

## THE TASMANIAN PULP MILL—BELL BAY INDUSTRIAL ESTATE, TAMAR VALLEY

### Water

Due to its temperate climate Tasmania has 12% of the fresh water resources of Australia, in an area of less than 1% of the total national land mass and 3% of the population<sup>1</sup>. The average annual surface runoff is around 45,000 Gigalitres (GL)<sup>2</sup>.

This gives the State a competitive advantage when it comes to industry that need the use of large volumes of water, such as the pulp and paper industry that was established in the 1940's. Modern pulp mills internationally require an average of 40 cubic metres of water for each tonne of pulp produced.

With recycling and innovative design the approved new value adding pulp mill at Bell Bay will only use 23.5 cubic metres per tonne or a total annual use of and its use of 26 GL of water<sup>3</sup>. Whilst this is a significant amount of water it will not have a major impact on total Tasmanian fresh water resources.

Even on the local scale the impact is extremely small, with the Tamar River having a mean annual flow of 2,939 GL<sup>4</sup>. This means the pulp mill's consumption is less than 1% of the river's flow.

Currently only about 91 GL of the Tamar's massive flow is actually consumed<sup>5</sup>.

The pulp mill's water will be drawn from the Trevallyn Dam and will not impact on farmers as the water, will be taken down stream from the major irrigators.

The average inflow to Trevallyn is 802,000 ML in summer and 1,246,000 ML per winter, about 2,048,000 ML per year. The Pulp mill's 26,000 ML is thus a bit over 1% of the average.

#### Trevallyn - Summer/Winter

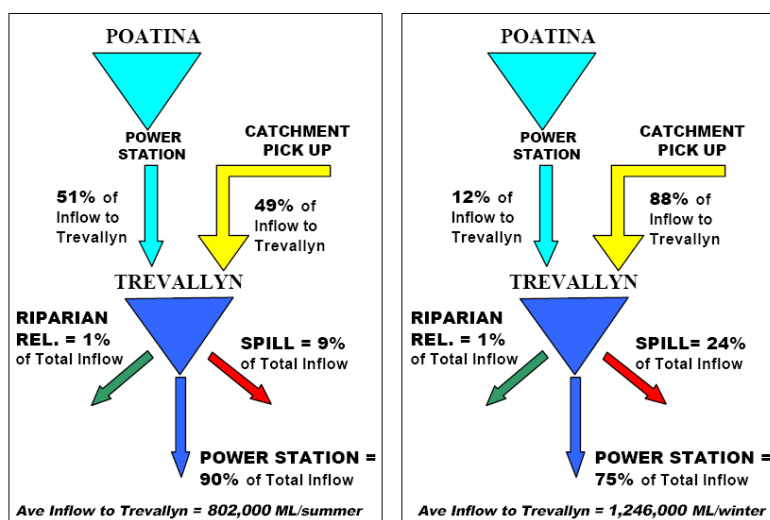


Diagram from the *Report on Hydro Tasmania from the May 2001 Water Development Plan* for Tasmania

<sup>1</sup> RPDC 2003 Tasmanian State of the Environment Report Water Quantity, accessible from <http://soer.justice.tas.gov.au/2003/ilw/3/issue/47/index.php>

<sup>2</sup> Department of Primary Industries, Water and Environment 2001, *Report on Water Availability in Tasmania - Background Report for the Water Development Plan*, DPIWE, Hobart.

<sup>3</sup> Gunns Limited 2006 Integrated Impact Statement, Executive Summary Section 5.3

<sup>4</sup> DPIWE 2001 Op. Cit. Table 2

<sup>5</sup> IBID

## **THE TASMANIAN PULP MILL—BELL BAY INDUSTRIAL ESTATE, TAMAR VALLEY**

### **WHY DOES THE PULP MILL NEED WATER?**

Water is a fundamental resource requirement of a pulp mill. It is used in all of the cooking, cooling and washing processes.

The proposed pulp mill at Bell Bay is designed to use 23.5 m<sup>3</sup> of water per tonne of pulp produced.

The required raw water supply when operating at full capacity of 1.1 million air dried tonne of pulp each year is 25.85 million m<sup>3</sup> each year. This amount is also referred to as 26 gegalitres a year, or another way of expressing this is 26,000 megalitres.

### **HOW MUCH IS 26 GIGALITRES?**

A megalitre is often equated to an Olympic size swimming pool, but this is incorrect as such a pool is 50m long by 25m wide by at least 2m deep, this has a minimum volume of 2500 m<sup>3</sup> or 2.5 megalitres.

A gegalitre is a measure of volume equal to a thousand megalitres. (ML = 10m high, 10m long and 10 m wide).

Whilst to a householder or farmer 26 GL is a lot of water, to the Trevallyn Dam where the historic annual inflow of is about 2,048 GL per year, it is approximately 1.3%.

In a dry month, such as at the end of the summer season, 26 GL could represent 3 to 4% of the flow into the Tamar Estuary.

### **Environmental Flow**

The iconic Cataract Gorge is below the Trevallyn dam and State legislation requires Hydro Tasmania to maintain a minimum flow of 0.43 Cumecs down the Cataract Gorge. A cumec is equal to one cubic metre of flow per second.

Recently Hydro has agreed that for a trial period of 5 years, the minimum flow of the Gorge is increased to 1.5 cumecs. This initiative represents more than a threefold increase.

The 26 GL/yr of water going to the pulp mill will not impact on the minimum flow requirement required in the gorge.

### **Cost of Water**

Flowing through the Trevallyn generators of Hydro Tasmania 26 gl/yr generates about 0.8 megawatts of electrical energy. Interestingly that same volume of water used in the pulp mill facilitates the generation of more than 200 megawatts of electrical energy.

The Hydro and Gunns Limited have publicly announced that the , the minimum fee for the water is \$24 per megalitre. This is about twice the fee charged by Hydro Tasmania to other existing users in the South Esk catchment.

The water fee will increase in line with increases in the value of electricity. There is no maximum fee specified.

Had Gunns been taking water this year [2008], the fee payable would have been about \$29 per megalitre<sup>6</sup>.

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<sup>6</sup> Greg Carson, Water Operations team leader, Hydro Tasmania; Letters to the Editor, the *Mercury* Wednesday March 12, 2008 Page 30