



2023-24

Erosion and Sediment Control Program



Extract from Annual Report

CBP2324-018 Erosion and Sediment Control (ESC)

The ESC program targets unstable hillslopes in the catchment that deliver or have the potential to deliver high volumes of sediment to Baroon Pocket Dam. Excessive sediment reduces dam capacity and causes high turbidity resulting in difficult and costly production of potable water. Naturally occurring phosphorus binds to the soil particles and is transported to the dam contributing to blue green algae blooms. Erosion and runoff carry faecal material to the dam, which is a high risk to water quality and potable water production.

ESC projects have three key aims:

- Stabilise unstable hillslopes (through slope modification, improved livestock management, drainage and revegetation)
- Intercept sub-surface water drainage and deliver to stable locations
- Interrupt and slow surface drainage reducing the risk of erosion and diverting away from unstable areas.

In 2023/24 LBCCG worked with six landholders on various projects; some of which were still directly related to the February 2022 rain event. Ongoing expenditure of disaster recovery funding arrangements (DRFA) also occurred during this period. The major project for the year was the continuing stabilisation of land in the Bridge Creek Catchment Properties.

Water originating on the first property impacts not only this property but the large second property downslope, contributing to extensive hillslope instability and considerable erosion during high rainfall. Five Wells or 'sumps' were installed across the hill-face in 2022/23, capturing spring water before it could continue downslope saturating the soil profile below. The captured water is piped, in this case, to a 22,500-litre tank supplying troughs to provide livestock water on the second property. This supplements the existing off stream watering system.

The sumps' water production has been monitored throughout the year. The volume of water collected is now over 42,000 cubic metres, with the system reaching a capacity of around 250 cubic metres (0.25 million litres) a day at times during the summer wet season.

The installation of wells combined with underground drainage provides short-term, instant relief to the unstable area. The life span of the wells and drainage lines is unknown, but water is expected to be removed for the next 3-5 years. This volume is variable depending on seasonal conditions. The establishment of a diverse rainforest planting in conjunction with the wells, is considered a true long-term, cost effective and practical solution. The wells work to remove the water from the soil profile, with the hope that the revegetation, once established, will replace the wells by removing the water through transpiration. The other planned future benefit of revegetation is the development of diverse root structures that will stabilise the slope.

3,000 trees were planted, with over 300 of these being Araucarias, (Hoop and Bunya pines). The planting links with previous revegetation delivered in 2018 and other hoop and bunya pine plantings in 2020. There were also some extensive earthworks undertaken to upgrade access tracks to the wells and subsequent tree planting.

Work continued on the Cavanagh property, with a significant unstable tributary of Bridge creek fenced off. Large areas of lantana, and other woody weeds were cleared on very steep and unstable slopes in preparation for revegetation. Unfortunately, due to wet weather the planting had to be delayed and is to be completed in 2024/25.

Another steep erosion-prone hillslope on the Newsham property in Falls Creek was cleared of woody weeds and then revegetated with 2,000 trees. Over 12,000 trees have now been planted on this large site.

In preparation for an extensive revegetation project (2024/25) at the Wittacork property, a comprehensive upgrade of the access track was undertaken. Over 1 km of road was upgraded, the track was hardened with gravel and profiled, with drainage given a high priority, to provide an access track that is safe for the landholder and LBCCG contractors to use.

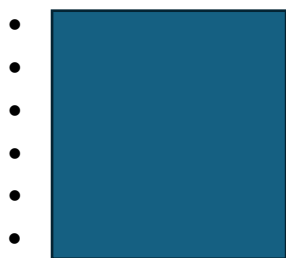
A new project was undertaken off Burgum Road on the Constables property. The property fronts Obi Obi Creek and has areas of unstable, erosion prone slopes. The site was also identified as a Koala habitat area and, as a result, a specialised species list was developed to benefit koala habitat as well as protect the unstable slopes on the property.

Throughout the year LBCCG continued to maintain its extensive number of trees in the ground over more than 19 sites.

The Program consists of two components:

1. New projects commenced in the financial year; *and*
2. The maintenance or ongoing management of previously completed works – mainly revegetation (required to ensure the successful establishment of vegetation) but can also include access repair and weed management.

