

White cypress pine (*Callitris glaucophylla*), Dwyer's red gum (*Eucalyptus dwyeri*), gum coolibah (*E. intertexta*), *E. vicina* and green mallee (*E. viridis*) with bimble box (*E. populnea*) on lower slopes in the west. Shrubs present include; wattles (*Acacia* spp), hopbushes (*Dodonaea* spp), sticky wallaby bush (*Beyeria viscosa*), fringe myrtle (*Calytrix tetragona*), cough bush (*Cassinia laevis*) and on basalt soils in the west; rosewood (*Alectryon oleifolius*), belah (*Casuarina pauper*) and budda (*Eremophila mitchellii*). Ground layer species include; Jericho wiregrass (*Aristida jerichoensis*), small wallaby grass (*Rytidosperma setaceum*) and curly windmill grass (*Enteropogon acicularis*).

Site managed species

Curly-bark wattle (*Acacia curranii*); greenhood orchid (*Pterostylis cobarensis*); striated grasswren (*Amytornis striatus*).

Threatened ecological communities

None applicable.

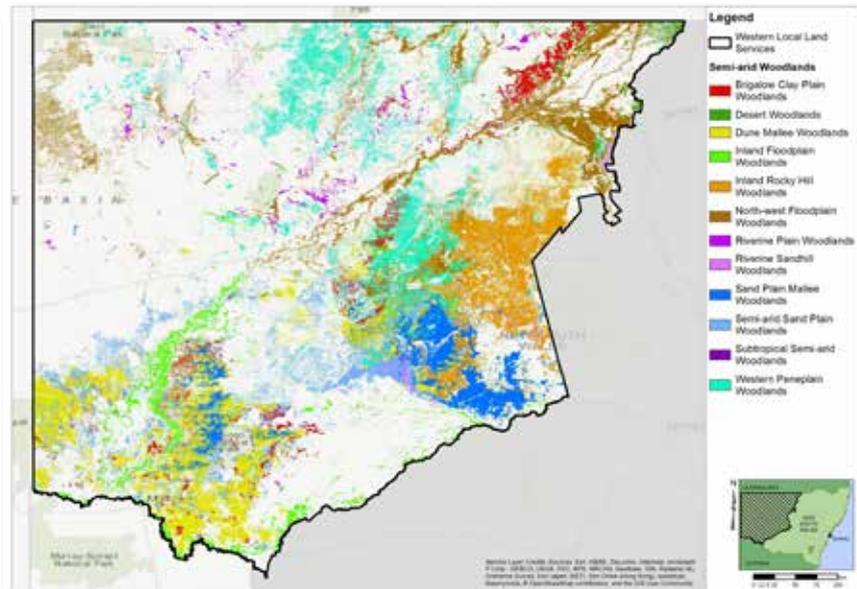


Figure 17: Inland Rocky Hill Woodlands



Inland Rocky Hill Woodlands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Inland+Rocky+Hill+Woodlands&habitat=C

North-west Alluvial Sands Woodlands

Distribution

Occur as small and/or narrow stands on sandy deposits of ancient stream channels and river bends known locally as 'sand monkeys', north of Walgett to Brewarrina.

Vegetation structure

Tall woodlands and open forests to 25 m, with a well-developed shrub layer and sparse ground layer.

Main species

Bullock (*Allocasuarina luehmannii*), white cypress pine (*Callitris glaucophylla*), long-fruited bloodwood (*Corymbia dolichocarpa*), carbeen (*C. tessellaris*) and/or bumble box (*Eucalyptus populnea*) with occasional dirty gum (*Eucalyptus chloroclada*) and/or river red gum (*E. camaldulensis*). Shrubs present include; quinine bush (*Alstonia constricta*), bitter bark (*Petalostigma pubescens*), wilga (*Geijera parviflora*), whitewood (*Atalaya hemiglauca*), cooba (*Acacia salicina*), budda (*Eremophila mitchellii*), thorny saltbush (*Rhagodia spinescens*). Ground layer species may include; dark wiregrass (*Aristida calycina*), rough speargrass (*Austrostipa scabra*), windmill grass (*Chloris truncata*), galvanised burr (*Sclerolaena birchii*) and climbing saltbush (*Einadia nutans*).

Site managed species

None applicable.

Threatened ecological communities

Carbeen Open Forest.

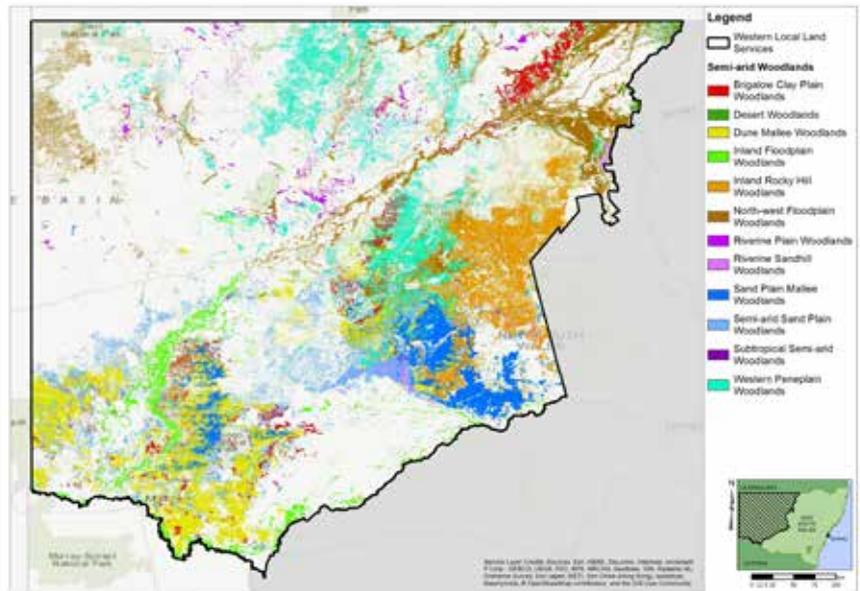


Figure 18: North-west Alluvial Sands Woodlands



North-west Alluvial Sands Woodlands (Source John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=North-west+Alluvial+Sand+Woodlands&habitat=C

North-west Floodplain Woodlands

Distribution

Occur on heavy clay soils on the floodplains of the upper Darling, Paroo, Warrego, Culgoa, Barwon, Macquarie and Namoi Rivers.

Vegetation structure

Woodland 10-20 m tall with a sparse to open shrub layer and semi-continuous ground layer of grasses and forbs.

Main species

Coolibah (*Eucalyptus coolabah*), with/without belah (*Casuarina* spp), black box (*E. largiflorens*), river red gum (*E. camaldulensis*), bimble box (*E. populnea*). Yapunyah (*E. ochrophloia*) dominates these woodlands on the Paroo floodplains. Shrubs present may include; wattles (*Acacia* spp) whitewood (*Atalaya hemiglauca*), eurah (*Eremophila bignoniiflora*), rosewood (*Alectryon oleifolius*), saltbushes (*Atriplex*, *Rhagodia* and *Enchylaena* spp), lignum (*Duma florulenta*) and hopbush (*Dodonaea viscosa*). Ground layer species may include; curly Mitchell grass (*Astrebula lappacea*), windmill grass (*Chloris truncata*), *Eragrostis* spp, fairy grass (*Sporobolus caroli*), blown grass (*Lachnagrostis filiformis*), Warrego grass (*Paspalidium jubiflorum*), curly windmill grass (*Enteropogon acicularis*), spike rushes (*Eleocharis* spp), tarvine (*Boerhavia diffusa*), black rolypoly (*Sclerolaena muricata*), galvanised burr (*S. birchii*) and/or climbing saltbush (*Einadia nutans*).

