

NATURAL GRASSLANDS ON BASALT & FINE TEXTURED ALLUVIAL PLAINS

Conservation Status

Critically Endangered
(Environment Protection and Biodiversity Conservation Act 1999)

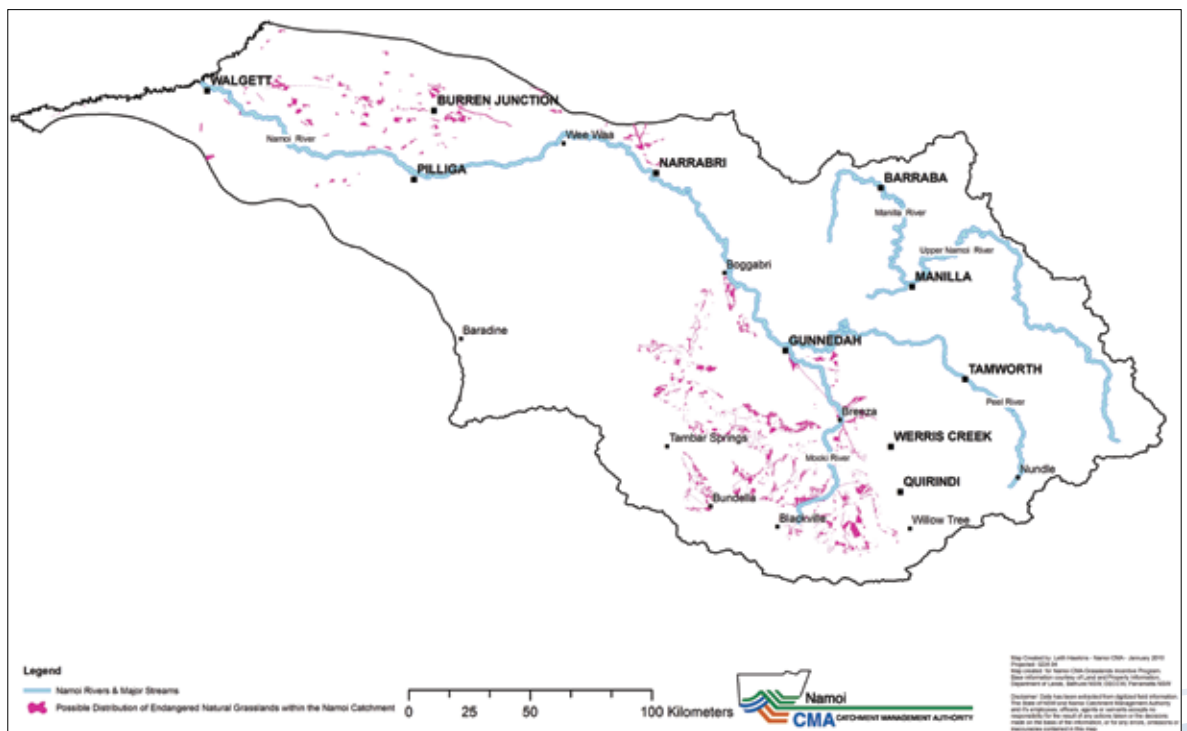
Natural grasslands on basalt and fine textured alluvial plains are a critically endangered ecological community. These Grasslands consist of a range of native grasses, and the flora and fauna with which they co-exist.

This community has been listed as critically endangered under the Environment Protection and Biodiversity Conservation Act 1999 (Cwlth) (EPBC Act) because its geographic distribution has undergone a severe decline and the community is currently restricted to small remnants which face continuing threats.

Distribution

Natural grasslands on basalt and fine textured alluvial plains occur from the Darling Downs in Queensland to Dubbo in NSW. This ecological community occurs within the Brigalow Belt South Bioregion and Border Rivers-Gwydir, Central West, Namoi, Condamine, Burnett Mary and Fitzroy Basin Natural Resource Management Regions.

Within the Namoi Catchment, the area where this community occurs includes the Liverpool and Moree Plains.



Possible distribution of Endangered Natural Grasslands within the Namoi Catchment

In the Namoi Catchment, the listed grasslands are aligned to the following Regional Vegetation Communities (RVC);



RVC 24 Grasslands on Riverbanks and floodplains of inland river systems, mainly Darling Riverine Plains – This Grassland is dominated by either Couch Grass or Rat's Tail Couch and is associated with the River Channels and lower floodplains of the western parts of the Namoi Catchment.



RVC 25 Mitchell Grass of alluvial floodplains, mainly Darling Riverine Plains. This grassland is usually dominated by Mitchell grasses although the density varies with seasonal conditions. Within the grassland there may be scattered Coolibah trees, lignum patches and shrubs such as copperbur, saltbushes and blue bushes. The density of the grass layer is driven by flood and rain events. Summer rainfall favours a dominance of grass cover whilst early rains in winter and spring favour forbs.



RVC 26 Dry grasslands of alluvial plains, Darling Riverine Plains and Brigalow Belt South - This grassland is dominated by either native millet, Cup grass or Windmill grass and occurs on drier parts of the floodplain or on stagnant alluvial plains. There may be scattered Coolibah, Black box, River Cooba and Wilga present with Plains grass, Box grass, saltbushes, copperburs and button grass often present. This Regional vegetation Class mainly occurs west of Narrabri on alluvial clay soils and brown or black earth soils on the Namoi and Barwon River Floodplains.



