

# Wetlands

of south-western Queensland

## Lignum swamps



Lignum swamp,  
Bulloo Lake  
(R. Jaensch, Wetlands  
International)

### Landform and water regime

Lignum swamps occur in channels, basins and flats. Soils are deep-cracking clays and the ground often is hummocky with potholes. Water supply may be from rivers or from local runoff. Inundation typically is temporary and some lignum swamps are dry for many months or years. However, lignum swamps also occur in the outer (periodically dry) parts of permanent wetlands. Depth of water may exceed 1.0 m in wet years or after major floods. Water in lignum swamps normally is fresh (non-saline) and moderately to slightly turbid.

### Typical vegetation

This wetland type is characterised by sparse to dense shrubland of lignum *Muehlenbeckia florulenta*. The lignum shrubs may be tall (standing 2–3 m high) and interlocking where inundation is frequent and prolonged.

### Associated wetland types

- Permanent river reaches and waterholes.
- Shrubby floodplain watercourses.
- Permanent, isolated freshwater lakes.
- Sedge swamps.
- Bluebush swamps.
- Cooba shrubby swamps.
- Eucalypt wooded swamps.

### Distribution in south-western Queensland

This wetland type is widespread in south-western Queensland and is particularly common in the Channel Country and Mulga Lands biogeographic regions.

### Prominent examples of this type

- Bulloo Lake (south-west of Thargomindah), which is probably the largest example of this type in Queensland and one of the largest in Australia.
- On the Eyre Creek floodplain (south of Bedourie), especially around Lakes Mipia and Koolivoo.
- On the Cooper Creek floodplain at the junction with Wilson River (west of Noccundra).

### Occurrence in protected areas

This wetland type occurs in only five national parks in south-western Queensland, notably Diamantina National Park and Currawinya National Park. None of the (above) prominent examples are in protected areas.

### Principal conservation values

- Provide the principal habitat of grey grasswren *Amytornis barbatus*, a gazetted rare species in Queensland.
- Support breeding colonies (among the largest in inland Queensland) of ibises, spoonbills and other colonial waterbirds that mainly nest in shrub habitat.
- Support a suite of other waterbirds that depend on the lignum's permanent dense cover for shelter and breeding.

### Characteristic plant species

Plants commonly associated with lignum:

#### Trees and shrubs:

river cooba *Acacia stenophylla*

coolibah *Eucalyptus coolabah*

northern bluebush *Chenopodium auricomum*

#### Grasses, sedges and forbs:

swamp canegrass *Eragrostis australasica*

channel millet *Echinochloa turnerana*

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## Lignum swamps cont...

pepper grass *Panicum* spp.  
sedges *Cyperus* spp.  
pale spike rush *Eleocharis pallens*  
budda pea *Aeschynomene indica*  
knotweed *Persicaria* spp.  
common nardoo *Marsilea drummondii*  
water convolvulus *Ipomoea diamantinensis*  
water fern *Azolla pinnata*

### Characteristic waterbird species

#### Abundant:

black-tailed native-hen *Gallinula ventralis*  
Australian spotted crake *Porzana fluminea*  
little grassbird *Megalurus graminea*

#### Rare species under Queensland legislation (RQ):

freckled duck *Stictonetta naevosa* (RQ)  
grey grasswren *Amytornis barbatus* (RQ)  
painted snipe *Rostratula benghalensis* (RQ)

#### Breeding colonies:

great cormorant *Phalacrocorax carbo*  
glossy ibis *Plegadis falcinellus*  
Australian white ibis *Threskiornis molucca*  
straw-necked ibis *Threskiornis spinicollis*  
royal spoonbill *Platalea regia*



Nests with eggs of Australian white ibis, in lignum swamp  
(R. Jaensch, Wetlands International)

#### Other breeding species:

blue-billed duck *Oxyura australis*  
freckled duck *Stictonetta naevosa*  
purple swamphen *Porphyrio porphyrio*  
other ducks and rails

#### Some other species that occur:

hardhead *Aythya australis*  
musk duck *Biziura lobata*  
Baillon's crake *Porzana pusilla*  
spotless crake *Porzana tabuensis*  
red-kneed dotterel *Erythrogonyx cinctus*  
clamorous reed-warbler *Acrocephalus stentoreus*

### Other fauna

Lignum swamps support several fishes including desert rainbowfish *Melanotaenia splendida tatei* and tandan *Neosilurus* species. Turtles *Emydura* spp., frogs (eg. *Litoria* spp.) and water rats *Hydromys chrysogaster* occur. Invertebrates include decapods (shrimps, yabbies, crabs), many insects (eg. *Eretes australis*), some molluscs (eg. snails *Notopala* spp.), and some examples of phyllopods, ostracods, copepods and cladocerans.

### Threats to the conservation values

- Reduced inundation which may eliminate some wetland processes, reduce habitat diversity and prevent reproduction of wetland plants and animals.
- Excessive grazing of cattle on lignum shrubs especially around permanent waterholes and during droughts.
- Pigs, exotic fishes and weeds.

### Management responses required

- Community-wide consultation and education to prevent/minimise new water extraction/diversion schemes both upstream and on-site.
- Manage grazing in lignum swamps to ensure long-term viability of shrubland.
- Assist landholders to control/eradicate pest species.
- Establish and implement voluntary conservation agreements between landholders and government to increase the area of representative examples under protection.

### Gaps in knowledge

Knowledge of ecological processes (eg. dynamics of breeding colonies) and occurrence of frogs and fishes is inadequate.

### Further reading

Blackman, J.G. et al. 1996. Queensland. In, ANCA. A *Directory of Important Wetlands in Australia*, 2nd edition. Australian Nature Conservation Agency, Canberra. Site accounts prepared by G. Ford for Bulloo Lake (p. 216) and Diamantina Overflow Swamp at Durrie (p. 221).  
Kingsford RT. ed. 1999. *A free-flowing river: the ecology of the Paroo River*. NSW National Parks and Wildlife Service, Hurstville. pp. 27, 61.

### For further information, contact:

Environmental Protection Agency, 160 Ann Street, Brisbane (Tel: 07-3227-8186), or regional offices of the Queensland Parks and Wildlife Service in Toowoomba and Rockhampton.