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# **Can Conservation and Cattle Production Co-exist? A Case Study: Toomba Station**

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## **ABSTRACT**

Is the use of rangelands for cattle production consistent with the conservation of natural habitat? The problem is discussed in the context of a case study of Toomba Station, a fully operational cattle property that has a history of conservation dating back to 1912 and a nature refuge agreement that was established in 2004. The balance between conservation and pastoral land use is achieved on Toomba by utilising recommended grazing land management (GLM) principles for sustainable land management. As a result of the case study it was concluded that the nature reserve successfully fits with the cattle operation on Toomba but may not be suited to all graziers in the area. Instead processes such as the Delbessie Agreement (State Rural Leasehold Land Strategy) and the Reef Protections Environmental Risk Management Plans (ERMPs) may be having a greater influence in increasing the uptake of GLM principles in the area.

## **Introduction**

There is a strong emphasis on developing a balance between profitable and sustainable cattle production and sustainable conservation on the grazing lands of Northern Australia in order to preserve biodiversity in the Burdekin region of North East Queensland. GLM principles including wet season spelling, riparian fencing and land condition assessment are being utilised by graziers in order to maintain good land condition, though this is not always consistent with good biodiversity (Fisher & Kutt, 2007). The Bassingthwaite family, the owners of Toomba Station since 1904, entered into a nature refuge agreement and are continually implementing and reviewing grazing land management principles in order to achieve the balance between grazing and conservation. Toomba is located 100 kilometres north west of Charters Towers in a unique landscape of basalt walls interlaced with wetlands and spring fed waterways created by a series of lava flows 10 000 to 2 million years ago. The area has already been identified as an area as a priority conservation area and much of it is encompassed by the Great Basalt Wall National Park. The Toomba nature refuge has proven very successful with many benefits for the owners (E. Bassingthwaite, pers. comm). However, the increasing number of requirements affecting graziers such as the Delbessie Agreement (State Rural Leasehold Land Strategy – [www.nrw.qld.gov.au](http://www.nrw.qld.gov.au)) and recent Reef Protection regulations and associated ERMPs ([www.derm.qld.gov.au](http://www.derm.qld.gov.au)) in the Burdekin catchment may have overshadowed the nature refuge as an option on other properties.

## **Toomba: A Case Study**

Toomba is at the boundary of the Desert Uplands and Einasleigh Uplands bio-regions. There is a high level of habitat diversity and biodiversity found along these boundaries as a result of a combination of the land types, climate and related rainfall. Land types range from fertile black and red basalt soils and loamy alluvials to lower fertility sedimentary soils with ironbark vegetation. There is a great diversity of wildlife due to the wetlands and drylands on Toomba with over 200 species of birds as well as the range of flora and fauna typical to the area.

In 2004 the entirety of Toomba has been designated as a nature refuge. This is a voluntary agreement between a landholder and the Queensland Government administered by the *Nature Conservation Act 1992*. It is a legally binding contract, which was considered as the best

means of ensuring that good land management practices already established would be continued by future generations or new owners. A fully operational cattle enterprise also co-exists with the refuge. There are extensive wetlands that are wet seasoned spelled for 6 months and then grazed by the breeders and the weaners in the dry season. As a result the rest of the property including the low fertility sedimentary country is not relied on in the dry season, reducing the need for supplementation. The higher fertility black and red soil basalts are used for fattening cattle. The wetlands and spring fed waterways provide an advantage to achieving a balance between cattle grazing and conservation by ensuring good quality pasture throughout the dry season. Despite this the principles of wet season spelling, stocking to long term carrying capacity, riparian fencing and weed management still apply to the whole property as they would regardless of a nature refuge agreement.

A number of exotic pastures such as green panic and urachloa were introduced to Toomba previously but the nature refuge agreement prohibits any further introductions of exotic pastures. A further stipulation is that the end of dry season ground cover is maintained at no less than 40% to reduce runoff. Otherwise the property is a standard cattle enterprise and the nature reserve agreement has no impact on herd management and general operations. The grazing land management principles implemented on Toomba include:

- Wet season spelling the majority of the non-wetland component of the property every 3-4 years.
- Regularly assessing land condition in regards to pasture, soil and woodlands with Grass Check and maintaining relevant records.
- Undertaking extensive riparian fencing to manage grazing on riparian area.
- Rotational grazing on a flexible timeframe based on the visual condition of the country.
- Monitoring Grass Check sites and keeping relevant records.
- Managing weeds, especially rubber vine in the riparian and wetlands areas.
- Utilising fire as a management tool to clear out moribund grass and control weeds and regrowth.
- Maintaining end of dry season ground cover at 50%.