Site managed species

None applicable.

Threatened ecological communities

Coolibah-Black Box Woodlands and Carbeen Open Forest.

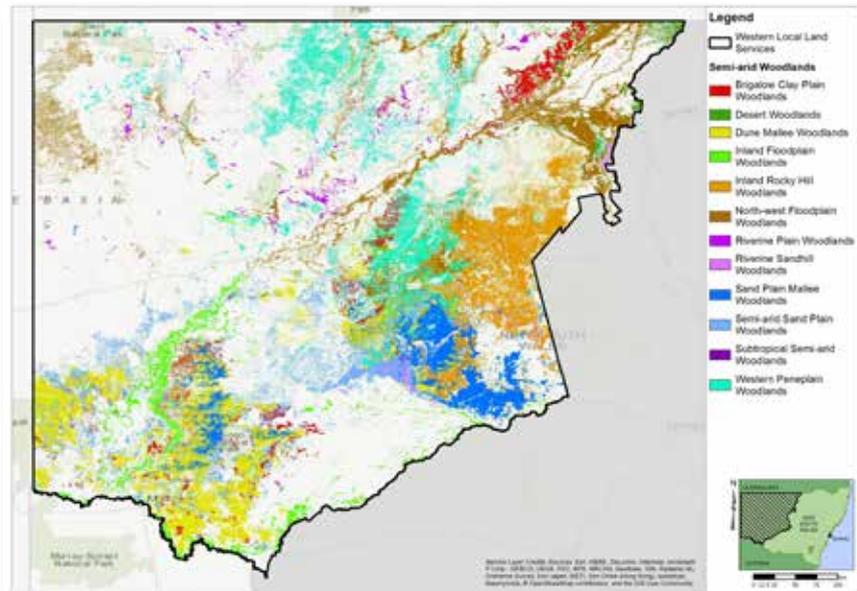


Figure 19: North-west Floodplain Woodlands



North-west Floodplain Woodlands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=North-west+Floodplain+Woodlands&habitat=C

Riverine Plains Woodland

Distribution

Occur on grey clay soils of upper floodplains remote from active drainage channels and flood areas along the eastern edge of the Western region.

Vegetation structure

Open *Acacia* woodland to 8 m tall, with sparse chenopod shrub layer and continuous grassy ground layer.

Main species

Dominated by myall or boree (*Acacia pendula*). Occasionally present; belah (*Casuarina pauper*), budda (*Eremophila mitchellii*), miljee (*A. oswaldii*), river cooba (*A. stenophylla*) and/or rosewood (*Alectryon oleifolius*). Shrubs present across the distribution include; black rolypoly (*Sclerolaena muricata*), lignum (*Duma florulenta*) and thorny saltbush (*Rhagodia spinescens*). In the south low densities of; saltbushes (*Atriplex* spp) cotton/bluebushes (*Maireana* spp) may be present. In the north scattered rosewood (*Alectryon oleifolius*) and/or yarran (*Acacia homalophylla*) may be present. The mistletoe, *Amyema quandang* occurs on myall throughout its range. Ground layer species found across the distribution may include; plain's grass (*Austrostipa aristiglumis*), speargrasses (*Austrostipa* spp), windmill grasses (*Chloris* and *Enteropogon* spp) and fairy grassy (*Sporobolus caroli*). In the south wallaby grasses (*Rytidosperma* spp) can be common, while common in the north is Mitchell grasses (*Astrebula* spp) and Queensland bluegrass (*Dichanthium sericeum*). A variety of native forbs may present including; climbing saltbush (*Einadia nutans*), daisies, bluebells and sidas.

Site managed species

None applicable.

Threatened ecological communities

This community is the Myall woodland TEC.

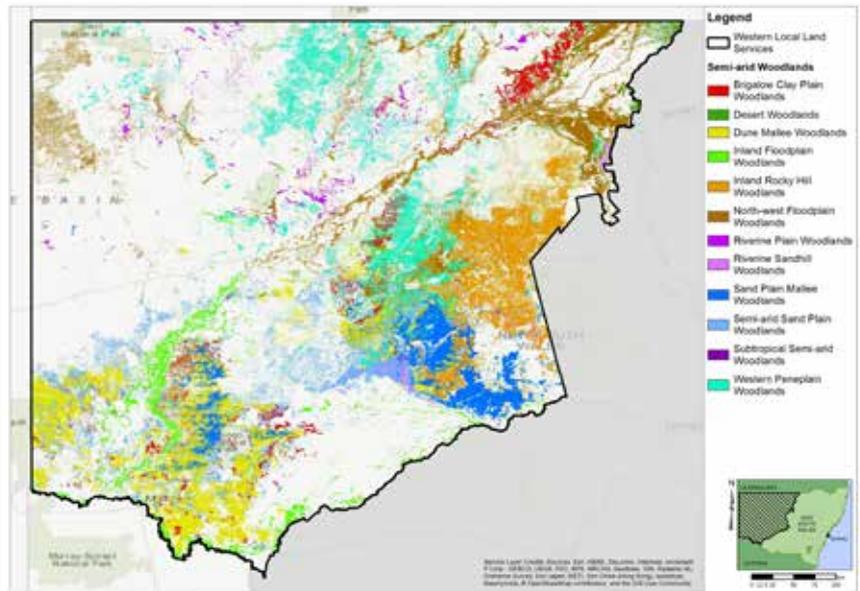


Figure 20: Riverine Plains Woodland



Riverine Plains Woodlands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Riverine+Plain+Woodlands&habitat=C

Riverine Sandhill Woodlands

Distribution

Occur on sandy areas raised above floodplains and peneplains, on sandy toeslopes of ranges, sandy beds and banks of prior streams and bordering dunes, in an area bordered by Griffith, Narrandera, Balranald and Pooncarie.

Vegetation structure

Open woodland with an open shrub layer and sparse ground layer.

Main species

White cypress pine (*Callitris glaucophylla*) and kurrajong (*Brachychiton populneus*) with southern cypress pine (*C. gracilis* ssp. *murrayensis*) near the Murray River, and occasionally with yellow box (*Eucalyptus melliodora*), gum coolibah (*E. intertexta*) and/or bimple box (*E. populnea*) in the north. Shrubs include wattles (*Acacia* spp), rosewood (*Alectryon oleifolius*), bulloak (*Allocasuarina luehmannii*), belah (*Casuarina pauper*), wilga (*Geijera parviflora*), needlewoods (*Hakea* spp), thorny saltbush (*Rhagodia spinescens*) and/or hopbush (*Dodonaea viscosa*). Ground layer species include; wiregrasses (*Aristida* spp), rough speargrass (*Austrostipa scabra*), cotton panic grass (*Digitaria brownii*), niggerheads (*Enneapogon nigricans*), curly windmill grass (*Enteropogon acicularis*), burr-daisies (*Calotis* spp), ridge sida (*Sida cunninghamii*) and bluebells (*Wahlenbergia* spp).

Site managed species

Regent parrot (eastern subspecies) (*Polytelis anthopeplus monarchoides*).

Threatened ecological communities

This community is the Sandhill Pine Woodland TEC and may also support *Acacia loderi* Shrublands, *Acacia melvilli* Shrubland and/or Buloke Woodland.

