Report by Catherine Murdoch – 29th July 2014

Tamar Lake Concept – Natural Values Desktop Assessment Report

Comment by TI Ecologist Kathryn Pugh and Catherine Murdoch on the desktop assessment and potential ecosystem impacts of the proposed barrage located upstream of Moriarty Reach on the Tamar Estuary. 13 Jan 2014

The Natural Values Desktop Assessment Report (BMT WBM 2012) and the Further Ecological Assessment of threatened Species and Potential Ecosystem Impacts (E3 Consult 2012) comprehensively describe existing natural values in the estuary. The estuary has a number of high conservation significance aspects, including threatened flora, vegetation communities, geomorphology, amphibians, fish, birds and wetlands of significance, all of which are well-discussed within this report. This information will provide a good starting point for any further studies or approval processes.

We note that there are a number of issues not identified within the reports or statements made that are contradictory.

1. While the report accurately describes the Tamar Estuary the potential ecological effects of the barrage are not adequately explored. The report states in a number of areas that the barrage will replace the existing estuarine habitat with freshwater lacustrine (lake) habitat. However both reports state that the installation of the barrage will create anoxic conditions that may either create extensive algal bloom problems or acidification. The reports correctly identify that further research is required to model these impacts. Given these points the created freshwater lake environment may not in fact be of value so should not be promoted as providing beneficial habitat to threatened species until these impacts are understood.
2. The impact assessment report briefly mentions on page 9 that a negative impact upstream of the barrage may be changing water chemistry due to the changed hydrology. This issue needs further investigation as the barrage could in fact have far reaching indirect impacts on the water chemistry and hydrology patterns within the remaining estuary and potentially Bass Strait. It is our belief that the EPBC assessment process would want to know that there would be no indirect impacts on marine species feeding grounds or on Commonwealth protected areas.
3. Both reports state that there could be positive or negative impacts on migratory waders. It is probably advisable to remove intertidal species from these statements as the proposed inundation and loss of intertidal habitat can only have a negative impact on these internationally listed species.
4. The reports have identified the EPA assessment process but have not outlined the requirement for a Reserve Activity Assessment. This will be required given the conservation status of the estuary.
5. Given the identified direct impact impacts on EPBC listed species (Australian grayling, green and gold frog, migratory waders) and potential indirect impacts on marine species and conservation areas, an EPBC assessment process will be required for the project. It is highly likely that this process will require extensive investigations into both direct and indirect impacts of the proposal.