Tamar Estuary Management Taskforce

Review of sedimentation related proposals and recommendations

Through the Taskforce's period of public consultation, ten submissions were received on a number of issues relating to Estuary health. However, the majority raised sedimentation as a key issue and submitted proposals for how the issue could be addressed or ameliorated.

While the Taskforce sees this as largely an aesthetic and navigation issue and not primarily a river health issue, it is clearly of significant importance to the community and there are some views that the Tamar's sedimentation is holding back recreational activities and tourist development around the City's river frontage.

The Taskforce resolved to engage advice on the proposals and appointed BMT WBM, a specialist consultancy with a strength in water and environmental fields. BMT WBM conducted a peer review of each proposal and provided analysis of its likelihood of improving water quality and sedimentation outcomes. That analysis is included as Attachment A.

The analysis provided TEMT with guidance as to those initiatives that have the highest likelihood of success in ameliorating sediment impacts. While not the focus of the review, BMT WBM also made comment on the proposals that suggested initiatives to improve water quality. In reviewing these proposals, BMT WBM confirmed that the focus on improvements to sewerage treatment plants, the combined sewerage and stormwater system and reducing catchment pollutant loads as identified in the Taskforce's River Health Action Plan are appropriate.

The following is an overview of the BMT WBM sedimentation findings which provide the greatest likelihood of success.

1: Impact of flows

The BMT WBM analysis agreed with submissions that contended that increasing flows through the Yacht Basin to displace sedimentation has merit. This view is consistent with the experience of the Launceston Flood Authority and is evidenced by the movement of sediment that occurs now in very high rainfall (often in combination with raking) and flood events that sees water spill over the Trevallyn Dam.

While specific proposals for restoring flows into the Yacht Basin were made, it is TEMT's view that detailed hydraulic modelling is first required to understand what outcomes are possible under a range of flow conditions. Should that work substantiate the views regarding flow, solutions that could deliver the range of outcomes will then be considered and costed.

This work will need to model where the displaced sediment is moved to as there are concerns that success in the Yacht Basin will simply shift issues downstream.

2: Mechanically assisted sediment displacement

BMT WBM agreed with the proposals that supported the continuation of raking to mobilise sediment in high rainfall events. BMT WBM noted that this has been shown to be reasonably effective, but was also of the view that the water injection dredging proposal could offer similar benefits and may have marginal improvements in efficiency, but this would need to be the subject of field testing.

TEMT considers this issue to be one for the authority responsible for flood management to consider as part of its ongoing activities.

Tamar Lake Proposal

Given the discussion that Tamar Lake Incorporated's proposal for a barrage across the Tamar River at Rowella has garnered and given it made a submission to TEMT that proposed improvement to both sedimentation and water quality aspects of the River, it would be remiss of TEMT not to comment on the advice it received on this proposal in particular.

The BMT WBM review suggests there is insufficient evidence to support Tamar Lake's claims on a number of fronts. While sedimentation outcomes in the Yacht Basin and Home Reach may be improved by a lake environment, with increased water levels likely to cover the mud flats and aid navigation and access, claims that it will solve sedimentation in the estuary entirely appear unfounded.

More importantly, the advice suggests there are gaps in the analysis that have the potential for significant risk. These include the impact on sedimentation downstream of the barrage due to the loss of tidal prism, the impacts on general water quality that occur more regularly in lake environments (algal production and increased nutrient release amongst others – which have been acknowledged by Tamar Lake) and the substantive environmental impacts on the ecological character of the ecosystem in the planned lake area driven from a move from an estuarine to fresh water environment.

It would appear that while the proposal has some positives, it may also swap one set of issues for another. In developing its River Health Action Plan, the Taskforce had to deal with this issue of the potential for improvement in one area leading to diminished outcomes in another (see section 6.2 of the River Health Action Plan) and as such its recommendations included mitigating the potential for decreased nutrient performance at Ti Tree Bend sewerage treatment plant.

Without evidence of Tamar Lake considering such mitigating options or proposing actions for rectification, the Taskforce cannot endorse the Tamar Lake proposal.

Issues not addressed in submissions

While not raised in the submissions received, TEMT notes that there are other actions that can be taken to limit the accumulation of sediment. For example, encouragement of water sensitive urban design principles and soil and erosion control in the Estuary's catchments would contribute to improved outcomes. For example, the TEMT's River Health Action Plan was successful in securing $10 million through the Tasmanian and Australian Governments for actions in the catchments. While these are primarily aimed at reducing pathogen by fencing stock out of streams and improving riparian revegetation, they will also provide benefits to reducing sediments entering the Tamar through reducing erosion.

Next Steps

TEMT will commission hydraulic modelling to assess the flows necessary to deliver improved sediment mobilisation.