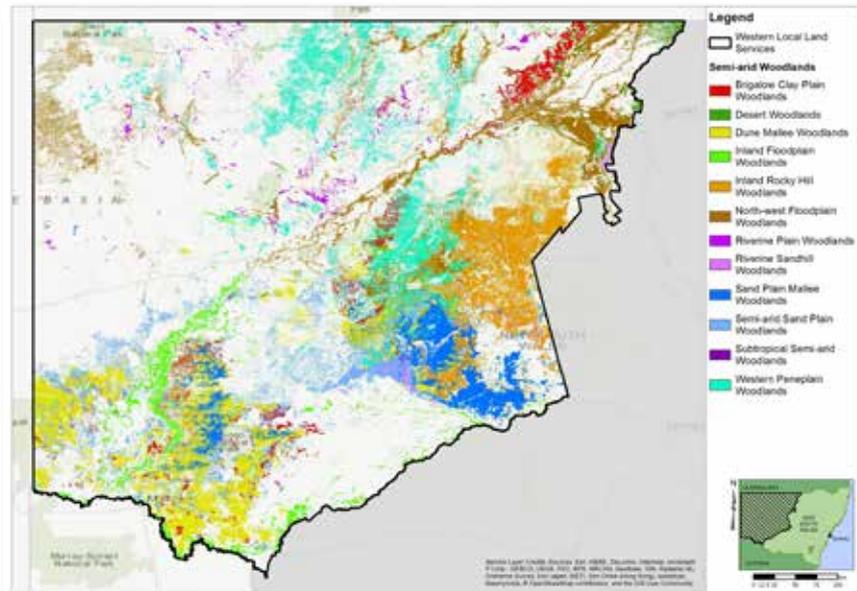


Figure 21: Riverine Sandhill Woodlands



Riverine Sandhill Woodlands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Riverine+Sandhill+Woodlands&habitat=C

Sand Plain Mallee Woodlands

Distribution

Occurs on the deep loamy red-brown sands on level to gently undulating sand plains and in dune swales of far western NSW. A distribution which overlaps with the Dune Mallee Woodlands.

Vegetation structure

Mallee eucalypt woodland up to 8m tall with a prominent mid-shrub layer and variable ground layer of chenopod shrubs.

Main species

Red mallee (*Eucalyptus socialis*), white mallee (*E. dumosa*), snap and rattle (*E. gracilis*) and/or glossy-leaved red mallee (*E. oleosa*). Shrubs present include; wait-a-while (*Acacia colletioides*), elegant wattle (*Acacia victoriae*), broombrush (*Melaleuca uncinata*), sugarwood (*Myoporum platycarpum*) and/or showy daisy bush (*Olearia pimelioides*). Ground layer species include; bluebushes (*Maireana* spp), thorny saltbush (*Rhagodia spinescens*), stiff westringia (*Westringia rigida*), *Austrostipa nitida*, copperburrs (*Sclerolaena* spp) and/or twinleaf (*Zygophyllum* spp).

Site managed species

Greenhood orchid (*Pterostylis cobarensis*); red-lored whistler (*Pachycephala rufogularis*); regent parrot (eastern subspecies) (*Polytelis anthopeplus monarchoides*).

Threatened ecological communities

Acacia loderi shrublands; *Acacia melvillei* shrubland; striated grasswren (*Amytornis striatus*).

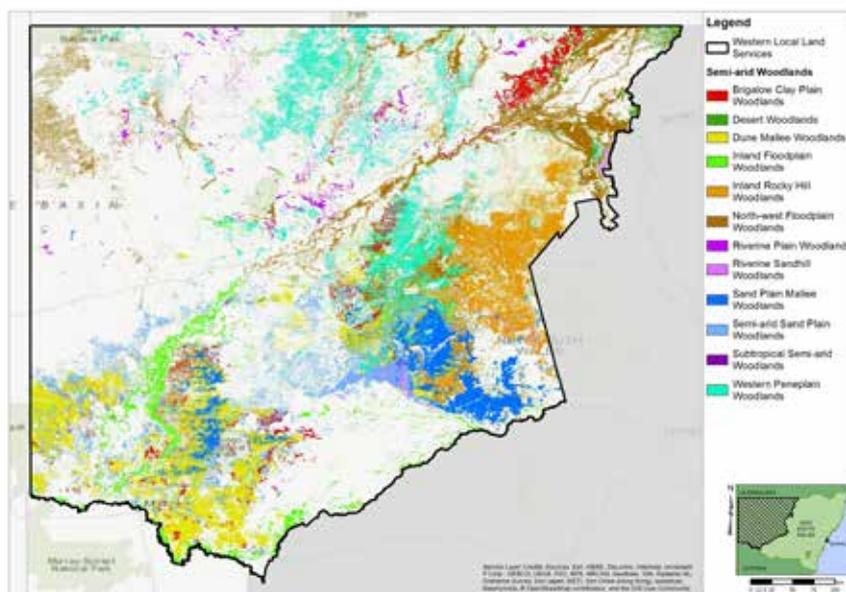


Figure 22: Sand Plain Mallee Woodlands



Sand Plain Mallee Woodlands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Sand+Plain+Mallee+Woodlands&habitat=C

Semi-arid Sand Plain Woodland

Distribution

Occur on alkaline red-brown loams of gently undulating wind-formed sandplains, widespread west and south of Bourke, with extensive areas west of Pooncarie.

Vegetation structure

Open *Casuarina* woodland with chenopod understorey.

Main species

Belah (*Casuarina pauper*), rosewood (*Alectryon oleifolius*). Tall shrubs present include; warrior bush (*Apophyllum anomalum*), wilga (*Geijera parviflora*), sugarwood (*Myoporum platycarpum*), budda (*Eremophila mitchellii*), turpentine bush (*E. sturtii*), leafless ballart (*Exocarpos aphyllus*). Low shrubs present; bluebushes (*Maireana* spp), ruby saltbush (*Enchylaena tomentosa*), thorny saltbush (*Rhagodia spinescens*) and/or mallee saltbush (*Atriplex stipitata*). Ground layer species include; cannonball burr (*Dissocarpus paradoxus*), copperburrs (*Sclerolaena* spp), sand twinleaf (*Zygophyllum ammophilum*), speargrass (*Austrostipa nitida*), windmill grass (*Chloris truncata*), bottle washers (*Enneapogon avenaceus*) fairy grass (*Sporobolus caroli*) and/or rock fern (*Cheilanthes sieberi*).

Site managed species

None applicable.

Threatened ecological communities

Acacia loderi shrublands; *Acacia melvillei* shrubland; regent parrot (eastern subspecies) (*Polytelis anthopeplus monarchoides*).

