

4. DETAILS OF WATER SUPPLY

4.1. Water Yield

The Tanjil River is considered to be one of the most productive (for its catchment area and rainfall) and most reliable streams in Victoria.

The mean annual streamflow recorded at Tanjil South (below Blue Rock Lake) is approximately 150 000 ML, varying between 50 00 ML and 200 000 ML. The storage has a capacity of 200 000 ML.

4.2. Water Quality

The quality of water at various points in the river system has been the subject of extensive investigation. Such investigation has shown the water to be of relatively high quality, with most physical and chemical indicators consistently within acceptable levels for water for domestic use⁵. Levels recorded for colour, turbidity and bacteria (*Escherichia coli*) levels however, give rise for some concern. The colour levels recorded frequently exceeded the recommended permissible levels for water intended for domestic use. Colour is derived principally from organic materials and detracts from water quality in an aesthetic sense. Turbidity in the river was found to be generally low, but increased significantly in the lower portion of the catchment. Turbid water is aesthetically objectionable and may impair disinfection procedures, impart objectionable tastes and stimulate microbial growth.

Bacterial contamination (as indicated by *E. coli* levels) is such that raw river water is consistently unsuitable for domestic use and occasionally unsuitable for recreational use. *E. coli* itself is seldom a significant health hazard but it is normal inhabitant of the digestive system; therefore its presence in water is prima facie evidence of faecal contamination from native birds or animals, from domestic stock or from people.

The detection of water in Blue Rock Lake is likely to result in some improvement of water quality by allowing some settling of suspended solids and natural purification of the water.

4.3 Water Supply Systems

Water from the Tanjil River System is used in the Latrobe Valley for cooling in thermal electricity generating stations, for stock and domestic purposes and for irrigation. Domestic water supplies for Baw Baw Alpine Village and Tanjil Bren are obtained from small sub-catchments and are reticulated directly to the consumers without treatment other than limited detention.

The storage capacity of Blue rock Lake is 200 000 ML. Allocations of water from the dam have not been finalised, however the State electricity commission is entitled to 50% of the regulated flow and a small annual allocation (approximately 1 000 ML) has been made to the Shire of Narracan to supply Willow Grove. The Latrobe Valley Water and Sewerage Board has requested an annual allocation of less than 20 000 ML for transfer to Moondarra Reservoir, and it is likely that Moe Water Board will have an annual allocation of approximately 1 000 ML to supplement supplies from the Narracan Creek catchment.

Water for Willow Grove is taken directly from Blue Rock Lake and reticulated after chlorination. Water diverted from Blue Rock Lake to Moondarra Reservoir will supplement supplies to Traralgon, Morwell and other parts of the Latrobe Valley. Moe Water Board diverts water from the Tanjil River some 3 km below Blue Rock Lake for domestic use in the City of Moe. Water is treated by clarification and disinfection before reticulation. Approved private diversions for stock, domestic and irrigation purposes within the catchment total some 679 ML per annum.

The State Environment protection Policy for the water of the Latrobe River Catchment¹ requires the maintenance of a minimum flow of 350 ML/day or 125% of the natural flow

⁵ P. M. Geary, 1980. Blue Rock Dam Project – Tanjil River Water Quality Assessment. State Rivers and Water Supply commission, Victoria.

(whichever is the lesser) in the Latrobe River downstream of the existing junction with the Morwell River. Part of this requirement may be met by the release of water from Blue Rock Lake.