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Slacks Creek Catchment Restoration: making ecosystem services visible

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Abstract:

The Slacks Creek Catchment Restoration is a collaborative project combined a triple bottom line approach (social, environmental, economic) while adopting best practices of integrated coastal zone management. The combination of integrating water quality monitoring with observational coastal ecology and community involvement was designed overall to achieve better waterways and catchment management.

The long-term potential environmental, social and economic benefits of reinstating the catchment's ecosystem services is vital especially since Logan City Council population currently approximately 282,000 and forecast increase by 200,000 over the next 20 years. Ecologically restored waterways are natural assets that can also connect communities.

CSIRO's research team conducted an extensive baseline study which led to the establishment and maintenance of a long-term, permanent and continuous water quality station which measures dissolved oxygen, salinity, acidity, temperature and turbidity; and the velocities (and direction) of estuarine water flows. Accumulating continuous data over time allows conclusions between how the quantity and quality of the water changes over time, and in certain circumstances e.g. rainfall events, to be determined and more deeply understood.

Mangroves, vegetation and wildlife were observed and recorded for future comparison with the baseline conditions to assess effectiveness of catchment restoration efforts over the next five years. We also measured the carbon and methane to understand the biogeochemical processes and particularly informative in determining possible risks for human health and for carbon emissions.

Furthermore opportunities to measure the increasing social and economic values of ecosystem services as the Slacks Creek restoration progresses are now better understood and a quantitative valuation has been commissioned by Logan City Council for values relating to waterways including recreation fishing.

Riverrecovery.com.au website includes an innovative and educational time-lapse artwork of creek restoration that engages the imaginations of residents, wider project participants, community organisations and stakeholders.