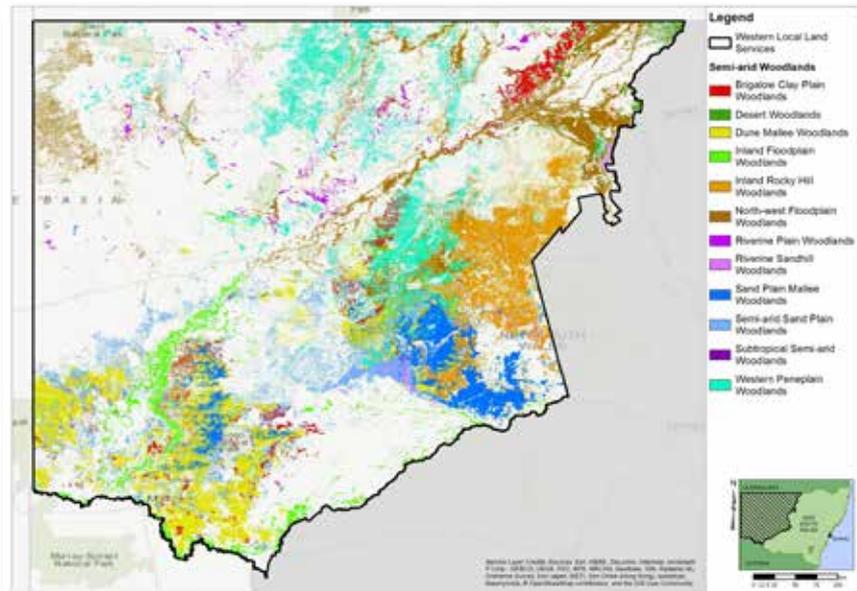


Figure 23: Semi-arid Sand Plain Woodland



Semi-arid Sand Plain Woodland (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Semi-arid+Sand+Plain+Woodlands&habitat=C

Sub-tropical Semi-arid Woodlands

Distribution

Occurs on patches of infertile coarse-textured soils on well-drained sandy rises, stony ridges and plateaux west of the Barwon River in the far north east of Western region.

Vegetation structure

Open woodland 10-15 m tall, with scattered tall shrubs and a continuous ground layer of perennial grasses.

Main species

Silver-leaved ironbark (*Eucalyptus melanophloia*), occasionally with bimble box (*Eucalyptus populnea*), white cypress pine (*Callitris glaucophylla*) and/or kurrajong (*Brachychiton populneus*). Shrubs present may include; wattles (*Acacia* spp), quinine bush (*Alstonia constricta*), whitewood (*Atalaya hemiglauca*), budda (*Eremophila mitchellii*), wilga (*Geijera parviflora*) and/or nepine (*Capparis lasiantha*). Ground layer species may include; wiregrasses (*Aristida* spp), red grass (*Bothriochloa decipiens*), curly windmill grass (*Enteropogon acicularis*), Eragrostis spp, kangaroo grass (*Themeda australis*), buck spinifex (*Triodia mitchellii*) and/or galvanised burr (*Sclerolaena birchii*).

Site managed species

None applicable.

Threatened ecological communities

None applicable.

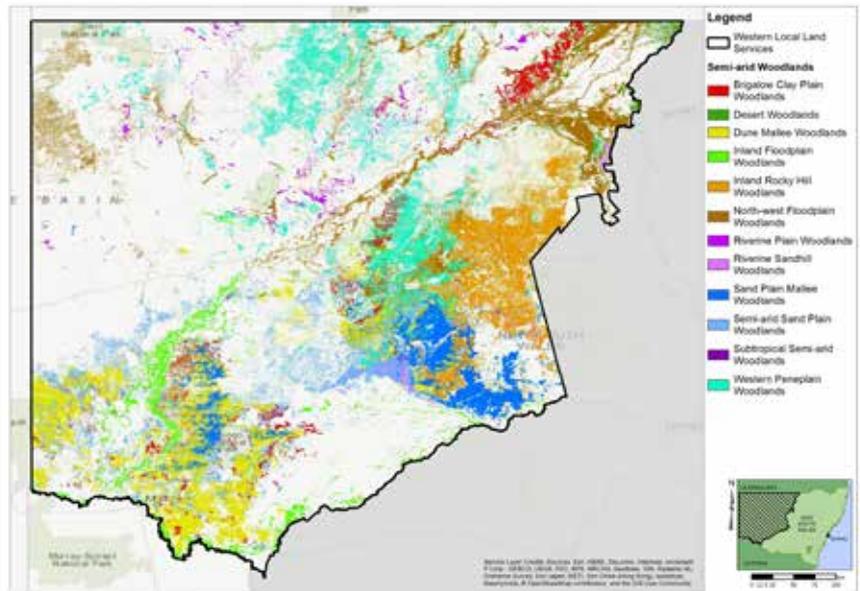


Figure 24: Sub-tropical Semi-arid Woodlands



Sub-tropical Semi-arid Woodlands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Subtropical+Semi-arid+Woodlands&habitat=C

Western Peneplain Woodlands

Distribution

Occurs on sandy and red-brown loams of the western peneplains and associated outwash zones north of Griffith to the Queensland border.

Vegetation structure

Open eucalypt woodland 10-15 m tall with sparse to patchy shrub layer and semi-continuous grassy ground layer.

Main species

Bimble box (*Eucalyptus populneus*), with or without gum coolibah (*E. intertexta*) and white cypress pine (*Callitris glaucophylla*). Occasionally with kurrajong (*Brachychiton populneus*), yellow box (*E. melliodora*) and fuzzy box (*E. conica*) in the east and (*E. microcarpa*) in the south. Shrubs present may include; wattles (*Acacia* spp), rosewood (*Alectryon oleifolius*), bulloak (*Allocasuarina luehmannii*), whitewood (*Atalaya hemiglauca*), belah (*Casuarina pauper*), wilga (*Geijera parviflora*), hopbush (*Dodonaea viscosa*), bluebushes (*Maireana* spp) and/ or budda (*Eremophila mitchellii*). Ground layer species present include; wiregrasses (*Aristida* spp), curly Mitchell grass (*Astrebla lappacea*), wallaby grasses (*Rytidosperma* spp), speargrasses (*Austrostipa* spp), windmill grasses (*Chloris* and *Enteropogon* spp), fairy grass (*Sporobolus caroli*), daisies, climbing saltbush (*Einadia nutans*), *Goodenia* spp and/or sidas.

Site managed species

Curly-bark wattle (*Acacia curranii*); greenhood orchid (*Pterostylis cobarensis*)

Threatened ecological communities

Acacia loderi shrublands; Myall Woodlands.

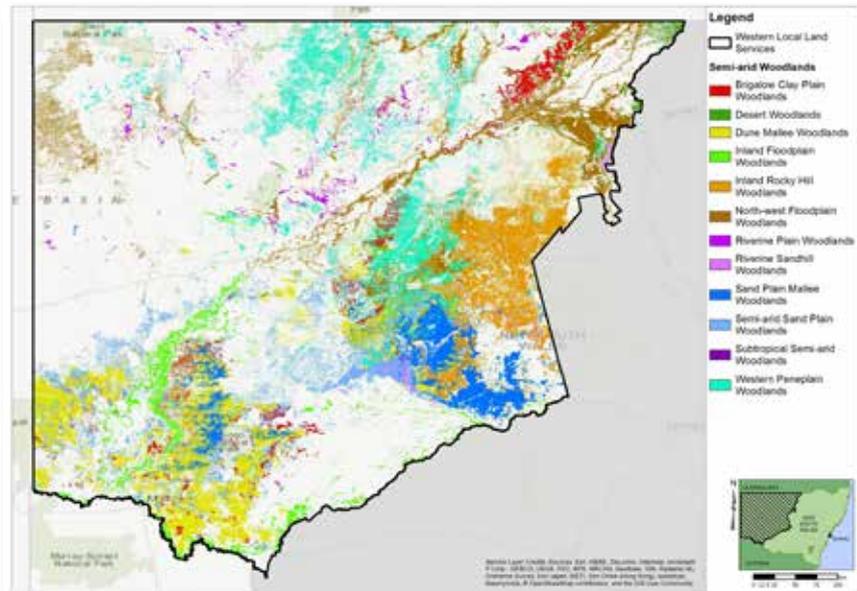


Figure 25: Western Peneplain Woodlands



Western Peneplain Woodlands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Western+Peneplain+Woodlands&habitat=C

Freshwater Wetlands

Inland Floodplain Shrublands

Distribution

Occasionally and sometimes prolonged inundated depressions near active watercourses, often in narrow strips below river levees and/or along intermittent drainage lines.