RVC 29 Plains Grass – Bluegrass grasslands, Brigalow Belt South and Nandewar – This grassland is either dominated by either Plains Grass or Bluegrass and is found on flat black clay soils on the Liverpool Plains. It is described as tall tussocky grassland which also contains Queensland Bluegrass, Wallaby grass and Yadbila grass. Scattered tall shrubs and trees such as Yellow Box, Poplar Box, Myall, Western Rosewood and Wild Orange may be present.

THREATENED SPECIES

In addition to being an endangered ecological community, Natural Grasslands on basalt and fine textured alluvial plains provide habitat for a number of individual threatened species.

Threats

The main identified threats to Natural grasslands on basalt and fine-textured alluvial plains of northern NSW and southern Queensland include heavy grazing, cropping, mining, weeds and dryland salinity. Grazing has been prevalent in these grasslands since the 1800s. Overgrazing and use of pasture improvement techniques that replace native grasses with exotic pastures threaten the

Flora	Birds
Bluegrass <i>Dichanthium setosum</i> (V)*	Australian Bustard (E)
Slender Darling Pea <i>Swainsona murrayana</i> (V)	Black-breasted Buzzard (V)
Austral Toadflax <i>Thesium australe</i> (V)	Black-necked Stork (E)
Lobed Blue Grass <i>Bothriochloa biloba</i> (V)	Brolga (V)
Finger Panic Grass <i>Digitaria porrecta</i> (E)	Bush Stone Curlew (E)
	Grey Falcon (V)
Reptiles	Magpie Goose (V)
Five-Clawed Worm-Skink (V)	Painted Snipe (V)
	Pink Cockatoo (V)
Mammals	Freckled Duck (V)
Stripe-faced Dunnart (V)	Red-tailed Black Cockatoo (V)
	Superb Parrot (V)
	Square-tailed Kite (V)
	Diamond Firetail (V)
*Conservation Status (V) = Vulnerable, (E) = Endangered	

condition and long-term survival of these grasslands. The occurrence of these grasslands on fertile soils has resulted in large tracts of the community being converted to cropping. The replacement of native species with shallow rooted agricultural species has been identified as contributing to the threat of dryland salinity in the Liverpool Plains.

In the Namoi Catchment the grasslands on river banks and Floodplains and the Mitchell grasslands were found to be, on many sites, very weedy with African boxthorn and some of the areas at its eastern extent extensively cleared for cropping. Stock pressure has also degraded the number of species in these vegetation communities as uncontrolled grazing during seed production has made the more palatable species decline.

The Dry Grasslands and Plains Grass Grasslands have been mainly cleared for cropping and grazing with a few remnants on roadsides or TSRs. Remaining remnants continue to be threatened by cropping, degradation from weeds and grazing, salinity, open cut mining and road widening.

Actions – What can you do?

General Habitat Loss, Disturbance and Modification

- Avoid slashing during peak flowering season from spring to summer.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on the ecological community.
- Ensure road widening and maintenance activities in areas where the ecological community occurs do not adversely impact on known sites.
- Manage disruptions to water flows and any changes to hydrology which may result in changes to the water table levels, increased salinity and increased run off or sediment.
- Investigate formal conservation arrangements such as the use of covenants, conservation agreements or inclusion in reserve tenure.

Invasive Weeds

- Identify and remove weeds in the local area, which could become a threat to the ecological community, using appropriate methods.
- Develop and implement a management plan for the control of weeds such as Lippia (*Phyla canescens*), Coolatai Grass (*Hyparrhenia hirta*), African Love Grass (*Eragrostis curvula*) and Buffel Grass (*Cenchrus ciliaris*) in the region.
- Manage sites to prevent introduction of invasive weeds, which could become a threat to the ecological community, using appropriate methods.
- Implement good hygiene measures for mowing and grading equipment and observe appropriate state protocols for moving stock.



Slender Darling Pea – a threatened species occurring in natural grasslands.



Clearing for cropping activity has reduced the extent of natural grasslands in the Namoi.



Grazing management is an important part of Grassland conservation.



Lippia is a weed which invades natural grasslands



Foraging by mice depletes natural grassland seedbanks



Fire plays a complex role in natural grasslands, high frequency fires reduce species diversity in grasslands.

Trampling, Browsing or Grazing

- Develop and implement a stock management plan for known sites on leased crown land.
- Manage known sites on private property to ensure appropriate cattle and sheep grazing regimes are conducted outside the growing season, i.e. when plants are not fertile.
- Manage total grazing pressure.
- Provide and/or promote incentives for good management.

Animal Predation or Competition

- Develop a management plan to be implemented for the control of the house mouse (*Mus domesticus*) in the local region.

Fire

- Develop and implement a suitable fire management strategy for the ecological community.
- Identify appropriate intensity and interval of fire to promote seed germination.
- Avoid burning (or grazing or slashing) during peak flowering season (spring to summer).

Reference:

The Interactive Guide to Vegetation on the Namoi Catchment CD.

Department of Environment, Water, Heritage and the Arts

<http://www.environment.gov.au/cgi-bin/sprat/public/publicshowcommunity.pl?id=88>

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