

# Maintaining & restoring natural & artificial wetlands

February 2016

**Wetlands** are areas of land that are wet for all or some of the time. They support a large diversity of plants and animals that have adapted to fluctuating water levels. Wetlands may be natural low depressions such as swamps, old anabranches of rivers such as billabongs and even artificial water bodies such as dams, water storages and surge areas.

Most cotton farms support a range of natural and artificial wetlands including:

- Reed swamps, dominated by reeds such as Cumbungi (*Typha orientalis*) and Common reed (*Phragmites australis*). They occur in relatively deep channels or depressions such as on farm storages and channels. They are commonly found naturally at the end of river systems such as the Macquarie Marshes (Macquarie River) in NSW.
- Lignum Swamps, usually found at the end of river systems in braided channels as well as depressions and billabongs adjacent to rivers.
- Forests and woodlands, such as River Red Gum, Coolibah and Blackbox, where water lies for extended periods in depressions.
- Meadows, shallow wetlands usually found in association with riverine forests and woodlands such as River Red Gum, Coolibah and Blackbox.
- Lakes and lagoons, naturally occurring basins of open water, and
- Water storages, channels and surge areas.

Wetlands on farm perform many important ecological functions as well as providing benefits to a grower.

Wetlands:

- Capture sediments and nutrients from water before it drains into the main waterways.
- Help mitigate flooding events.
- Provide water supply in times of drought.
- Provide essential breeding and nursery habitats for many native fish species and migratory birds, and
- Increase biodiversity and hence ecosystem services such as pest control, carbon sequestration and erosion.

Most wetlands have been modified to some degree, with over half of them being significantly altered. Wetland modification includes clearing of vegetation, draining them of water and reduction of flows or continual saturation.



### Management actions

Growers can improve the aquatic habitat of artificial wetlands and on-farm storages to support aquatic and terrestrial wildlife.

- Ensure flow into natural wetlands is sufficient to maintain natural regimes and water tolerant vegetation.
- Manage stock access carefully, particularly during critical periods of inundation and when seeds are setting.
- Plant and encourage riparian and aquatic vegetation.
- Retain snags in natural wetlands and establish woody habitat in artificial wetlands.
- Incorporate different habitat aspects into artificial wetlands, such as islands, shallow areas, deep waters and vegetated margins.
- Use on-farm storages and distribution systems as natural filters to remove sediments, nutrients and pesticides from water on-farm.

Note: Any works related to wetland creation/restoration will need to comply with relevant planning and environmental guidelines. Contact you local catchment authority or Local Land Services to ensure you are meeting all your legal obligations and to ensure your proposed wetland works will not pose any adverse environmental, social or economic impacts.



### References and further reading

- *Fishes on Cotton Farms: A guide to native fish and habitat management for north-west NSW*  
[www.cottoninfo.com.au/publications/fishes-cotton-farms](http://www.cottoninfo.com.au/publications/fishes-cotton-farms)
- *What, why & how wetlands work*  
[www.wetlandcare.com.au/index.php/info-and-links/wca-publications/what-why-and-how-wetlands-work/](http://www.wetlandcare.com.au/index.php/info-and-links/wca-publications/what-why-and-how-wetlands-work/)
- *Constructed wetlands*  
<http://wetlandinfo.ehp.qld.gov.au/wetlands/management/constructed-wetlands/>
- *Design principles for healthy waterways on cotton farms*  
[www.insidecotton.com/xmlui/handle/1/192](http://www.insidecotton.com/xmlui/handle/1/192)