Vegetation structure

Closed to open shrubland up to 2 m tall with a ground layer of grasses, sedges and forbs.

Main species

Lignum (*Duma florulenta*), river cooba (*Acacia stenophylla*), golden goosefoot (*Chenopodium nitriaceum*), nitre goosefoot (*C. auricomum*). Ground layer species; blown grass (*Lachnagrostis filiformis*), trim sedge (*Cyperus concinnus*), rushes (*Juncus* spp), pale spike-rush (*Eleocharis pallens*), drooping lovegrass (*Eragrostis leptocarpa*), neverfail (*E. setifolia*), canegrass (*Eragrostis australasica*), warrego grass (*Paspalidium jubiflorum*), rat's-tail couch (*Sporobolus mitchellii*), plains grass (*Austrostipa aristiglumis*), curly windmill grass (*Enteropogon acicularis*), black rolypoly (*Sclerolaena muricata*), twin-leaved bedstraw (*Asperula geminifolia*), speedy weed (*Flaveria australasica*), ferny buttercup (*Ranunculus pumilio*), water pepper (*Persicaria hydropiper*), Cooper's clover (*Trigonella suavissima*), nardoo (*Marsilea drummondii*), shiny dock (*Rumex tenax*) and/or lagoon saltbush (*Atriplex suberecta*).

Site managed species

Grey grasswren (*Amytornis barbatus barbatus*); southern bell frog (*Litoria raniformis*)

Threatened ecological communities

None applicable.

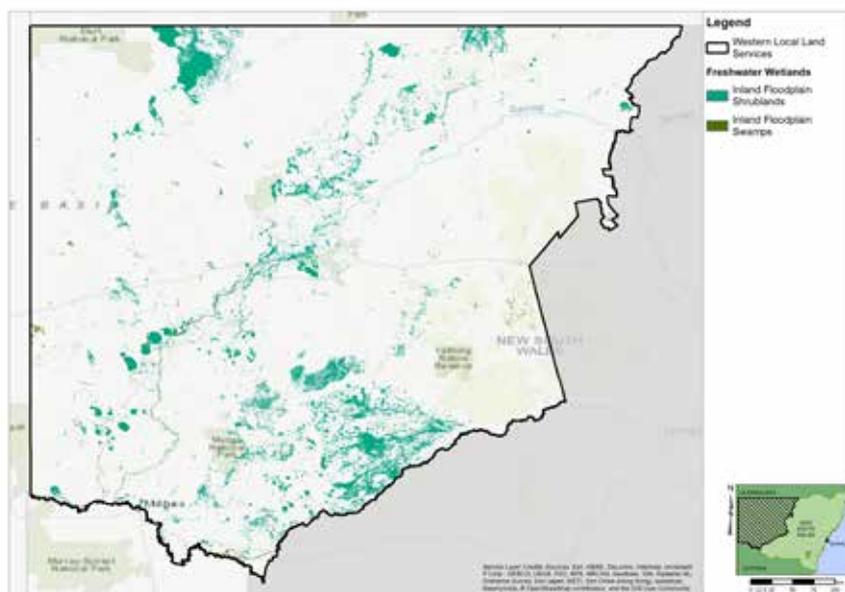


Figure 26: Inland Floodplain Shrublands



Inland Floodplain Shrublands (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Inland+Floodplain+Shrublands&habitat=C

Inland Floodplain Swamps

Distribution

Occur in permanently and semi-permanently inundated depressions and billabongs in low-lying sites on floodplains across the Western region.

Vegetation structure

Sedgeland or grassland with aquatic forbs in standing water.

Main species

Scattered individuals of nitre goosefoot (*Chenopodium nitrariaceum*) and/or lignum (*Duma florulenta*). Sedgeland and grassland species; spike-rushes (*Eleocharis* spp), rushes (*Juncus* spp), water couch (*Paspalum distichum*), Warrego grass (*Paspalidium jubiflorum*), canegrass (*Eragrostis australasica*), nardoo (*Marsilea drummondii*), cumbungi (*Typha* spp), common reed (*Phragmites australis*), club-rushes (*Bulboschoenus* spp), star fruit (*Damasonium minus*) swamp starwort (*Stellaria angustifolia*), sesbania pea (*Sesbania cannabina*), round-leaved pigface (*Disphyma crassifolium*). Floating plants; red azolla (*Azolla filiculoides*), water primrose (*Ludwigia peploides*), red water-milfoil (*Myriophyllum verrucosum*) and wavy marshwort (*Nymphoides crenata*).

Site managed species

Grey grasswren (*Amytornis barbatus barbatus*); southern bell frog (*Litoria raniformis*).

Threatened ecological communities

Marsh club-rush sedgelands.

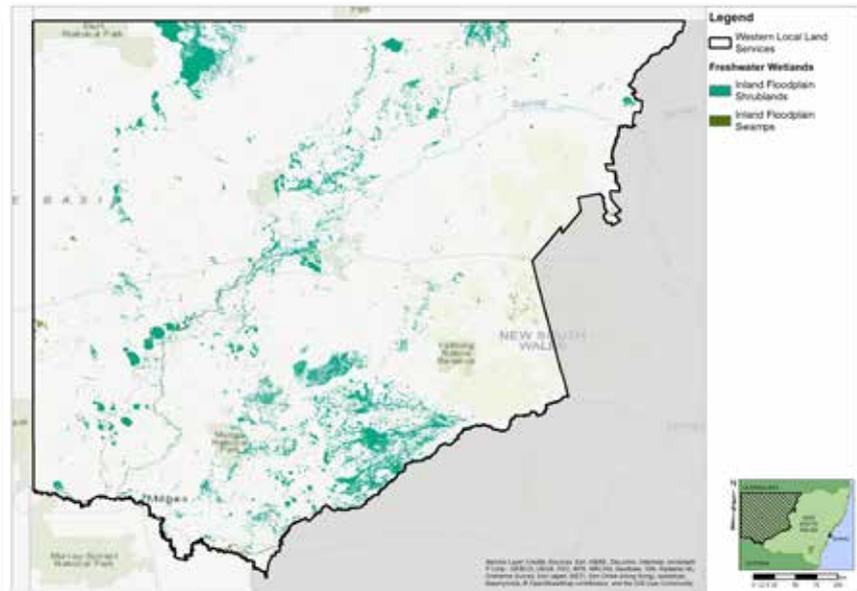


Figure 27: Inland Floodplain Swamps



Inland Floodplain Swamps (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Inland+Floodplain+Swamps&habitat=C

Forested Wetlands

Inland Riverine Forests

Distribution

Occurs on the banks of major inland rivers and the beds of intermittent streams, billabongs and channelled floodplains subject to frequent flooding.

Vegetation structure

Open forest up to 40 m tall with a dense to patchy, species-rich, herbaceous groundcover interspersed with bare ground and scattered shrubs.

