

27 June 2006

Bob Thompson
By email
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Dear Mr Thompson

Upper Bunyip Water and Logging

Thank you for your email of 21 May 2006 regarding a number of issues concerning the Bunyip catchment. It was agreed to talk to you at the recent Westernport seminar and I hope that the following will be of assistance.

Bunyip Weir Reconnection

The option to reconnect the Bunyip Weir to Melbourne's supply system appears to have been discounted in the Draft Central Region Sustainable Water Strategy, yet there is no clear basis for this.

As the catchment is located in a national park, the source water from the Bunyip catchment is, as you know, of a high quality, suitable for consumption with minimal treatment. Also, the Bunyip Weir is situated close to the Casey Cardinia growth corridor, one of the fastest growing areas identified in the Melbourne 2030 strategy.

Consequently Melbourne Water will suggest that this option be reconsidered in our response to the Draft Central Region Sustainable Water Strategy.

Water Quality Improvement Plan (WQIP) and conflict between water quality and timber harvesting

As Ian Morgans has already suggested, we will endeavour to have the WQIP give attention to the possible conflict between water quality and timber harvesting in the Bunyip catchment.

Scope of Environmental Flow assessment for the Tarago and Bunyip Rivers

The Environmental Flow study is being used to assess risks of harvesting additional water from both the Tarago Reservoir and Bunyip diversion weir. For this reason the study will cover the catchment from the Pedersen Weir and Bunyip Diversion Weir downstream. The Lower Bunyip is also being investigated to determine the flow connectivity needs of the river with Westernport Bay - mainly to assess risks associated with reconnection of Tarago Reservoir.

Bunyip headwaters and sediment loads to Western Port

The study will partly answer your request for a rigorous scientific study of the whole catchment (it will be more like a whole of catchment audit). However, turbidity problems are not proposed to be investigated in the detail that you suggest.


Based largely on the Westernport Sediment Study (WSS), our catchments staff at Melbourne Water are not convinced that logging is a major source of sediment to Western Port. Based on sediment samples within the Bay and catchment (including tracer assessments) and SEDNET modelling, persistent high turbidities in the north and eastern segments of the Bay are dominated by daily wind and tidal re-suspension of existing sediment within the Bay, rather than continual inputs from the catchments. Currently, dominant erosion sources within the catchment appear to be channel and gully erosion of the Bunyip and Lang Lang catchments. Modelled suspended sediment loads by sub-catchment indicate the loads from the Upper Bunyip catchment are relatively low compared to the rest of Westernport (i.e. 0-0.5 tonnes/hectare/year) -- see figure in attachment. Long-term water quality monitoring data tends to support this, with comparatively low turbidity and suspended solids concentrations in the Bunyip River at North Labertouche (see table in attachment). Our waterways staff at Melbourne Water could not find any evidence to support the finding that it is likely that the Bunyip Headwaters (not the Tarago) is contributing the offending sediment loads to Westernport and causing 15% of turbidity in its eastern arm.

Current monitoring of Bunyip River water quality includes four long-term routine water quality monitoring sites. These sites are tested monthly for a range of water quality indicators including turbidity and suspended solids. These sites are at or near existing stream flow monitoring gauges. The most upstream site is at North Labertouche Road, within the State forest -- not upstream of the Bunyip weir, but some 5-6 kilometres downstream of it. At our Iona site, we have a continuous turbidity monitoring device that has been operational since 1999. These data indicate a total TSS load per year of 2,160 tonne/yr for the Bunyip River compared to 3,478 tonne/yr for the Lang Lang catchment. These figures are low when compared with the urban streams within the Yarra catchment, which contributes 22,930 tonnes per year of suspended solids to Port Philip Bay.

In summary, existing data would suggest that logging in the upper catchment is not currently having a severe impact on sediment loads within Western Port. Melbourne Water is targeting the dominant source of sediment to Western Port by working with communities and stakeholders to manage channel erosion in the Bunyip and Lang Lang rivers. Over the coming years, the works program will involve stabilizing eroding sections of channel and removing barriers to fish passage in the cut section of the lower Lang Lang River, and middle Bunyip River. Channel and bank instabilities along with flood capacity issues on the Bunyip Main Drain are also being addressed through a 10 year, \$13.5 million program of major capital works to be completed by 30 June 2011.

If you would like to discuss the above further, you are welcome to contact me on 9235 2115.

Yours sincerely



CHRIS CHESTERFIELD
GENERAL MANAGER WATERWAYS

Attachment

Attachment

2001-2005 Summary Water Quality Statistics

Site	TSS median	TSS 75%ile	TSS max	Turbidity median	Turbidity 75%ile	Turbidity max
Bunyip River at North Labertouche	11	15	64	13	20	105
Bunyip River at Koo Wee Rup	13	22	85	19	29	103
Lang Lang River at Lang Lang	18	49	580	26	60	130
Cardinia Creek at Cardinia	6	10	53	13	26	195

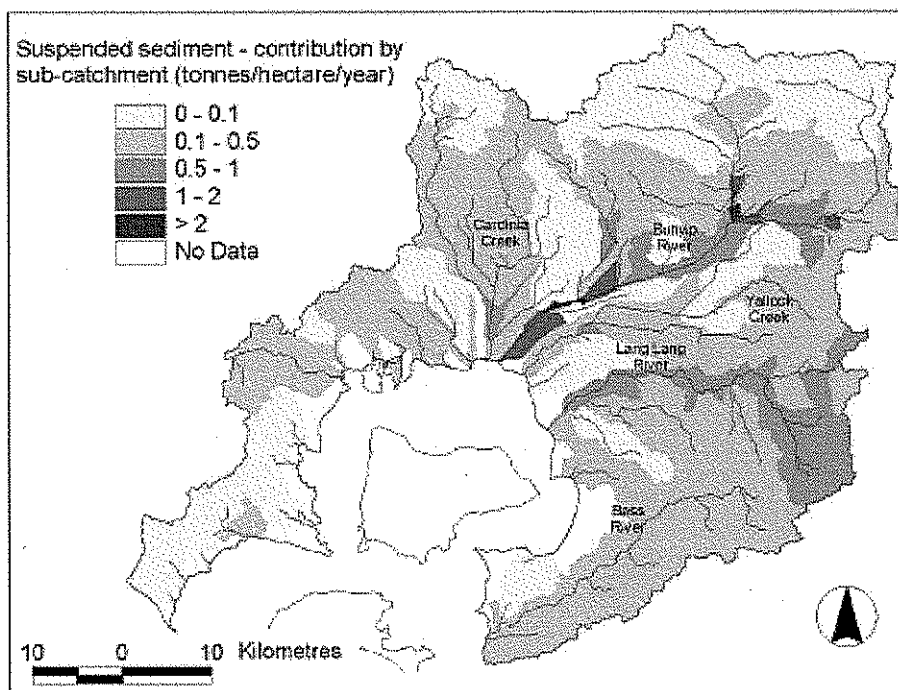


Figure 4: SedNet derivation of tributary sediment yields (from Hughes et al., 2003: Appendix C).