Ongoing and new projects:



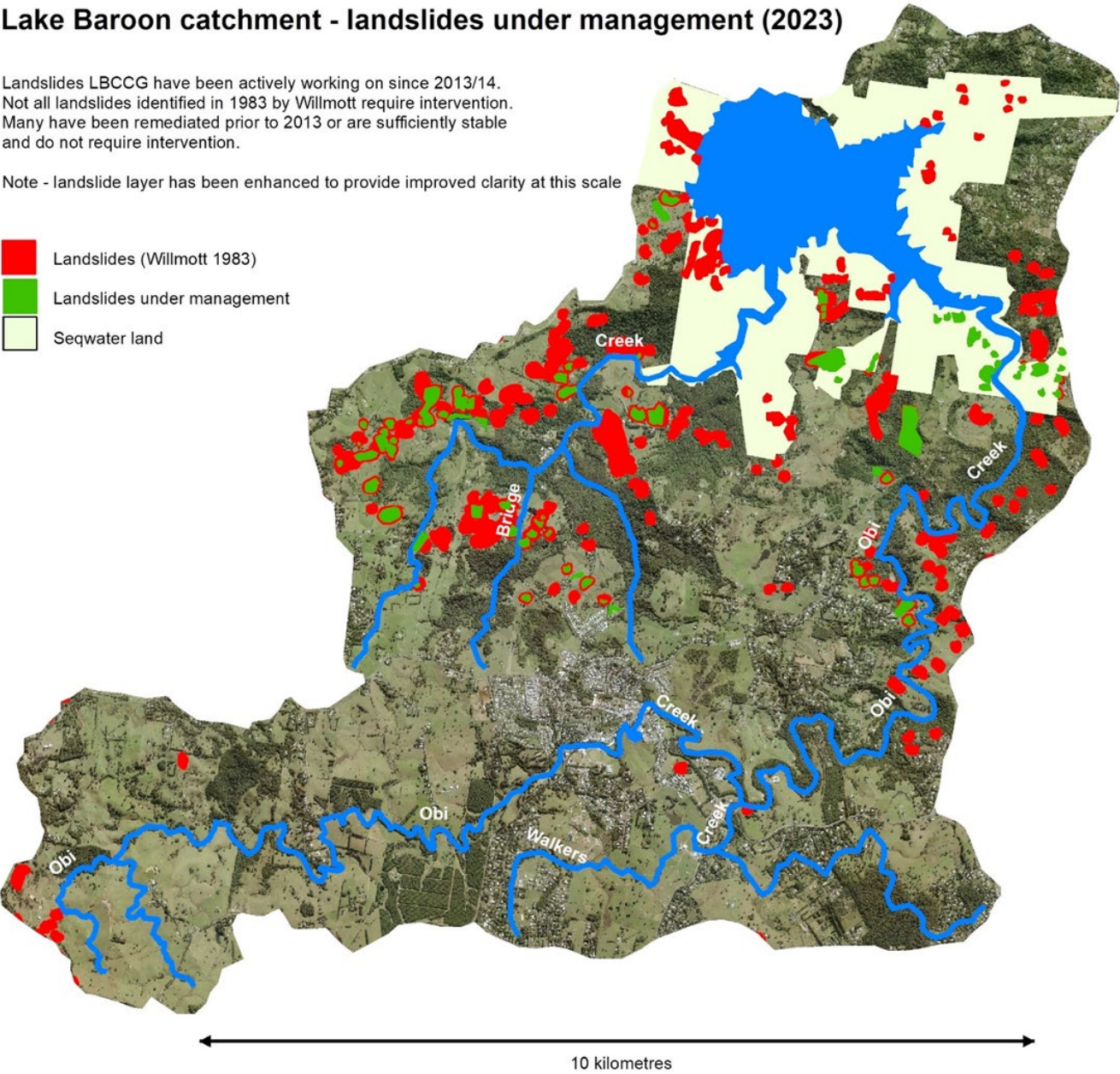
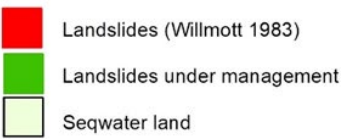
Ongoing management (revegetation maintenance):

