



Reef Catchments Lessons from Reef Trust VI & VII Sediment Programs



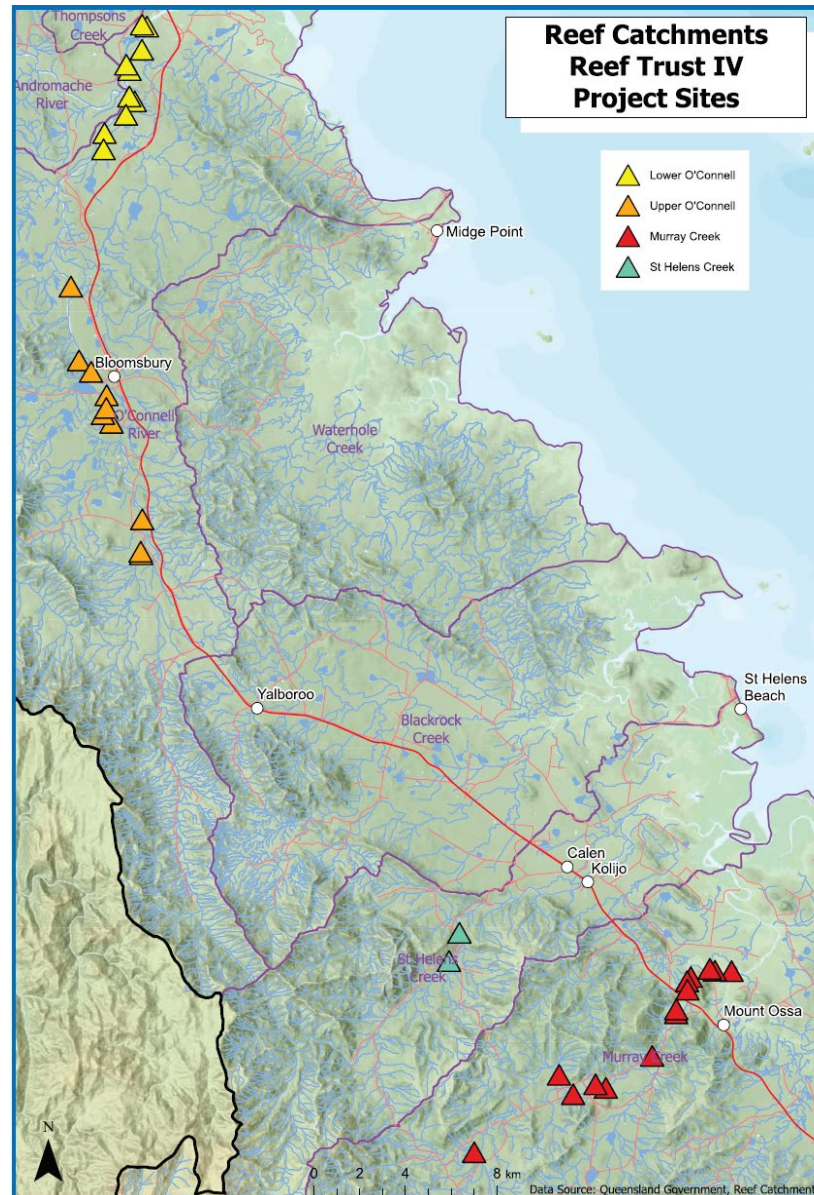
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Reef Trust IV – Mackay Whitsunday Streambank Erosion Program

- Project duration ~6 years (June 2017 - November 2023).
- Primary focus on fine sediment reduction by streambank erosion control in the O'Connell Basin.
- Four reach scale approaches including Murray Creek, St Helens Creek, Upper O'Connell River and Lower O'Connell River.
- Interventions included, active revegetation, weed control, riparian fencing, off-stream watering points (OSWP) and streambank erosion engineered.



