

Water quality and eco-system management

Environmental management case study

Summary

- Identify and prioritise projects to improve water quality and environmental management with a holistic approach
- Trusted and respectful relationships are important to develop with organisations and people who can support you to make change.
- Carefully developing a plan for realistic projects will have not only environmental benefits, but will also make your business more productive and profitable with better risk management

FARM SNAPSHOT – OBI OBI DAIRY

Markus and Sara Bucher – Coolabine, Sunshine Coast Hinterland, Queensland

Obi Obi Dairy is a family-run dairy farm on 380 acres. It milks 500 predominantly Friesian cows, which calve all-year round. Markus and Sara lease 150 acres to support running of dry cows and young stock, with all male calves grown out on the farm.

Growing up in Switzerland on a small dairy farm, Markus developed an early passion for the value-add side and became a cheese maker. Sara is from Townsville with a nursing background. After getting married, they settled in the Sunshine Coast hinterland. They established a relationship with a local dairy farmer (milk supply) and opened Maleny Cheese in 2004.

Markus and Sara purchased Obi Obi Dairy in 2014 to become vertically integrated. Obi Obi Dairy now supplies milk to Maleny Cheese as well as other independent dairy processing companies in the region.

In addition to the dairy farm and Maleny Cheese, the farm also operates as a hub for milk collection for five local dairy farms (within 30–40km) and they have their own milk tanker to do this. Unique to Sunshine Coast hinterland, there are no large corporate dairy companies.

The Buchers maximise direct grazing of pasture; however, the extreme heat and humidity during summer months requires them to manage the cows' ration and feed supplements. There is a covered feed pad on the property, that provide options for flexibility in feeding and shelter from heat and adverse weather events, which includes flooding.

The feed grown on the property consists of ryegrass, a small area of maize crop converted to silage, and some sorghum. Other feeds are also purchased to meet the demands of the milking herd. The property has areas that are irrigated via three centre pivots as well as several hard hose irrigators.

Farm features

- The family-owned farm is run by eight employees, including Markus and Sara's son.
- The farm is in a subtropical region receiving an annual average rainfall of 1,720 mm, mostly during the months of January through to May.
- The property has a varied topography with alluvial creek flats and rolling hills. The hills are dotted with native trees including various type of eucalypts and silky oaks.

- Obi Obi Creek crosses with 1.5 km of frontage each side of creek. Upstream is the Baron Pocket Dam, which was man-made in the 1970s to capture water and regulate flow. Special water licences are issued to landholders, which allows them to water stock and irrigate pastures.
- Due to the high rainfall, approximately 60 per cent of the farm can be underwater during a flood event. Hence, the hills are essential for key infrastructure and livestock during the wet periods.

Business purpose

The business objectives include environmental sustainability and resilience of the property to extreme events. This will ultimately improve productivity and profitability. A driver of this is the value they place on repurposing all nutrients and water with a focus on quality. Improving biodiversity and vegetation play into this.

Another key passion for the Buchers is education and fostering a deeper respect for and understanding of what farming really is, including the role of farmers as environmental custodians of the land. High importance is placed on transparency and social licence.

With their property being surrounded by ecologically sensitive areas, they have a passion to enhance and protect the rivers, lakes, wetlands and bushland. They understand the flow-on effect that their practices can have on others (including oyster farms down river).

Practice change

Issues identified

- 1 Within the rainforest along the Obi Obi Creek, there are issues with the weed, 'Madeira Vine'. Its presence has a significant impact on the riparian and ecosystem health of the waterway.
- 2 Stock had direct access to parts of the Obi Obi Creek, which was impacting the health of the riverbanks and the water quality.
- 3 Rainwater collected from the dairy and feedpad roof were running directly into the effluent pond. This was increasing the amount of liquids entering the pond system, meaning it needed frequent maintenance to ensure it wasn't exceeding its capacity.
- 4 Effluent liquids were not suitable for use through the existing irrigation system, causing costly blockages. This required extra maintenance of the system and a heavy reliance on bought-in fertiliser.

Changes made

- 1 A Mary River Catchment Water Care Group project officer helped to identify and prioritise projects to improve water quality and environmental management with a holistic approach.
- 2 Support enabled Sara and Markus to develop four 'projects' that would be suitable for various local grants and fit for their own financial investment.
- 3 The projects were as follows:

Project 1. Secured a grant to commence treatment of Madeira Vine infestation of rainforest along creek. Regular weed management of Madeira Vine on their farm is now supported by Mary River Care / Catchment to maintain and improve river ecosystem and riparian zone.

Project 2. Replaced small stock water troughs near Obi Obi Creek with bigger ones, prevented stock from accessing the creek.

Project 3. New plumbing to redirect the rain (fresh) water from the roof of the dairy and covered feedpad directly into creek. Secured a \$140,000 grant to undertake this and develop a composting system for deceased animals, effluent sludge, used calf bedding and rotten silage. This is collected and composted over a six-month period and then spread across the farm using a purchased manure spreader.

Project 4. Instalment of a new (Dix) filter to effluent pumping system. This filter screens effluent so it can be pumped directly through irrigator nozzles onto pastures and crops.



Instalment of a new filter for effluent pumping system

Benefits of the change

- 1 Creating an overall plan for change with professional support was invaluable. This provided them with clarity and confidence in their approach and the steps they needed to take to make change.
- 2 Improved health of the creek due to reduced weed infestation and fencing to stop direct cow access.
- 3 Improved health of the waterways has resulted in increased confidence to extract more water from the creek for irrigation purposes.

- 4 Increased homegrown feed production. Approximately 30 per cent increase in the production of quality crops, including an additional third growing cycle.
- 5 Increased herd size from 400 to 500 milkers due to an increase in productivity of the farm.
- 6 Reduced fertiliser costs due to greater use of effluent liquids and solids across the farm.
- 7 Reduced risk of effluent system overflow, due to decrease in rainwater flowing into the pond system (from the roof catchment areas).
- 8 Increased flexibility in the farm system resulting in greater resilience to withstand adverse weather events.
- 9 Increased ability to meet the changing market demands and customer scrutiny throughout the supply chain.



Organic waste being incorporated into mulch pile (plastic gets removed)



Water being extracted from river

The future

Environmental and sustainability improvements are considered an ongoing journey.

- Fencing and planting along the Coolabine Creek riparian zone. Plans to improve revegetation, ecosystem health and land productivity. These plans have been delayed due to recent flooding events.
- Continue communicating their story and educating others on the value of farming. Currently working with others in the local area to establish a new group to showcase the measures, projects and success stories to other farmers in the region.

Learnings

- Sustainability and environmental improvements on farm is like decorating your home: You can't do it all at once. It's about having a plan and chipping away when conditions are right.
- Pace yourself, take your time. Take small positive steps.
- Notably, the plan needs to be written down. Not elaborate, but still documented.
- Take a flexible view. Things can change; new technology can emerge, rain or weather events can occur which can impact your priorities and plans.

FOR FURTHER INFORMATION

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Scan the QR code for information about Dairy Australia's environmental programs.