Main species

River red gum (*Eucalyptus camaldulensis*) occasionally with black box (*E. largiflorens*), yellow box (*E. melliodora*) or grey box (*E. microcarpa*). Shrubs may include; cooba (*Acacia salicina*), river cooba (*A. stenophylla*), nitre goosefoot (*Chenopodium nitrariaceum*) and lignum (*Duma florulenta*). Ground layer species may include; blown grass (*Lachnagrostis filiformis*), Warrego grass (*Paspalidium jubiflorum*), box grass (*P. constrictum*), common nardoo (*Marsilea drummondii*), rushes (*Juncus* spp), common buttercup (*Ranunculus lappaceus*) and/or common reed (*Phragmites australis*).

Site managed species

Greenhood orchid (*Pterostylis cobarensis*); southern bell frog (*Litoria raniformis*); regent parrot (eastern subspecies) (*Polytelis anthopeplus monarchoides*).

Threatened ecological communities

None applicable.

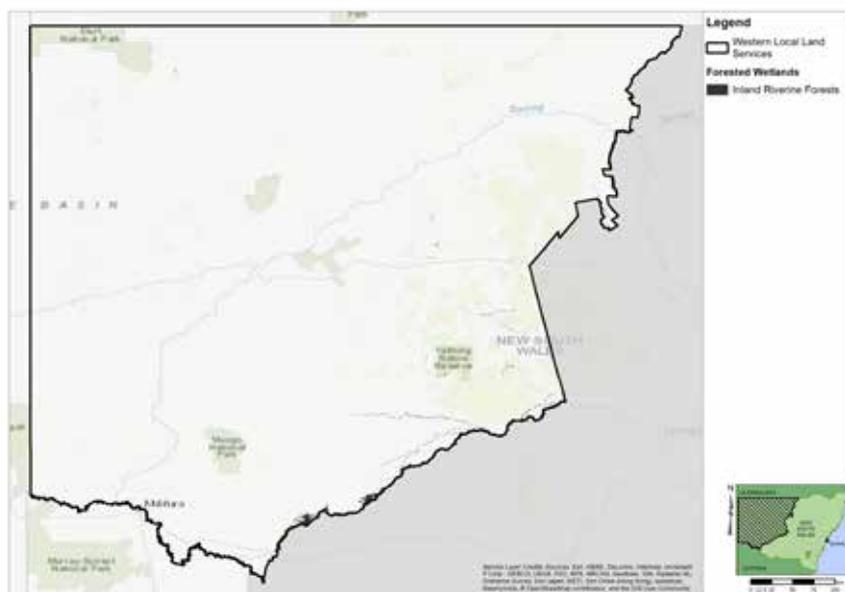


Figure 28: Inland Riverine Forests



Inland Riverine Forests (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Inland+Riverine+Forests&habitat=C

Saline Wetlands

Inland Saline Lakes

Distribution

Occur on or surrounding saline lakes and salt pans from north and west of Cobar to the Paroo and Warrego districts.

Vegetation structure

Includes aquatic vegetation present when lakes are filled and the open succulent herbfield (less than 0.3 m tall) with scattered emergent shrubs that surround the lake margins.

Main species

Bristly sea-heath (*Frankenia serpyllifolia*), Sturt's pigface (*Gunniopsis quadrifida*), slender glasswort (*Sclerostegia tenuis*), samphires (*Tecticornia* spp), water weed (*Osteocarpum acropterum*), round-leaved pigface (*Disphyma crassifolium*), pop saltbush (*Atriplex spongiosa*), fleshy groundsel (*Senecio gregorii*), silky glycine (*Glycine canescens*), creeping monkey flower (*Mimulus repens*), blue rod (*Stemodia florulenta*), jerry water-fire (*Bergia ammannioides*) and/or *Glinus* spp.

Site managed species

A spear-grass (*Austrostipa nullanulla*).

Threatened ecological communities

Halosarcia lylei low open-shrubland.

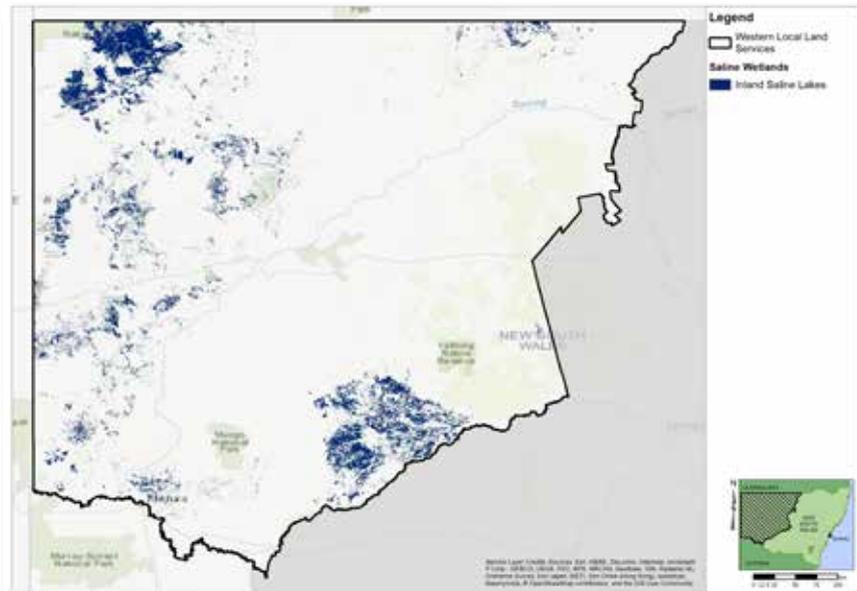


Figure 29: Inland Saline Lakes



Inland Saline Lakes (Source: John Hunter)

Detailed description available from: www.environment.nsw.gov.au/threatenedSpeciesApp/VegClass.aspx?vegclassname=Inland+Saline+lakes&habitat=C



Threatened Ecological Communities

NSW *Biodiversity Conservation Act 2016* (BC Act) and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* list 17 threatened ecological communities that are known to occur in the Western Local Land Services Region. As shown in Table 1, 15 of these communities are listed under the *NSW BC Act* and nine are listed under the *Commonwealth EPBC Act*.

Detailed information and distribution maps for the *NSW BC Act* threatened ecological communities listed in Table 2 is available from the OEH website threatened biodiversity profile search available at: www.environment.nsw.gov.au/threatenedSpeciesApp/.

This site allows a user to search for both threatened species and threatened ecological communities by species/ecological community, region and/or habitat type (ie the vegetation classes outlined above).

For specific information regarding the threatened ecological communities in Table 1 enter the name of the community into the search box, click [Search](#) button and then click on the scientific name of the community that will appear in the [Matched Records](#) table below the [Keywords](#) information box.

More information for Commonwealth *EPBC Act* only listed threatened ecological communities is available from the Commonwealth DoEE SPRAT (Species Profiles and Threats) database at: www.environment.gov.au/cgi-bin/sprat/public/sprat.pl. Click on [Ecological Communities](#) under the [Other EPBC Act lists](#) on the right hand side of the screen, find the community of interest in the list that appears and click on the [Details](#) tab.

Table 2: Threatened Ecological Communities known to occur in the Western Local Land Services region.