- Eden Road – 2,500 stems planted 2018-2022
- [redacted] – 1,750 stems planted in 2022/23;
- Tesch Road [redacted] - 4,000 stems planted in 2018/19;
- Wells Road ([redacted]) - 2,500 stems planted in 2019/20;
- [redacted] - 120 stems planted in 2019/20;
- [redacted] - 625 stems planted in 2019/20;
- [redacted] - 6,000 stems planted in 2019/20;
- [redacted] - 2,500 stems planted in 2022/23;
- [redacted] - 1,200 stems planted in 2020/21;
- [redacted] - 488 stems planted in 2020/21;
- [redacted] – 500 stems planted in 2022/23;
- [redacted] - 500 stems planted in 2022/23;
- [redacted] - 2,985 stems planted in 2020/21;
- [redacted] - 3,916 stems planted in 2020/21;
- [redacted] - 2,100 stems planted in 2021/22;
- [redacted] – 560 stems planted in 2022/23;
- [redacted] - 700 stems planted in 2121/22;
- [redacted] – 5,105 stems planted in 2022/23;
- [redacted] - 2,200 stems planted in 2021/22; *and*
- Other minor sites (where partial and or minor maintenance was required).

Lake Baroon catchment - landslides under management (2023)

Landslides LBCCG have been actively working on since 2013/14. Not all landslides identified in 1983 by Willmott require intervention. Many have been remediated prior to 2013 or are sufficiently stable and do not require intervention.

Note - landslide layer has been enhanced to provide improved clarity at this scale



Almost all major catchment landslip sites are now under some level of management and remediation. Work continues on all sites. Landholder acceptance has been very pleasing considering many of these sites still grow high volumes of pasture and removing them from the grazing rotation can be contentious. A compromise is the planting of advanced local Araucaria species (up to 1.2 metres tall) in grazed paddocks at spacings that will eventually provide stability but still retain grazing in the future. Thirty-year-old Araucaria plantings on Seqwater land around Lake Baroon were spaced at around six metres and today are considered to be too close together. Therefore, LBCCG plantings vary from six metres to 20-metre spacings with eight metres being the standard.

Low value grazing or non-grazed sites are usually planted with a diverse mix of local species (with a relatively high proportion of Araucarias) which provide a diversity of root systems to provide mechanical stability and species that provide high transpiration rates (Eucalypts) that help dry the soil profile.

Erosion and Sediment Control Planned Program Outputs v Actual

Planned	Activity	Delivered
1,495 metres	Permanent fencing	968 metres
300 metres	Fencing Repair	0 metres

1,000 metres	Temporary fencing	100 metres
33,420 stems	Revegetation	8,080 stems
10 hectares	Weed management	9.6 hectares
1,600 metres	Access tracks	835 metres
	Access Maintenance	965 metres
1 hectares	Drainage (hectares)	4 hectares
100 metres	Drainage (metres)	100 metres
0 metres	Diversion banks	0 metres
9,750 m ³	Landslip repairs (m ³)	9,750 m ³
34,999 stems	Revegetation maintained	34,999 stems
1	Crossings	0
3	Sumps	3
0.5	Erosion (ha)	0.5
0	OSW (Troughs)	4
0	Gully Crossings	2

Erosion and Sediment Control Budget vs Expenditure summary

Brought fwd from 2022/23	2023/24 funding (\$)		Projects	Expenditure (\$)	
	On-ground	Project mgt			
NEW projects					
	\$ 10,000.00	\$ 3,200.00	CBP2324-018	\$ 0.00	
	\$ 9,504.00	\$ 3,041.00	CBP2324-018	\$ 0.00	
	\$ 35,000.00	\$ 11,200.00	CBP2324-018	\$ 33,304.35	
\$30,595.64	\$ 0.00	\$ 0.00 ³	CBP2324-018	\$ 104,851.16	
	\$ 24,000.00	\$ 7,680.00	CBP2324-018	\$ 0.00	
	\$ 32,500.00	\$ 10,400.00	CBP2324-018	\$ 19,636.80	
	\$ 25,000.00	\$ 8,000.00	CBP2324-018	\$ 49,604.00	
	\$ 0.00	\$ 0.00	CBP2324-018	\$ 14,502.63	
	\$ 58,000.00	\$ 18,560.00	CBP2324-018	\$ 56,317.18	
\$30,595.64	\$ 194,004.00	\$ 62,081.00	Total (new projects)		\$ 278,216.12
MAINTENANCE projects					
	\$ 10,000.00		CBP2223-018	\$ 9,203.62	

¹ Project abandoned

² Project delayed due to excessive wet conditions and access limitations

³ Project management transferred from abandoned Tesch Road and Richardson projects

⁴ Project delayed due to excessive wet conditions and access limitations. Some revegetation under DRFA funding.

