

Wetlands

of south-western Queensland

Forb meadows on floodplains

Landform and water regime

Forb meadows occur on the flat parts of floodplains, between channels. Each strip or patch of meadow may be tens or hundreds of metres wide, within a floodplain that may be up to several kilometres wide. Soils are deep cracking grey clays.

Water supply primarily is from river flow, so inundation may be unrelated to local rainfall. Inundation occurs only when floods are large enough to over-top the channels. Presumably at least some inundation of parts of the meadows would occur annually, or every few years, for rivers such as Cooper Creek. Inundation is temporary and ranges from a few hours (at the edge of the flood's extent, where water quickly is absorbed by the deep-cracked dry clay), to several days or weeks. Water normally is fresh (non-saline) and turbid.

Typical vegetation

This wetland type typically is devoid of vegetation or only sparsely vegetated before floods arrive. As flood waters retreat a moderately dense growth of grasses, sedges and forbs may appear. This includes Cooper clover *Trigonella suavis* if growth occurs in the cooler months. Yellow flowered groundsel (fireweed) *Senecio latus* may be a conspicuous component. If a second flood front occurs within a few months after the first, the green vegetation may become inundated.

Associated wetland types

- Wooded watercourses.
- Shrubby floodplain watercourses.
- Lignum swamps.
- Bluebush swamps.

Distribution in south-western Queensland

This wetland type has restricted distribution in south-western Queensland. It occurs extensively in the Channel Country biogeographic region and to a lesser extent in the adjacent Mitchell Grass Downs, but with only minor occurrences elsewhere. It is a feature of the broad floodplains of the braided rivers particularly Cooper Creek and Diamantina River.

Prominent examples of this type

- Cooper Creek floodplain (for more than 300 km between Windorah and Nappa Merrie) includes the largest aggregation of this type in Australia.
- On the Diamantina River floodplain (eg. north-west of Betoota).
- On the Eyre Creek floodplain (north-east of Bedourie).

Occurrence in protected areas

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

Principal conservation values

- Collectively provide extensive habitat for animals that inhabit deep-cracking clay or that use briefly inundated flats.

Economic value:

- After good floods, highly valuable to pastoralists as prime grazing country.



Lush growth of forbs on Cooper floodplain after flood waters have dried out (R. Jaensch, Wetlands International)

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Forb meadows on floodplains *cont...*

Characteristic plant species

Cooper clover *Trigonella suavisissima* and groundsel (fireweed) *Senecio latus* are major components of the forb meadows. Commonly associated species are:

Trees and shrubs: (sparse cover only)

coolibah *Eucalyptus coolabah*
river cooba *Acacia stenophylla*
lignum *Muehlenbeckia florulenta*
northern bluebush *Chenopodium auricomum*



Cooper clover
(R. Jaensch, Wetlands International)

Grasses, sedges and forbs:

pepper grass *Panicum laevinode*
channel millet *Echinochloa turnerana*
rat's tail couch *Sporobolus mitchellii*
sedges *Cyperus* and *Schoenoplectus* spp.
common joyweed *Alternanthera nodiflora*
nightshade *Solanum* spp.
annual verbine *Psoralea cinerea*
Ammannia multiflora
joyweed *Alternanthera* spp.

Characteristic waterbird species

The following species may occur, during floods over bare ground, follow-up floods into green low vegetation, or at residual pools of water:

Pacific black duck *Anas superciliosa*
grey teal *Anas gracilis*
white-necked heron *Ardea pacifica*
great egret *Ardea alba*
glossy ibis *Plegadis falcinellus*
Australian white ibis *Threskiornis molucca*
straw-necked ibis *Threskiornis spinicollis*
brolga *Grus rubicunda*

Other fauna

At times, long-haired rats *Rattus vilosissimus* occur in large numbers on the western floodplains. This wetland type probably also supports several frog species such as *Cyclorana platycephala*. When dry it supports reptiles and mammals that inhabit deep-cracking clay.

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 the meadow vegetation, reducing the viability of subsequent generations of vegetation.
- Invasion of exotic plants such as *Parkinsonia aculeata* and introduction of exotic pasture grasses such as buffel grass *Cenchrus ciliaris*.

Management responses required

- Community-wide consultation and education to prevent/minimise new water extraction/diversion schemes both upstream and on-site.
- Manage grazing on floodplains to ensure long-term viability of forb meadows.
- Consultation between ecologists and pastoralists to assess potential adverse impacts of exotic pastures.

Gaps in knowledge

This wetland type is not well known in south-western Queensland. Knowledge of hydrology, ecological processes and occurrence of wetland species (frogs, mammals) 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 Cooper Creek Overflow Swamps (p. 217), Diamantina Overflow Swamp at Durrie (p. 221) and Georgina River – King Creek Floodout (p. 222).

For further information, contact:

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