Ecological community name	Relevant bioregions ¹	Status ²	
		BC Act	EPBC Act
Acacia loderi Shrublands	BHC, CP, DRP, MDD, ML, R	EEC	-
Acacia melvillei Shrubland	MDD, R	EEC	-
Brigalow	CP, DRP, ML	EEC	EEC
Brigalow-Gidgee woodland/shrubland	DRP, ML	EEC	EEC
Buloke (Allocasuarina luehmannii) Woodland	MDD, R	EEC	EEC
Carbeen Open Forest	DRP	EEC	-
Coolibah – Black Box woodlands	DRP, ML	EEC	EEC
Fuzzy Box Woodland	DRP	EEC	-
Halosarcia lylie low open shrubland	MDD	EEC	-
Inland Grey Box Woodland	CP,R	EEC	EEC
Marsh Club-rush sedgeland	DRP	CEEC	-
Myall Woodland	DRP, CP, MDD, R	EEC	EEC
Natural Grasslands of the Murray Valley Plains	MDD, R	-	CEEC
Porcupine Grass-Red Mallee-Gum Coolabah hummock grassland/low sparse woodland	BHC,	CEEC	-
Sandhill Pine Woodland	MDD, R	EEC	-
Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains	R	-	CEEC
The community of native species dependent on natural discharge of groundwater from the Great Artesian Basin	CP, DRP, ML	CEEC	EEC

¹ BHC = Broken Hill Complex

CP = Cobar Peneplain, DRP = Darling Riverine Plains, MDD = Murray Darling Depression, ML = Mulga Lands, R = Riverina

² CEEC = Critically Endangered Ecological Community, EEC = Endangered Ecological Community



Brigalow (Source: John Hunter)



Marsh Club-rush Sedgeland (Source: Doug Beckers)



Carbeen Open Forest (Source: John Hunter)



Myall Woodland (Source: Wendy Hawes)



Coolibah / Blackbox Woodland (Source: John Hunter)



Porcupine Grass-Red Mallee Gum Coolabah hummock grassland/low sparse woodland (Source: John Hunter)



Inland Grey Box Woodland (Source: Wendy Hawes)



Sandhill Pine Woodland (Source: Wendy Hawes)



Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains (Source: John Hunter)





Site Managed Species

Site-managed species are threatened plants and animals that NSW OEH believe can be secured by conservation projects at specific sites. Managing species at specific sites allows critical threats such as predators to be managed and species to be protected in the long term. Actions to manage threats may include weeding, controlling erosion or revegetation. Monitoring of the results of these actions is undertaken to assess their success or otherwise.

Currently site managed species are only available for species and ecological communities for which a conservation project has been developed.

To find out more about these species in the Western region go to the OEH site managed species page available at: www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/saving-our-species-program/threatened-species-conservation/site-managed-species.

Click on [See a list of all site-managed species in NSW](#). A map of showing the location of conservation projects will appear by ticking the IBRA region box at the bottom of the map the boundaries of the IBRA regions will appear to assist in identifying those sites relevant to a given bioregion.

Site managed species for Western region are described below collating information from OEH threatened species website.

Plants

Harrow Wattle (*Acacia acanthoclada*)

A low rigid shrub 0.3-1.5m high with downy whitish branches and hard spiny branchlets. Bark smooth, grey or occasionally slightly greenish; branchlets. Flowers golden yellow. Phyllodes (wattle leaves) are narrow wedge-shaped like an inverted triangle. Pod twisted or coiled, \pm flat, 3-6 cm long, 3-6 mm wide, brown, glaucous. Most records in either the Scotia Mallee (Scotia Sanctuary and adjoining properties) or from an area to the north east of Buronga (the area between Mallee Cliffs and Mungo National Parks but not within either of these reserves). Grows in mallee communities on ridges and dunes and very occasionally on rocky outcrops; generally grows in deep, loose, sandy soil.

Further information: <http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10001>

Purple-wood Wattle (*Acacia carneorum*)

A dark green and prickly shrub to small tree, 2 - 4 m tall. Plants have a striking, deep-purple heartwood. The phyllodes (wattle leaf) are rigid and needle-like, sharply pointed, four-angled 2-6.5 cm long and 1-3 mm wide. Flower-heads are spherical, golden-yellow in colour and are on hairy stalks 12-25 mm long. The pods are hard and woody 3-5 cm long and 10 mm wide with a short white downiness, straight to strongly curved and slightly constricted between seeds. Occurs from west of Tibooburra south to the Menindee. Grows in grassland and woodland on red, sandy soil.



Purple-wood Wattle (Acacia carneorum) (Source: Melburnian)

Further information: <http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10007>

Curly-bark Wattle (*Acacia curranii*)

A broombush-like shrub to 4 m tall, with long, wispy branchlets and a very characteristic, reddish-brown, curling fibrous bark. Plants are silky-downy all over, except for the old wood. The phyllodes (wattle leaves) are cylindrical and linear, 13-18 cm long and 1-1.5 mm wide, with a silvery covering of silky hairs. The flower-heads are spherical to slightly cylindrical, golden-yellow in colour, on stalks 1-2 mm long. The pods are straight and flat, except slightly raised over seeds, 4-6 cm long, 3-4 mm wide, and covered with a mat of short, white hairs. Known from near Cobar south to Hillston area, also in Gundabooka National Park near Bourke and Nombinnie Nature Reserve. Grows in Acacia shrubland and mallee. Prefers acidic, skeletal soils in rocky habitats and occupies specialised habitats comprising rocky ridges and deeply weathered sandstone.

Further information: <http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10012>

A spear-grass (*Austrostipa nullanulla*)

A small, perennial speargrass to 0.5 m tall. A tussock grass with slender stems that bear the flower-heads. Leaves usually rolled, and rigid, 2-3 mm wide, and with the upper surface strongly ribbed. Leaf-margins are rough. The flower-heads are delicate and spreading, 13-19 cm long, and comprise spikelets that are 9-11 mm long (excluding the awns). The awns (bristles) are gently twice-bent and 5-7 cm long. In NSW known only from Nulla Station to the north of Lake Victoria in the far southwest. Grows on the margins of relict lakes, on the crests and sides of lunettes above old lake floors.

Further information: <http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10081>

Greenhood orchid (*Pterostylis cobarensis*)

Terrestrial orchid with 7-11, narrow-elliptic leaves forming a basal rosette, each 1.5-2.5 cm long and 5-8 mm wide. Flowers 3-8 on stems to 40cm high, with 3-5 closely sheathing stem leaves. The flowers are transparent with brown and green markings, each flower about 1.2 cm long. Recorded from Bourke, Nyngan, Cobar, Nymagee, and Warren districts, and a number of reserves and state forests including Mutawintji, Gundabooka and Culgoa National Parks, Quanda and Yathong Nature Reserves and Mt Grenfell Historic Site. Occurs in eucalypt woodlands, open mallee or Callitris shrublands on low stony ridges and slopes in skeletal sandy-loam soils.

Further information: <http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10698>

Fauna

Grey grasswren (*Amytornis barbatus barbatus*)

A very distinctive, pale grasswren with a striking black and white pattern on the head.

Confined to areas dominated by lignum (*Duma florulenta*) in NSW recorded from Caryapundy Swamp above the Bulloo Overflow (*Bulloorine*). Shelters, roosts, nests and feeds almost entirely within dense, tall lignum, with associated sandhill canegrass (*Zygochloa paradoxa*) and sedges in swamps, overflow channels and flood pans.

May be forced into stands of canegrass or oldman saltbush growing on surrounding sand dunes when the areas of lignum become flooded.



