



Flows through the South Esk

Environmental flows, Trevallyn Dam and power generation

Historical flows

The Tamar estuary and Esk rivers catchment is the largest catchment in Tasmania, covering approximately 15% of Tasmania’s land area. Within the broader catchment, the South Esk River catchment is the largest, with the top of the catchment starting near the east coast of Tasmania. The South Esk flows travel west across Tasmania, past Fingal and Avoca where they turn to flow north through Longford and into Lake Trevallyn. Along the way, water from the Macquarie River, Meander River and Brumby’s Lake catchment also flow into the South Esk River on its way to the estuary.

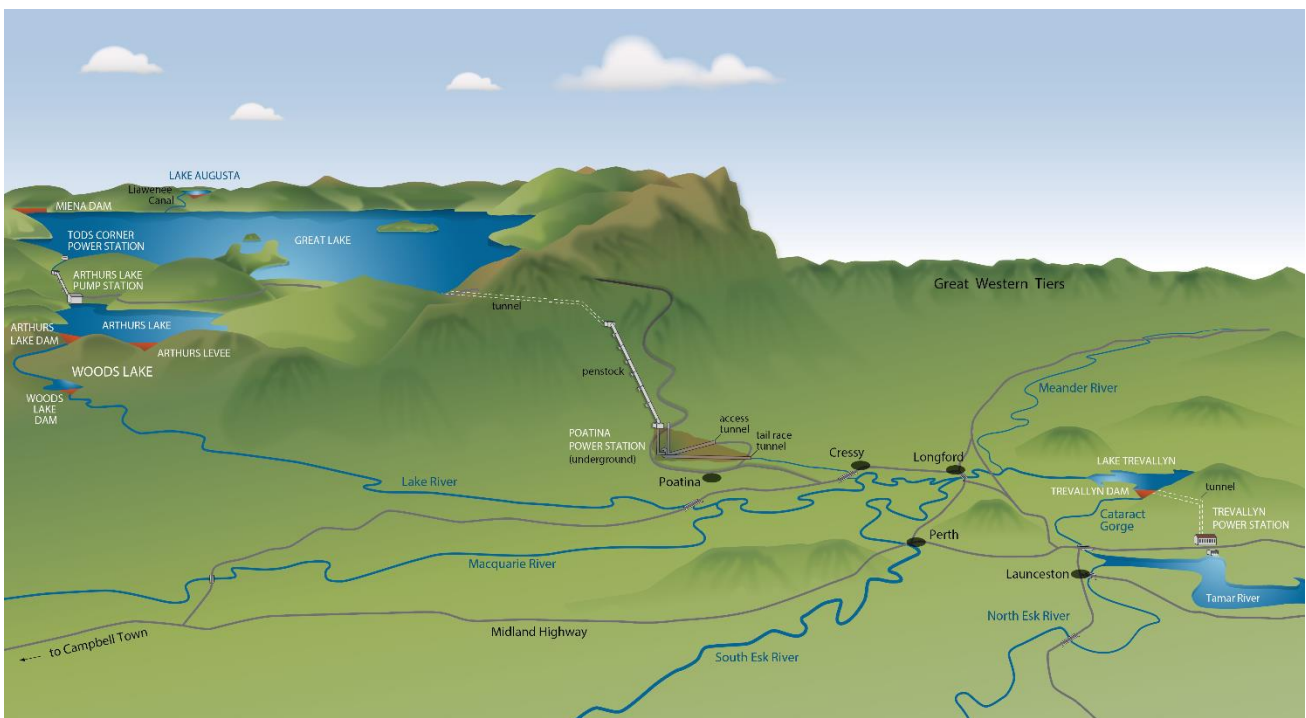
Historically all the South Esk River water would flow through Cataract Gorge and into the upper kanamaluka/Tamar estuary.

The use of flow to generate power

Trevallyn Power Station was commissioned in 1955, it uses most of the flow through the South Esk River to generate power.

The flows from Lake Augusta and Great Lake, which are located in the Derwent catchment, are now diverted to the South Esk River via Poatina Power Station. This means that Lake Trevallyn receives more water than it would under normal flow regimes.

Lake Trevallyn holds 8,520 megalitres of water and if you run the power station at it’s maximum capacity, the reservoir could be emptied in 24 hours if there was no inflow from upstream.



Schematic representation of flows through Poatina Power Station and Trevallyn Power Station

Trevallyn Power Station generates on average 400 GWh annually, which is 4% of the state's energy demand and could power all the houses in Launceston all year, plus some.

Environmental flows through the Gorge

Hydro Tasmania releases 2,500 litres per second (2.5 cumecs), through Cataract Gorge as an environmental and social flow. They also release water for recreation paddling at least twice a year.

Floods still lead to water spilling over the dam and through Cataract Gorge. The frequency of these spills depends on whether it is a wet or dry year.

Before Trevallyn Power Station was built, flows through Cataract Gorge fluctuated with seasons. In summer, environmental flows through Cataract Gorge would have been less than 2.5 cumecs at times.

Flow and sedimentation

Changes in flow and the presence of Trevallyn Dam are often thought to be the cause of sedimentation in the upper estuary. However newspaper articles dating back to the 1900's show that sedimentation was a concern of residents long before Trevallyn Dam was commissioned in 1955.



Article from the Examiner in 1946, before Trevallyn Dam was built, showing residents' concerns about sedimentation in the upper estuary.

In 2019 the Tamar Estuary Management Taskforce commissioned a study to look at whether releasing flows through Cataract Gorge would remove sediment build up in the Yacht Basin. The results of the study showed that emptying the dam would remove only very small amounts of sediment from the upper estuary, and that the sediment would return within three months.



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