JANES CREEK WATERWAYS - TREATMENT CHAIN WETLANDS

A case study of Partnership and Revegetation

Central Queensland Coast, Mackay

Executive summary

There is a strong consensus that pollutant runoff from agricultural areas poses a significant risk to the Great Barrier Reef ecosystems, coastal wetlands, and estuaries. To mitigate this through the Janes Creek waterway system, strategies such as desilt degraded streams and drains to create deep water pockets, allowing water to settle and filter through rock crossings, and revegetating sculpted banks is expected to reduce sediment and chemical runoff before it enters the ocean.

Partnership

On-ground works were undertaken by Pioneer Catchment Landcare (PCL) as part of the Reef Catchments (RC) - Protecting and Improving the Health of the Mackay Whitsunday Isaac Wetlands project funded by Queensland's Governments Natural Resource Recovery Program. The Yuwi Land and Sea Rangers provided assistance with planting. This collaborative effort represents one of the first combined projects of its kind in the Mackay Region, involving Traditional Owners, landholders, Regional NRM, and Landcare. The partnerships shared goal was to enhance landscape resilience and improve the region's ability to respond to natural disasters and climate change.

Planting with PCL and Yuwi Land and Sea Rangers

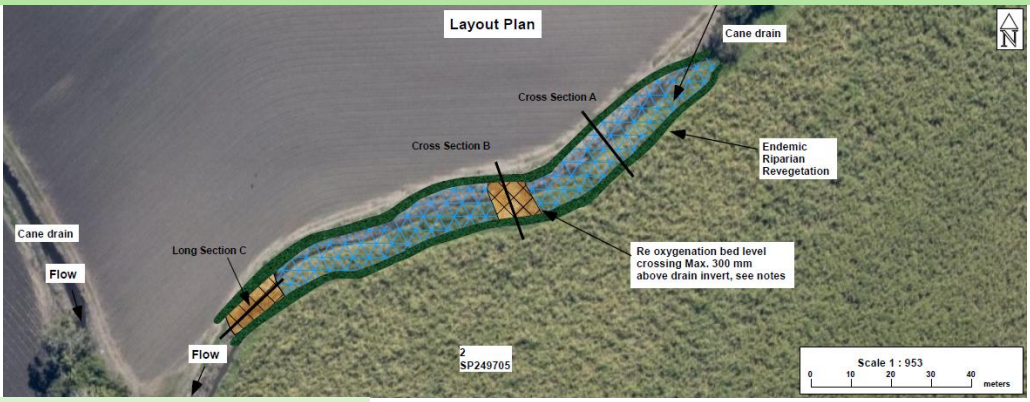
The site

Janes Creek tributary, Holts Road, Mackay.

Ongoing since 2017, the Janes Creek project focuses on critical areas for investment under the Reef 2050 Plan. The Holts Road site adjoins multiple pools in the tributary system, each working to reduce the sediment load and filter nutrient and pesticide loads from entering downstream wetlands. While the actual area of the treatment train / 'Chain of Ponds' is relatively small, it treats the runoff from upstream paddocks (cane and grazing), thus representing a significant improvement to land management practices.

Concept design

Provided by Catchment Solutions indicating site characteristics.



Design, construction and implementation

RC completed streambank and gully remediation, which involved engineered design and reconstruction including:

- **Bank Battering**: Constructing protective structures along the streambanks.
- **Rock Groynes**: Installing rock structures perpendicular to the stream to control water flow.
- **Rock Chutes**: Creating channels with rocks to manage water velocity.
- **Soil Removal**: Removing existing soil to prevent weed germination after soil disturbance.
- **Deep Water Holes**: Excavating deep water pockets separated by rock barriers. Silt removed from site was added to adjacent low lying cane paddocks to improve productivity.

Key support role of PCL:

- **Site preparation** – mulch and installation of irrigation system.
- **Revegetation** – planting 2700 native tube stock.
- **Maintenance** – manual and chemical treatment of weeds and nuisance grasses. Support tree health and vitality.

Reprofiling the banks

Mulching

Picture showing planting between the irrigation and Japanese Millet

Take-away point to note:

Japanese Millet was sown to give quick ground coverage and help stabilise the banks. However, it quickly outgrew the native plants and had to be brush cut.

Current Results (May 2024)

Due to an extended wet season, planting activities and site access were restricted, resulting in a setback. However, all plants were successfully in the ground by mid-March. Over the first three months, these plants have become well established. Irrigation and site maintenance will continue until late June 2024, at which point the landholder will take over stewardship of the site.

The site's riparian structure and connectivity play a crucial role as a buffer, capturing overland flow sediment from cane fields during flood events and reducing sediment loss. Ongoing revegetation efforts and weed control are expected to enhance the diversity and cover of native vegetation, improving bank stability and resilience to future extreme events.

With thanks to

Reef Catchments

Yuwi Land and Sea Rangers

Landholders Frank and George

Pioneer Catchment Field Officers

PIONEER Catchment LANDCARE

REEF CATCHMENTS

Queensland Government