Grey Grasswren (*Amytornis barbatus barbatus*) (Source: R Knight)

Further information: www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10047

Striated grasswren (*Amytornis striatus*)

Similar in appearance to the related fairy-wrens (*Malurus spp.*), though significantly larger in size (14.5-18.5cm).

Currently only known from two populations one in Yathong Nature Reserve and surrounding areas of leasehold land and a second population in south-western NSW in the Scotia Mallee west of the Darling River, including Tarawi NR, Scotia Sanctuary and adjoining properties. Confined to areas with mature spinifex (*Triodia irritans*), usually in association with mallee eucalypts and sandy soils. Is known to re-occupy burnt vegetation six to eight years following fire and prefers areas with large hummocks of spinifex which is greatest 25 to 40 years post-fire.



Striated Grasswren (*Amytornis striatus*) (Source: T Morris)

Further information: www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10048

Barrier Range Dragon (*Ctenophorus mirrityana*)

Males are grey or grey-brown with cream to orange spots on the sides of the neck. Females are less colourful. Up to 220 mm in total length. Currently known from three highly restricted and fragmented sites near Mutawintji National Park and Broken Hill. Restricted to rock outcrops in ranges and gorges.

Further information: www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10188

Southern bell frog (*Litoria raniformis*)

One of the largest frog species in Australia, these animals may reach up to 104 mm in length, with females usually larger than males. Currently, known to exist only in isolated populations in the Coleambally Irrigation Area, the Lowbidgee floodplain and around Lake Victoria. A few as yet unconfirmed records have also been made in the Murray Irrigation Area in recent years. Usually found in or around permanent/ephemeral black box/lignum/nitre goosefoot swamps, lignum/typha swamps and river red gum swamps or billabongs along floodplains and river valleys.



Southern Bell Frog (*Litoria raniformis*)

Further information: www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10491

Red-lored whistler (*Pachycephala rufogularis*)

Occurs in and around Round Hill and Nombinnie Nature Reserves in central NSW. There are a small number of relatively old records from the Scotia Mallee and Tarawi Nature Reserve in the far southwest. Found in mallee woodland with a shrub layer, usually of broombush and native pine (such as mallee pine), with occasional patches of spinifex and emergent mallee, forming a relatively dispersed canopy. Occupies vegetation with a post fire age of 4-40 years, but is most abundant in areas with a post fire age of 21-40 years.

Further information: <http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10584>

Regent Parrot (eastern subspecies) (*Polytelis anthopeplus monarchoides*)

A slim medium-sized parrot (37 to 42 cm). It is often first detected in flight by its distinctive call, described as a harsh rolling 'carrack-carrack'. In NSW it occurs along the Murray River downstream of Tooleybuc (though there are few records between Mildura and the South Australian border), the Wakool River downstream of Kyalite, and Murrumbidgee River immediately upstream from the junction with the Murray River and adjoining areas of mallee. There are scattered records along the Darling River as far north as Menindee, but at this stage the species has not been confirmed to breed along this river. The species nests in hollows in river red gum forests along the Murray, Wakool and lower Murrumbidgee Rivers, and possibly the Darling River downstream of Pooncarie. Typical nest trees are large, mature healthy trees with many spouts (though dead trees are used) and are usually located close to a watercourse. Principal foraging habitat is mallee woodlands, though foraging also occurs in riverine forests and woodlands. Mallee woodland within 20 kilometres of nesting sites is critical foraging habitat for breeding birds.



*Regent Parrot (eastern subspecies) (*Polytelis anthopeplus monarchoides*) (Source: Craig Tamworth)*

Further information: <http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10644>

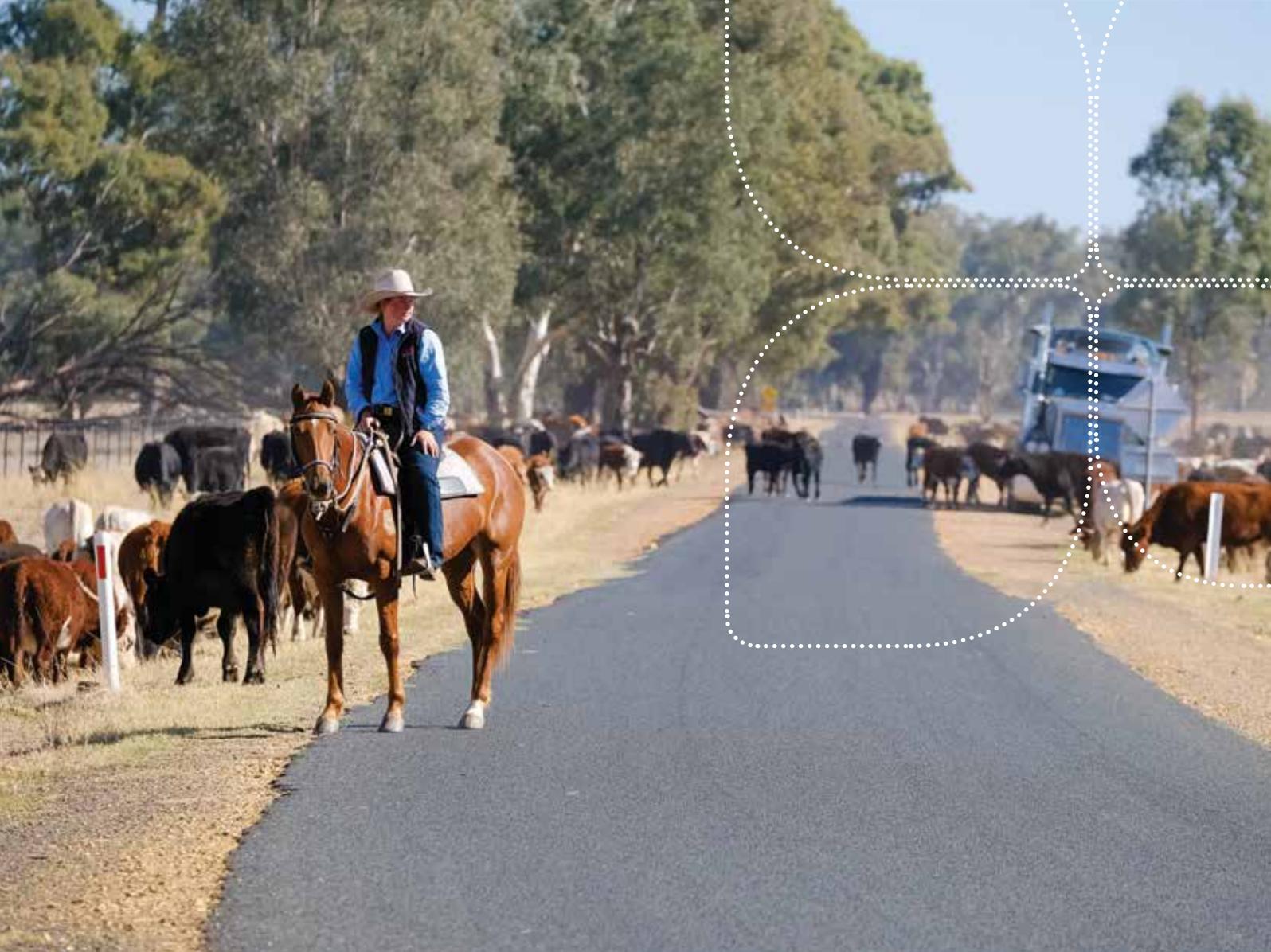
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