

Critique of the Tonkin and Taylor Report of 18.01.06.

I

do not believe that the T&T report was written by a coastal geomorphologist or a scientist with any understanding of coastal processes.

- T&T conclude that there is little likelihood of marine sand from the ebb tidal delta entering the marina basin and so being lost to the delta. This being true it completely misses the point. The point is that dredging the marina could deny sediment flow out to the deltas, impacting them in some unforeseen way.
- T&T then conclude that if an effect IS noticed, dredged sand could be returned to the ebb tidal delta. This demonstrates an incredible naivety regarding coastal processes. Firstly an effect would have to be observed, and in the absence of any monitoring it would have to be a catastrophic one, and then the correct place to dump dredge spoil, muds, of a different composition to the sands of the delta, a real no-no in coastal circles, would have to be determined. Every action has a reaction, and injecting sediment into an ebb tidal delta would have an effect somewhere else in the system, probably by affecting the flood tidal delta – possibly reducing the depth of the channel TO THE MARINA.

#### Section 4.2

T&T state that the spit is stable at Whangamata, in part it is inferred owing to rock seawalls.

The spit has locational stability but the ebb and flood tidal deltas are in continual dynamic equilibrium with the sediment supply and wave energy of the harbour. The tidal inlet evolves continuously. Rock walls are an indication of instability (otherwise they wouldn't be necessary), and are notorious for causing instability.

#### Section 5

T&T state 'the reduction in tidal prism may eventually have an effect on the stability of the ebb tidal shoal'.

The ebb and flood tidal deltas and the inlet are continually being affected by the tidal prism, wave energy, sediment supply etc. They are in dynamic equilibrium. There is no 'eventual' effect, and the ebb tidal delta is never 'stable'.

The ebb and flood tidal deltas change over time in response to chronic conditions. Dredging is an acute event and MUST interrupt the flow of sediment, possibly denying the deltas the sediment which causes them to exist. Suddenly increasing the tidal prism by dredging may have an impact on the deltas.

T&T 'the Whangamata Hr could be considered in a state of gradual change due to the effects of infilling and siltation within the estuary rather than in dynamic equilibrium'. THAT IS DYNAMIC EQUILIBRIUM.

## Section 7

T&T state 'as the harbour has been extensively studied there appears little need for further study'. Incredible. The harbour has not been quantified. As the harbour has been studied 15 years ago, most scientifically robustly by me, and I do not claim to know and be able to predict its behaviour, then this provides a great opportunity to undertake comparative work which could shed light on the situation.

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