The owner of Toomba, Ernest Bassingthwaite has noticed a rapid improvement in pasture species diversity of the frontage country as a result of riparian fencing. There has also been a significant improvement in overall land condition and as a result long term carrying capacity has increased. Ernest made the observation that “there is better quality feed available and pastures have maintained vigour from grazing” due to a combination of matching stocking rates to available pasture and wet season spelling paddocks. This allows pasture time to recover from grazing and prevent grass becoming moribund. The balance between grazing and pasture production has also improved cattle condition and production.

It may be argued that the lack of significant decline in cattle weights during the dry season is due to the benefits of grazing the wetlands but Ernest attributes this instead to the ongoing changes in GLM that have led to more productive and sustainable grazing lands. He believes that many graziers in the Burdekin area are also applying these principles and achieving similar results, but without establishing a nature refuge.

Ernest’s goal was to continue the family tradition of conservation and ensure that future generations or new owners continue to preserve Toomba’s unique environment. This goal that led to the establishment of the Toomba Nature refuge, to replace the fauna sanctuary established by Ernest’s grandfather in 1912 and terminated by changed legislation in 1994. The Bassingthwaite family wanted to protect the area from being absorbed by the Great

Basalt Wall National Park as they were concerned this may lead to an increase in introduced species and weeds due to changes in management, thus reducing biodiversity. The Bassingthwaite family also wanted to ensure any future owners of Toomba Station had an incentive to apply the GLM principles already in place and maintain the integrity of the ecosystem.

It took from 1994 until 2004, to successfully negotiate a satisfactory agreement. This was done at a time before the Queensland-wide Delbessie Agreement was signed. The Delbessie Agreement applies to rural land leased for a term of 20 years or longer and acts as an incentive for landholders to better manage land condition. Landholders who manage and maintain land in good condition can achieve longer lease terms. A further development since then has been the Reef Water Quality Protection Plan ([www.reefplan.qld.gov.au](http://www.reefplan.qld.gov.au)) and subsequent ERMPs in the Burdekin Catchment. This aimed to improve water runoff quality to the Great Barrier Reef and centres on GLM principles such as maintaining end of dry season ground cover above 40% to reduce sediment loss.

### **Discussion**

The utilisation of sustainable GLM principles on Toomba outlined previously has successfully achieved sustainable management and improved productivity as far as Ernest is concerned. However, improved land condition for productivity does not necessarily equate to the preservation of biodiversity (Fisher & Kutt, 2007). While methods to monitor land condition are well developed, for example, Grass Check, it has been more difficult to monitor biodiversity. A number of fauna surveys were completed by James Cook university students until a few years ago suggesting a high level of biodiversity on Toomba, due to a combination of the unique wetlands of the basalt wall, the long history of conservation and the GLM (E. Bassingthwaite – pers. comm). Therefore, the Toomba nature refuge is an example of the successful use of rangelands for cattle production in a manner consistent with the conservation of natural habitat.

The second issue is whether processes such as the Delbessie Agreement and ERMPs have a greater influence than nature refuges in the Burdekin area. Not only does the Delbessie Agreement provide a catalyst to implement GLM principles by allowing for longer grazing leases through land management agreements, but there is also a stringent monitoring process to establish a baseline land condition and monitor change every five years and the agreements are reviewed every 10 years. Similarly the ERMPs provide an incentive of a longer review period (5 years) if specific GLM outcomes are achieved, for example greater than 50% end of season groundcover.

The advantages of a nature refuge are that it provides long term protection as it is a legally binding contract that continues even if a property is sold. There is also support and advice from nature refuge officers throughout the state. Furthermore it is a voluntary process that allows terms to be negotiated, though this can be a lengthy process and in the case of Toomba took 10 years to finalise.

### **Conclusion**

The combination of a nature refuge and GLM principles on Toomba has successfully achieved a balance between conservation and cattle production. Due to its voluntary nature it is unlikely that nature refuge agreements will be entered into by graziers generally thus limiting it as a means of achieving a sustainable balance on a greater scale. Instead, the Delbessie Agreement and ERMPs may lead to a more significant uptake of GLM principles and therefore improved land condition in the Burdekin area.

**List of Reference:**

Cattle Grazing Environmental Risk Plan (ERMP) – [www.derm.qld.gov.au](http://www.derm.qld.gov.au)

Delbessie Agreement Fact Sheet - [www.nrw.qld.gov.au](http://www.nrw.qld.gov.au)

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