

Study looks at how treatment trains benefit health of Great Barrier Reef

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In order to assist with the protection and the long-term health of the world's largest coral reef ecosystem, Reef Catchments is studying the water quality benefits of constructed wetland treatment trains.

There are different treatment system options available for removing specific pollutants from agricultural production areas. Reef Catchments' objective is to validate the water quality improvements through identifying differences between pollutant levels from the inflow and outflow of the two different treatment trains compared against traditional sediment basins and standard cane drains in the Mackay region.

As a complement to best management practices, the different systems are only one component of an integrated approach to improve business and environmental performance. Treatment trains use a mix of engineered design and biological process that have the potential to reduce runoff pollutants like sediment, nutrients and pesticides ensuring improved water quality in the catchment, rivers and ultimately the Great Barrier Reef.

Constructed wetland treatment trains use multiple chambers to treat water as it moves through the individual structures or basins. Included within the structures is a shallow macrophytes zone where reeds take up nutrients for their own growth. A biofilm, consisting of different microorganisms around the reeds, and the reeds themselves, use some nutrients for their growth, removing the excess pollutants from the water. Within the design, a deep chamber can be adapted which landholders can use to pump extra water to irrigate crops.

It is hoped that the outcome of this project will support investment into constructing more of these structures which provide both water quality and productivity benefits.

For more information of the different types of treatment systems and guiding information on what maybe the right treatment system for your property a great resource can be found on the WetlandInfo webpage:

<https://wetlandinfo.des.qld.gov.au/wetlands/management/treatment-systems/>

This study is funded by the Queensland Government Department of Environment and Science, has run since 2017 and is to be finalised by mid 2020, when a final report will be produced highlighting project outcomes including the water quality benefits of constructed wetland treatment trains.

For more information about treatment trains, please contact Carlos Bueno at Reef Catchments on carlos.bueno@reefcatchments.com or (07) 4968 4217

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