



# Grazing Management in the Southern Fitzroy Floodplain

*This bulletin considers opportunities for managing wetlands with grazing and reports on trials conducted on the Southern Fitzroy Floodplain.*

## The pros and cons of grazing wetlands

### Grazing to manage introduced pastures

On the Southern Fitzroy Floodplain much of the native wetland vegetation has been cleared and replaced by introduced 'ponded' pasture species such as para grass and hymenachne. These species can competitively exclude native vegetation. The loss of this wetland vegetation has major implications in terms of food and nesting resources for waterbirds and other animal species. The dominance of these pastures in the ground layer can also limit the successful recruitment of tree saplings and can also create poor quality fish habitat. Despite the ecological impacts associated with introduced ponded pastures, their pastoral production potential is high and they are favoured in agricultural production systems on the Floodplain.

Chemical control is often cost prohibitive to manage the ponded pasture systems however are not without risks to the aquatic ecosystem which leaves two other control options for broad acre situations: burning and grazing.

### Grazing as a threat to wetland condition

The potential impacts associated with grazing of wetland habitats include loss of palatable plant species, trampling and browsing of understorey vegetation, bank compaction and pugging causing soil erosion, disturbance of native fauna such as nesting waterbirds and water quality impacts associated with soil disturbance and nutrient loading from animal manures. Potential impacts can be managed with fencing, off stream watering points, seasonal spelling and managing actual grazing pressure.

### Grazing provides a fire management tool

Introduced pastures can generate large fire fuel loads which can result in hot fires. This threat primarily occurs in areas where introduced pastures are ungrazed particularly in reserves or where land has been fenced off to protect sensitive areas. Controlled grazing is one of the only tools available to manage large fire fuel loads in the broad acre landscape.



*In the seasonally dry tropics ungrazed introduced guinea grass (*Panicum maximum*) generates fuel loads much greater than that of native grass species. (Photo courtesy Jim Tait)*



*Riparian overstorey tree species can struggle to establish within dense stands of ungrazed para grass however this Eucalypt is making headway. Controlled grazing in this situation can reduce the risk of hot fires in the dry season and create a more open understorey with increased recruitment opportunities for native trees. (Photo courtesy Jim Tait)*



*At Gracemere Lagoon Reserve the absence of grazing pressure over the last 5 years has seen the ground cover become totally dominated by 100% para grass. The absence of native species allows for more intensive grazing and burning regimes to be used. (Photo courtesy FRCC)*



*Grazing of riparian areas is not without risks such as bank erosion and pugging. Monitoring of habitat condition and the flexibility to alter grazing pressure is required to balance benefits with risks. (Photo courtesy Jim Tait)*



*Grazing of this seasonal wetland is expected to reduce the dominance of para grass and encourage a diversity of native wetland plant species. (Photo courtesy FRCC)*

## Grazing Management Trials

Controlled grazing has been trialled at several previously ungrazed wetland sites in the Southern Fitzroy including Toonda Lagoon, Gracemere Lagoon Reserve and Duckpond Environmental Reserve and the key findings are reported here.

### Reducing hot fire risks

Introducing grazing for several months at the end of the wet growing season (March – May) reduced the standing grass biomass leading into the dry season. There is also the option to re-instate grazing in spring when late winter or spring rainfall could potentially regenerate grass biomass and increase the fire fuel load risk leading into the summer dry season. A monitoring program will assist to monitor biomass and adjust grazing strategies.

### Reducing introduced pasture species dominance

Periodic grazing can be provided to horses or cattle from neighbouring paddocks to reduce fuel load and shift ground cover dominance away from palatable grass species favoured by stock to less palatable (though more valuable native wetland habitat species) such as sedges. Once the dominance of introduced pasture grasses has been reduced, grazing pressure in subsequent years can be reduced.



Heavy grazing of para grass and hymenachne late in the dry season exhausts plant reserves and may result in some plants not surviving inundation when the season breaks. (Photo courtesy FRCC)

## Combining burning with grazing

More intensive grazing strategies may be suited to open wetland basins dominated by introduced ponded pasture species and regarded as being at low risk of stream channel erosion or trampling and possessing a general lack of native ground cover or overstorey species. A late dry season 'hot' fire followed by high grazing pressure can reduce the dominance of the fire sensitive para grass.

Where high grazing pressure can be applied and sustained for some time it provides an effective means of changing ground cover dominance of certain pasture species. In the seasonally dry tropics many wetland plants survive through the dry season as dormant seeds, tubers or corms (e.g. nardoo (*Marsilea* species) and spike rushes (*Eleocharis* species)) and therefore heavy grazing pressure in the dry season does not necessarily affect their survival. Many of these species have exceptionally long lived seed viability so there is also residual seed in the soil.

### Monitoring pastures to track outcomes

It is important to be flexible with grazing strategies and develop a monitoring framework using appropriate condition indicators. The monitoring program may include seasonal photo point monitoring and the collection of data such as vegetation cover, structure and diversity/dominance and estimating standing biomass. Keeping an eye on bank compaction and water quality conditions is also recommended.

## Ways Forward

### Managing wetlands

In recent decades an increasing commitment by government and industry towards managing country for not only productivity outcomes but also ecological sustainability has created a focus on management initiatives such as riparian fencing, off stream watering points and seasonal spelling.

In the tropics, introduced pasture grasses and inappropriate fire regimes are one of the most significant threats to floodplain habitat values particularly for wetlands that are ungrazed. As such, the use of grazing as a wetland management tool is worthy of consideration and further research to develop and identify the most appropriate strategies will be important.

### Integrating management strategies

Grazing is only one of many tools that can be applied to help manage wetland condition and will be most effective when used in conjunction with fire and chemical based weed control. Flexibility must allow for grazing to be periodically applied or even only used as a one-off intervention.

### Tailoring grazing strategies to individual wetlands

Wetland landscapes and their associated land uses vary considerably with grazing not recommended for some wetlands. Before grazing is prescribed the risks must be assessed, the management objectives considered and a monitoring program established.

Specific grazing management strategies for each wetland area may be necessary on commercial properties and considered as part of a property management plan. Identifying where specific habitats occur (e.g. riparian areas, swamps and lagoons) on the property and what grazing based (and other) management initiatives may benefit them will allow habitats to be protected whilst maintaining production outcomes.

### Capacity Building

For wetland management to be successful in the long term it will be important to develop innovative incentive programs, establish infrastructure and develop flexible grazing strategies and agistment arrangements.



Australian Government

The Queensland Wetlands Programme - Great Barrier Reef Coastal Wetlands Protection Programme is funded by the Australian Government. The main objective of the Southern Fitzroy Floodplain project was to engage land managers in activities and practices to help manage and enhance the area's important wetland values.

Queensland  
Wetlands Programme

## Further information

The information series is available on-line from the FRCC website or by request and includes Helping Wetlands, Fish, Fire, Grazing, Getting Involved and Waterbirds.



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