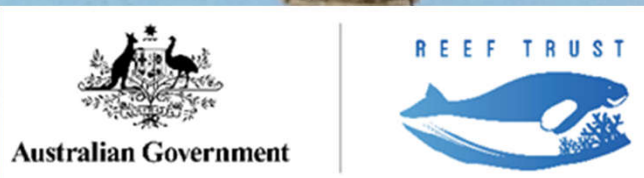


Reef Trust Gully and Streambank Erosion Control Forum March 2022

Philip Jeston
Catchment Solutions



Catchment Solutions – Lower Fitzroy Project Update

Summary

- Seven project sites across eight properties – from the Styx River to Lower Fitzroy (between Morinish and Garnant).
- All earthworks and rock chute constructions completed, with the last two sites in Morinish completed in June 2021.
- All fencing and watering points installed by landholder and/or contractors by July 2021.
- Ongoing maintenance, monitoring and in-fill planting along riparian zones over the past 9 months.
- Monitoring completed at five sites following at least two wet and dry seasons of monitoring (including soil, water, pasture and photo-monitoring).

Catchment Solutions – Lower Fitzroy Project Update

Summary continued

- Constructed 33 kilometres of fencing (gully and riparian) and 26 watering points.
- Constructed 21 porous check dams (timber and rock) plus 16 temporary sediment fences.
- Reshaped eight gully systems.
- Constructed nine diversion banks.
- Built eight large scale gully drop and in-stream rock structures.

Catchment Solutions – Lower Fitzroy Project Update

Summary continued

- Protected and revegetated through active and natural processes 317 hectares of riparian and gully zones.
- Grown and planted over 8,000 tube stock.
- Sown 433 kg of native and pasture seed.
- Completed weed control – mostly rubber vine over 170 ha of land (riparian and gully areas).
- Prevented over 6,664 tonnes of fine sediment reaching the Reef.
- At a total cost of \$584 / tonne of fine sediment saved.

Princhester – Marlborough

Gully head rock chute, PCDs, weed control and revegetated (seed and mulch, tube stock) – 102.2t / year less fine sediment at the Reef

Before 2018



After 2020



Canoona - Yaamba

Gully fence (three gully systems) and leaky weir construction
– 25.5t / year less fine sediment at the Reef

Before 2018



After 2020



Collinsdale – Garnant, Avulsion

Reshaped (cut and fill), soil treatment (gypsum), rock structure, weed control and revegetated (hydromulch and tube stock) – 4,154t / year less fine sediment

Before 2019



After 2021



Oakdean – Ogmore

Gully reshaped (cut, filled and ripped), soil treatment (gypsum & lime), small rock structures, PCDs and revegetated (tube stock, seed & mulch) – 448t / year less fine sediment at the Reef

Before 2019

After 2021



Melrose – Morinish

Gully reshaped, contour bunds, PCDs, paddock ripped and revegetated (seed and mulch) – 32.2 t / year less fine sediment at the Reef

Before 2018



After 2020



Bannockburn – Morinish

Two gully rock chutes, gypsum treatment (light) & revegetated (seed and tube stock) – 254t / year less fine sediment at the Reef

Before 2018



After 2022



Ten Mile Creek – Morinish

Three in-stream rock chutes (leaky weirs), riparian revegetation (tube stock and native seeds) – 1,648t / year less fine sediment at the Reef

Before 2018



After 2022



Project Learnings

Target large scale project where possible to achieve good cost effectiveness.

Use landholder networks and workshops to find additional sites.

Ensure photo-monitoring points are placed for best assessment and changing landforms.

Account for changing goal posts (e.g. sediment assessment / Toolbox amendments) in contract terms.



Project Monitoring Benefits

- Paddock run-off water quality monitoring supports short-term effectiveness assessments of projects (e.g. Oakdean).
- Catchment monitoring using faecal coliforms effective measure of reduction in cattle accessing riparian zones.
- Need a good wet season for any effective and meaningful water quality data.
- Photo-monitoring effective visual display of change over time.
- Pasture monitoring effective at demonstrating changes (grazed and ungrazed pasture) as well as changes overtime.
- Soil monitoring demonstrated effectiveness of soil ameliorants (gypsum/lime) as well as changes overtime for pasture regenerative projects.

Main Achievements (What are we proud of)

- Proud of the team and effort by CVA, Neilly Group and Catchment Solutions as well as the in-kind work undertaken by landholders.
- Relationships established with landholders, DAWE and P2R team as well as the TAG support and advice (A big thanks to Tim and Andrew).
- Sediment saving achieved –at least 6,664t / year of fine sediment not getting to the Reef.
- Sediment savings don't include pasture improvement just gully and streambank so saving are actually higher.



Where to next in erosion control programs?

- Low hanging fruit has been mostly addressed, so cost are going up as well as increasing due to general inflation (e.g. price of diesel).
- Increase cost per tonne of fine sediment saved (as moving higher up the catchment).
- Target the two larger high priority catchments for sediment reduction – Burdekin and the Fitzroy.
- Continued support from state and federal government
- Continued improvement in processes to ensure consistent approach and best techniques and technologies used (e.g. Toolbox version 3, LCAT app, GECAT and SECAT apps) including future improvements to P2R modelling.

Questions - Thank you

