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Patterns of Tidal Connection into the 12 Mile Pools, Fitzroy River, South East Queensland Australia

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Abstract

The project sought to discover the pattern of tidal flooding into the 12 Mile pool complex within the south-eastern fringe of the Fitzroy River estuary in South east Queensland. The area is an expansive area of salt-marsh, salt-flat and mud-flat interfacing with a freshwater stream / pool system. The role of tidal inundation into the stream / pool system in the larger context was not well understood, for example the contribution of tidal flows to the habitats of organisms such as fish and crabs. The nature of tidal flooding pattern, such as frequency, size and duration, are key elements for habitats that require a variety of water levels, salinity regimes and isolation patterns.

The aim was to explore flooding patterns and to determine what if any high tides flooded the 12 Mile pools, what kind of water fluctuations occurred, and how these corresponded to variations in connection within the 12 Mile pool complex. Tidal observations were made at 6 locations around the 12 Mile pool complex for a period of two spring tide cycles. The tidal observations were linked back to long-term tidal observations at the nearest related official tidal station (Port Alma) as a means of gaining an understanding of tidal connectivity in the 12 Mile pool complex as it relates to the larger Fitzroy river tidal regime.