

Depletion of water supplies due to pulp mill plantations

Water is becoming more precious but the pulp mill plantations will lead to chronic and increasing shortages of water for farmers, communities and towns for decades to come.

The critical risks to communities of falling water supplies because of consumption by the plantation wood supply for the proposed pulp mill has been overlooked by the Government and its consultants, Sweco Pic and ITS Global.

Rapidly growing thirsty trees in plantations soak up more water from the ground than native forests or grasslands. The moisture is absorbed through the roots and lost to the air through leaves. By 15 years of age, trees in a one hectare plantation will lose around 2 million litres of water per year in excess of that used by native forest or grassland.

When as little as 7 to 8% of the catchment is converted to plantations, the water table is lowered and downstream flows diminish (Leaman D. *Water*, 2007). (A figure of 20% coverage is sometimes used to indicate significant declines in flow but is based on limited research and is not very useful.) River flows in an **estimated 20 of 24 northern catchments** were diminishing by 2006 due to expanding plantations (see table next page).

The DPIW *Report on Water Availability in Tasmania (2001)* found that close to all rivers in Tasmania were under stress during dry summer periods and that future availability of the water resources was uncertain. Since 2001, conditions have become much worse, partially due to the rapidly expanding forest industry and rivers are under stress in the driest months with blue green algal blooms, water restrictions for farmers and threats to town water supplies eg. Launceston's water supply.

Northern rivers will become even more stressed as declining rainfall reduces flows by around 15% over the next three decades according to climate change predictions.

Water supplies will be squeezed further by both Managed Investment Schemes driving the purchase of farmland for plantations as well as the shortfall in actual growth rates of 25% less than predicted (Brian Hayes, Gunns Regional Manager, Mercury, 5/8/06) required to meet Gunns' pulpwood volume forecasts. The *Plantations for Australian: The 2020 Vision* does not acknowledge the demands on water resources.

Uncontrolled expansion of plantations for a pulp mill locks in water shortages and carries large hidden costs for communities, businesses and the Tasmanian economy.

Note: an Olympic swimming pool is about 1 500 000 litres or 1.5 mega-litres (ML).

Table re depletion of water supplies due to pulp mill plantations

The table below showing the depletion of catchment water supplies by plantations is based on 2004/2005 satellite imagery of catchments in northern Tasmania (source Private Forests Tasmania). The satellite images show the plantation areas as they were around the year 2000. The 4-5 year time lag is due to the period required for ground preparation after clearing and for young trees to grow to a recognisable size.

In the six years to 2006, the plantation area has increased by 33.4% (National Plantation Inventory) but the exact location of recent plantations is not available. In lieu of this data, the 'Status 2006' column below is based on a uniform 33.4% increase in plantations across all catchments.

See the map for the location and status of downstream flows in catchments impacted by plantations.

% of catchment covered by plantations	Depletion of catchment water supplies by plantations	Key
Less than 8%	minor	
8-19%	Moderate	
20-29%	Significant	
More than 29%	High	

Catchment number	Catchment name (from west to east)	Catchment area (ha)	Plantation area (ha) in 2000	% area of catchment with plantations in 2000	Estimated % area of catchment with plantations in 2006	Status 2006
24	Welcome	53363.3	2564.2	4.8	6	
26	Montagu	37052.6	2429.4	6.6	9	
27	Duck	54165.7	4183.6	7.7	10	
28	Black-Detention	64615.7	3707.8	5.7	8	
29	Inglis	61570.1	11817.5	19.2	26	
30	Cam	28859.5	9744.7	33.8	45	
31	Emu	25461.9	8267.1	32.5	44	
32	Blythe	37718.3	3477.7	9.2	12	
33	Leven	72740.0	11275.4	15.5	21	
34	Forth-Wilmot	117960.7	7537.7	6.4	9	
35	Mersey	190890.8	13760.4	7.2	10	
36	Rubicon	71754.8	8629.3	12.0	16	
37	Meander	156863.2	9332.1	5.9	8	
41*	South Esk	334950.9	15561.5	4.6	6	
42	North Esk (L'tn water supply)	69039.0	20807.0	30.1	40	
43	Tamar Estuary	107439.0	3980.3	3.7	5	
44*	Pipers	75369.7	6399.6	8.5	11	
45*	Little Forester	35355.5	7645.0	21.6	29	
46*	Great Forester-Brid	78301.3	11505.2	14.7	20	
47	Boobyalla-Tomahawk	42 000	4038.8	10	13	
48*	Ringarooma	98284.5	8216.0	8.4	11	
2*	Musselroe-Ansons	97209.3	3476.4	3.6	5	
3*	George	51 500	3002.6	6	8	
4*	Scamander	36 000	3783.9	10.5	14	
					Average = 16%	

*Most of the plantations in these catchments are located in the high rainfall north east highlands where they consume greater amounts of water than the average 2ML/ha/yr. Since the impact of plantations on downstream flows is determined by averaging plantation areas across the whole catchment, the assessment of their status is very conservative.