



Lake  
Baroon  
Catchment  
Care  
Group

*Working with our community...for our waterways*

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# Walkers Creek Restoration

Case Study 2014

Project Duration: 2008—2015



The Hopper family run 130 Guernsey cows on their 64 hectare property located immediately south of urban Maleny. Connected to the site is a dairy milk processing plant built by the Hoppers, producing a range of products and conducts weekly (daily during school holidays) tours of the plant and farm.

Several pollution hot-spots had been identified in the Walkers Creek catchment with consistently high levels of bac-

teria. With this in mind, the Hopper property has been a high priority for works for many years. In the 1998/99 Financial Year, LBCCG funded the installation of a waterway crossing which has proved to be particularly effective to this day. Unfortunately it took 10 years for further works to be implemented.

The Walkers Creek Restoration project commenced in the 2008/09 financial year and will be completed in June 2015 with significant funding from Seqwater and Sunshine Coast Council.

Walkers Creek Restoration was an important project for LBCCG as it was the first large scale project delivered on a key agricultural property in 2008-09. The experience implementing the project has been critical to the engagement of other local landholders and established important relationships with local contractors.

Exceptional outcomes were delivered and risks to water quality in the Walkers Creek catchment have been greatly reduced. Importantly the project 'kick-started' the landholder's aim of improving the property to a standard where it can be viewed as a 'model' farm.

Good land management delivers good water quality outcomes and this is clearly demonstrated on the property.



teria (faecal coliforms), at times exceeding 10,000 CFU/100mls (AquaGen / Seqwater data 1999-2008). Guideline levels are typically <100 CFU/100mls.

## Objectives



*The Hopper property in 2005 following heavy rainfall. Note the proximity of the laneway to Walkers Creek and severe erosion.*



*Installation of Biolytix wastewater treatment system*



Following the success of Stage 1, the landholders wanted to improve the property, further reducing impacts on Walkers Creek. Subsequently, Stage 2 was developed to improve effluent management through the installation of a Biolytix effluent treatment system.

The waste generated by the dairy is now used to offset fertiliser costs whilst the treated water is irrigated onto pasture supplementing existing supplies.

The Walkers Creek Restoration projects were designed to reduce the impacts of intensive livestock management on Walker's Creek. The water quality benefits have been significant and an integral part of the larger aim of protecting the Lake Baroon resource, addressing the issues and risks associated with the production of a safe water supply to the Sunshine Coast and beyond.

The project aimed to:

- implement an on-ground project that delivered water quality benefits
- raise community awareness particularly of water quality issues
- promote integrated catchment management in the Lake Baroon catchment
- reduce sediment delivery to waterways
- reduce pathogen delivery to waterways
- improve aquatic habitats
- Improve effluent management and enhance farm productivity
- demonstrate best practice including the development of a Property Management Plan to guide investment.

## Implementation



### Stage 1 (2009-10) completed:

- 1,400 metres of livestock laneways were rehabilitated and hardened to reduce erosion including the decommissioning and relocation of 200 metres of laneways
- Rehabilitation of dairy hard stands involved re-excavating and concreting 400 m<sup>2</sup> to reduce erosion by herd whilst waiting to be milked
- All creek crossings were either decommissioned or rehabilitated, to reduce erosion and pathogen entry into waterways
- 1,620 metres of riparian zones and laneways were fenced to manage livestock and restrict access to waterways, limiting erosion
- Off stream watering, including installation of 10 troughs.
- 750 trees were planted along a severely eroded section of Walkers Creek stream bank. An additional 200 Carex and Lomandra species planted on a steep stream bank to provide further erosion control
- 2 field days (and a further 12 field walks)
- Dairy apron on western side of dairy concreted (300 m<sup>2</sup>)

### Stage 2 (2013-14) completed:

- Further 300 m<sup>2</sup> of concreted dairy apron to ensure all waste is directed to the new wastewater treatment system
- Installation of effluent pump and associated sump to deliver waste to the treatment system

In addition the landholder through external funding also completed:

- Installation of Biolytix wastewater/effluent system, treating 8,000 litres of effluent per day (shared with neighbouring milk processing plant. The system uses a primarily aerobic design, utilising naturally occurring organisms (worms) to breakdown waste into fertiliser and irrigation water
- Construction of a simple concrete crossing on Walker's Creek to reduce incidence of mastitis in dairy cows and reduce creek bank and bed erosion
- Extension of livestock laneways on the north western side of the property (approximately 600 metres)

*Dairy apron rehabilitation.*



Getting a closer look at Walkers Creek during field day.

### Lake Baroon Catchment Care Group

The Lake Baroon Catchment Care Group (LBCCG) is a not for profit community group focussed on reducing the risks to water quality in the Lake Baroon catchment - primarily through the implementation of on-ground remediation projects. This aim is consistent with Seqwater's objectives of efficiently producing high quality potable water for the Sunshine Coast (and greater South east Queensland) region.

Maintaining water quality is critical to providing safe bulk drinking water to the population of SEQ. All of the storages managed by Seqwater involve catchments which are developed (to varying extents) and support active and growing communities, along with important industrial and rural economic activity. This is particularly true of the Lake Baroon catchment.

### What did we learn?

Walkers Creek Restoration was an important project for LBCCG as it was the first large scale project delivered on a key agricultural property in 2008-09. The experience implementing the project has been critical to the engagement of other local landholders and established important relationships with local contractors.

A key learning has been to be flexible and adaptable as weather conditions are not always suitable to implement project activities.

LBCCG has been able to use the lessons learnt to work with numerous large landholders in the Lake Baroon catchment on large and sometimes complex projects.

The successful implementation of the project and collaboration with the landholder 'kick-started' the landholder's aim of improving the property to a standard where it can be viewed as a 'model' farm. As a result, the landholder has continued to invest heavily in infrastructure that provides water quality benefits—particularly the installation of a dairy effluent treatment system.

The association Hopper's dairy has with Maleny Dairies, and location within the Lake Baroon catchment make this property an ideal demonstration site to the public with regards to what can be achieved between landholders and catchment groups.

### Acknowledgements

LBCCG would like to acknowledge the support given to the project.

Keith, Sonya Hopper and family, along with Maleny Dairies.

The Sunshine Coast Council and their support through the Major Grants program.

Barung Landcare has provided plant advice and provided contracting services.

Various contractors and suppliers who worked on the property.

LBCCG would especially like to acknowledge Seqwater who provided the majority of funding to the project and without which these worthwhile projects would never be implemented.



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