⁵ Standby project brought forward

	\$ 8,800.00		CBP2122-018		\$ 2,420.00
	\$ 15,664.00		CBP2021-018		\$ 2,381.85
	\$ 20,420.00		CBP2223-018		\$ 20,624.89
	\$ 2,800.00		CBP2122-018		\$ 2,040.00
	\$ 2,240.00		CBP2223-018		\$ 990.00
	\$ 8,400.00		CBP2122-018		\$ 5,720.54
	\$ 4,800.00		CBP2021-018		\$ 3,520.00
	\$ 24,000.00		CBP1920-018		\$ 9,598.57
	\$ 11,940.00		CBP2021-018		\$ 7,876.39
	\$ 2,000.00		CBP2223-018		\$ 2,775.00
	\$ 2,500.00		CBP1920-018		\$ 0.00
	\$ 2,000.00		CBP2223-018		\$ 7,591.42
	\$ 1,952.00		CBP2021-018		\$ 2,530.00
	\$ 480.00		CBP1920-018		\$ 440.00
	\$ 5,000.00		CBP1920-018		\$ 0.00
	\$ 5,000.00		CBP1819-010		\$ 43,065.57
	\$ 7,000.00		CBP2223-018		\$ 12,150.20
			Other minor sites		\$ 2,217.50
		\$ 42,919.00	Project management to deliver maintenance program		\$ 42,919.00
	\$ 134,996.00	\$ 42,919.00	Total (maintenance)		\$ 178,064.55
\$ 30,595.64	\$ 329,000.00	\$ 105,000.00	Sub-totals		\$ 456,280.67
\$ 464,595.64			TOTALS		\$ 456,280.67
			Balance/Carry forward to 2024/25		\$ 8,314.97

Erosion and Sediment Control Program summary

Budget	Activity	Expenditure
\$ 30,595.64	Brought forward from 2022/23	-
\$ 29,500.00	Fencing	\$ 28,558.83
\$ 34,000.00	Access	\$ 40,644.00
\$ 25,000.00	Weed management	\$ 17,221.55
\$ 85,000.00	Revegetation	\$ 52,510.86
\$ 0.00	Off stream water	\$ 15,694.49
\$ 5,000.00	Drainage	\$ 58,305.42
\$ 5,000.00	Stream crossing	\$ 0.00

\$ 10,000.00	Stream grade control	\$ 0.00
\$ 504.00	Seeding	\$ 0.00
\$ 134,996.00	Revegetation maintenance	\$ 130,145.55
\$ 0.00	Tubestock	\$ 6,679.00
\$ 0.00	Contractor training	\$ 1,350.90
\$ 0.00	Other	\$ 170.07
\$ 105,000.00	Project Management	\$ 105,000.00
\$ 464,595.64	Sub-total	\$ 456,280.67
<i>Adjustments -</i>		-
\$ 464,595.64	Total	\$ 456,280.67
Balance @30 June 2024 (carry forward to 2024/25)		\$ 8,314.97

Erosion and sediment Control - Other contributors

Contribution	Type of contribution	Source	In-kind & cash \$
Project planning, negotiation & development. External grant applications.	In-kind	Landholders	\$50,000
Project contributions	In-kind labour, materials & equipment	Landholders	\$124,134
Project & landholder support	In-kind labour, materials & equipment	Sunshine Coast Council	\$7,500
Landholder Environment Grant	Cash	Sunshine Coast Council	\$3,391
Disaster Recovery Funding Arrangements	Cash	Disaster Recovery Funding Arrangements	\$294,504
Monitoring	In-kind labour, materials & equipment	Landholders	\$22,000
Review of LBCCG plans, reports & implementation progress	In-kind	LBCCG Management Committee	\$12,600
Totals			\$514,129