Key Outcomes:

- Modelled sediment reduction of 10,356 tonnes of fine sediment at coast
- 37 project sites on 31 properties
- 11 engineered sites
- More than 70,000 trees planted along ~ 25ha of riparian corridors
- ~15km of riparian fencing has protected over 45 ha of riparian area with 20 OSWP
- Engaged 23 local businesses and invested into the local economy

Major Project Achievements

- Installation of two major engineered streambank sites
- 5.84 km of streambank protected
- 2.21 ha of revegetation
- 16,600 local native tube stock planted
- 2,861.18 t/y fine sediment saved
- Delivery of the first Mackay Whitsunday Streambank Forum
- 60 sugarcane growers were engaged to carry out 66 sugarcane agronomy support projects and 71 major grants which focused on either nutrient or pesticide management achieved the following savings:
1▶ DIN - 2,479 kg 2▶ Pesticide - 17,140 g
- 170 landholders and 112 community members engaged across 15 workshops
- The MWI Pasture Standards Guide and the Cane ABCD Framework documents were published.
- Two small gullies remediated
- 5.32km of riparian fencing installed
- 15.93 ha of riparian remediation
- 12.18 ha of weed control
- Established Bloomsbury Feral Animal Control Aerial Program including **3 aerial shoots**, covering **45,000ha**, removing **59 feral pigs** and **4 wild dogs**.
- 30 local graziers** participated in grazing land management activities.
- 12 case studies developed to increase landholder awareness and stewardship

Reef Trust VII – O’Connell and Proserpine Basins Water Quality Project

- Project duration ~2.5 years (January 2021 - June 2023).
- Primary aim to improve quality of water entering the Great Barrier Reef (GBR) Lagoon.
- Integrated catchment approach, including streambank remediation, erosion control works, grazing land management, feral animal control, and sugarcane agronomy support.
- This has provided a holistic approach to achieving the desired water quality outcomes and built local capacity across the O'Connell and Proserpine basins.

Lessons from Historical Sediment Programs

1. Site success largely determined by combined efforts (landholder, contractor and supplier buy-in)
2. High plant survival rates achieved only through adequate maintenance budgets. Including mulch, irrigation and continued maintenance with spot spray & brush cutting.
3. Longer term programs foster stronger long-term outcomes.
4. Landholder participation is more likely to be gained with higher engagement effort including collaboration, information sharing and follow-up on actions.
5. Address the cause not the symptom.
6. Delivery efficiencies including maximise delivery window and streamline procurement processes.
7. Prioritise planning and take time to select fit-for-purpose sites and intervention types.
8. River processes and erosion is a natural process understand when to-do nothing.



Future Reef Trust Sediment Investment – Landscape Repair Program

- \$200 million Landscape Repair Program launched on 4 December 2023.
- Projects that will involve gully and streambank erosion control and management of grazing lands to reduce erosion and fine sediment impacts.
- Program delivery partners are being engaged through our Panel of Regional Delivery Partners.
- Consortium Based delivery model.
- The co-design process is underway, with successful projects expected to be in place in the coming months.



Reef Trust Sediment Investment – P2R Projector Tool

- Historically RTVI & RTVII calculated fine sediment savings with SECAT (Streambank Erosion Control Assessment Tool) on Survey 123.
- Challenges with historic data collection methods and reporting.
- Future sediment projects will use P2R Streambank Tool.
 - Benefits: Prospecting capability, automatic calculation of data pulled in background, user friendly, funder transparency & consistent sediment calculation framework.
 - Limitations: Source catchment model often does not align to real world sediment sources, limited ability to upload gold standard data & data transparency once submitted.





Future Reef Trust Sediment Investment – Other Considerations

1. Implementation planning and site prospecting (P2R).
2. Reach based approaches, spot fixes are no longer suitable.
3. Invest in a data pipeline (digital evaluation model of difference (DEMoD) vs. catchment modelled approach).
4. Large fine sediment exporters & early intervention = high-cost effectiveness.
5. Address landholder management of contributing catchment to improve likelihood of project success.
6. Ensure project legacy is more than just the intervention.
7. Capacity needs to be built, maintained and grown.
8. Data validation and technical assurance processes.



Thank you.

Questions?



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