



CASE STUDY BACKGROUND



Di Williams owns and operates a cattle property called 'Wanemya' located in Eungella. The property is 194 Ha of hilly country with steep slopes and an elevation of 800m. It has two permanent creeks which run into Broken River and backs onto parts of the Eungella National Park. A wildlife corridor also runs through the property. The soil type of the property is described as shallow and degraded clay/loam.

Di has an interest in Forestry Practices and is passionate about growing trees. She was a Pruned Stand Certification Auditor through Australian Forest Growers (AFG) and also the secretary for the Mackay Whitsunday AFG branch for almost five years.

In 2003, Di participated in a farm forestry trial and forestry plots were established on her Eungella property. Since their establishment the forestry plots have sustained severe damage from cyclones that have passed through the Mackay Whitsunday region. Outcomes and observations made over the last 14 years have helped to evolve this trial site.

FOCUS ON

- ▶ Increase in biodiversity outcomes
- ▶ Potential alternative income stream
- ▶ Improved on-farm aesthetics.



KEY POINTS



- ▶ Known genetics and provenance are important factors when selecting seed/tube stock.
- ▶ The risks and impacts from cyclone events are difficult to predict and manage.
- ▶ A Forestry field day was hosted on Di's property in April 2017, providing a valuable platform for learning and discussion amongst the region's landholders and stakeholders.
- ▶ Lessons learnt have allowed us to evolve this trial site.



WHAT'S HAPPENING?

The current trial site is approximately 1Ha in size. Factors which influenced the location of the trial site back in 2003 included soil quality, slope and protection from surrounding vegetation. However, the site is exposed to the prevailing South-Easterly winds. The plot is currently surrounded on three sides by two rows of perimeter/guard trees. The fourth side of the trial site is located against the wildlife corridor and has one row of perimeter/guard trees. Once the trees were mature enough, cattle were allowed access to the site and have since grazed through the plot on a 90 day rotation.

A total of 266 perimeter trees and 800 trial species were planted when the project was established. Initial assessments found that overall survival rates were good and there were very good growth rates. However, some species either did not survive at all or had poor form throughout or were prone to insect attack. Evidence from the trial supported the notion that forestry growers need to source seed stock with known genetics and provenance and that seed stock should be sourced from trees which have already adapted and evolved to growing within the chosen location.

In 2010 and 2011 the trial site was severely damaged by Cyclone Ului and Cyclone Yasi. A survival and viability count conducted on the 16 April 2016 found that there were 152 remaining stems out of the original 800 and only 54 of those were potentially viable. In the aftermath of the cyclone events, Di observed that the adjoining nature reserve had sustained very little damage compared to the forestry plot. It was decided in early 2017 to make some changes to the trial plot and investigate some new approaches.

The trial will now investigate the following:

- whether changing the species composition within the plantation to reflect what naturally grows in the area will have any impact on the success of the trial site.
- if allowing the site to convert to a native forest as opposed to having planted rows of trees have any effect on whether the trees sustain less damage during a severe weather event.
- whether planting non-timber species in and around the desired timber species will have any beneficial impact on their survival.

Two plots, 10m x 20m in size, will be located within the current plantation boundary with 50 new trees in each. A mixture of 10 local native timber and non-timber tree species have been selected for the site and the tube stock has been propagated by Pioneer Catchment & Landcare volunteers from locally sourced seed. Non-timber species have been selected to see if they can act as companion or buffer trees for the timber species. They will also increase the overall biodiversity of the plantation. Natural regeneration will be allowed through the remainder of the plantation and the species and rate of regeneration will be monitored.

Initial monitoring requirements of new timber species will look at species survival and then over time, growth rates, form and susceptibility to pathogens. Existing timber trees will continue to be monitored for survival and viability. All assessments carried out on the plantation will be done by a qualified forestry consultant.

OUTCOMES TO DATE



In March 2017, 340m of fencing was installed around the trial site to prevent cattle grazing within the plot and damaging tube stock and young trees. By keeping the cattle out, the trial will be able to assess the rate of native regeneration at the site and protect the planted trial species.

Cyclone Debbie impacted the region on 28 March 2017 causing further damage to the remaining trees at the trial site. Fortunately, the newly installed fence was not damaged. A tree planting day had been planned for the site on the 28 March. This has now been postponed until the site can be cleared of debris and fallen trees and weather conditions are more favourable.

In April 2017, Reef Catchments held a farm forestry field day on Di's property. The event was attended by stakeholders from across the Mackay Whitsunday region. Topics covered included remnant vegetation and property planning, forestry management techniques, the ABCD framework for both plantation forestry and native forestry management practices, challenges surrounding forestry and the potential of forestry in our region. Attendees were also able to witness and learn more about tree felling and mobile saw milling. Mobile milling is a great option for small scale forestry practices as it gives landholders the opportunity to mill their own timber onsite, saving on the cost of transporting felled timber to and from saw mills.

This site is proving to be a valuable demonstration of the overall challenges that landholders could face within the forestry industry in the Mackay Whitsunday region. It's able to provide valuable learning outcomes and advice to forestry growers, which is only available in later growth stages of a plantation.



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