

## **Keeping the Jenolan Caves 'Blue Lake' blue**

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### **Abstract**

*"A natural archway and a brilliant blue lake on which black swan float, welcome visitors to Australia's finest caves."* Scenic Wonders of the World, Reader's Digest, Sydney, (1981).

The Blue Lake ('the Lake') referred to in the quote is found at Jenolan Caves, New South Wales, Australia. In recent years the Lake has been rarely true blue and is often colourless, green and/or turbid. The Lake was artificially created in 1903 in order to have a constant head of water for a hydroelectric plant located approximately 2 kilometres downstream. A 10m high dam wall retains the water spread over a surface area of 130m x 35m. Three creeks charge the Lake: Camp Creek, which flows through the Southern Group of Jenolan Caves; the Jenolan River, which flows through the Northern Group of Jenolan Caves; and Surveyors Creek, which flows through the *Caves House* Precinct and Grand Arch.

The Lake is a sediment trap accumulating sediments carried by the three creeks and runoff from its surrounds. Prior to the dam's construction this sediment would have moved further down the Jenolan River. Following construction of the dam, the sediment was periodically dredged and dumped over the dam wall into the river. In recent years sediment has accumulated to unacceptable levels due primarily to the dredging of the river being no longer permissible and as a result, the extent of aquatic weed infestation in the Lake has increased. The construction of the dam wall and creation of the Lake has also lead to water back-filling in caves.

The presence of this water is adding to the visitor experience and is significant in terms of cave ecology. This paper will explain the blue in Blue Lake and suggest reasons as to why its colour is varying. It will outline the *Blue Lake Management Strategy Action Plan* which will have the aim of restoring the Lake to its blue colour and in doing so, protect one of Jenolan's more prominent features. The Action Flan will provide detail on preliminary investigations such as the possibility of re-instigating dredging, methods of weed eradication and control, sediment trapping and the impact any work on the Lake may have on wildlife (particularly platypus) inhabiting it.