

# DEVILS GATE DAM

**Location:** On the Forth River near Sheffield. Turn off 1 km south of Barrington.

**Owner:** Hydro Tasmania

The plaque is located near the dam crest.

## Arch Dams

Arch dams require sound rock abutments on both sides of the valley to carry the thrust from the arch.

The horizontal and vertical curvatures are chosen to ensure that virtually all the concrete is in compression.

Otto Vettiger wrote a computer program to calculate the stresses in the arch, one of the first such programs in the world. Frank Kinstler was the principal designer, reporting to Jack Fidler and Bill Mitchell. Ted Hoffo was in charge of construction.

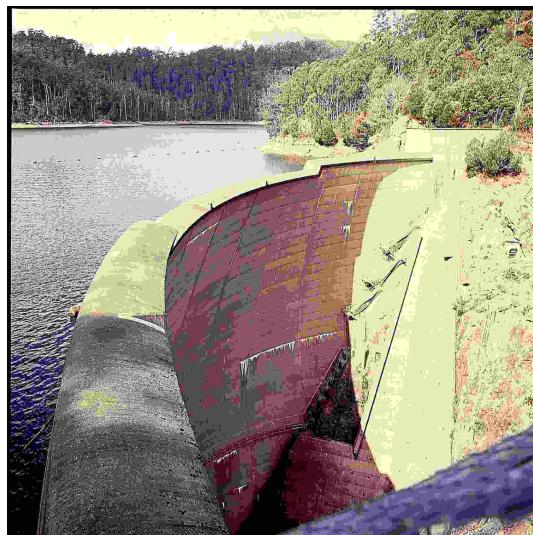
## Spillway

The overhanging crest allows flood water to freefall to the river bed. With up to 2000 tonnes of water falling every second during an extreme flood, the potential for eroding the dam foundation is severe, so that concrete slab protection on both abutments is essential.

Using hydraulic model tests, the slabs on the two abutments are designed to deflect the falling water into two colliding jets to destroy most of the energy in mid-air.

## Rowing course

Lake Barrington created by the dam is the site of a rowing course which is the first choice for Tasmanian rowing regattas and which attracted international acclaim when it hosted the World Rowing Championships in 1990.



**Devils Gate Dam**

## HISTORIC ENGINEERING MARKER

### Devils Gate Dam

This is one of the thinnest concrete arch dams in the world. It was completed by the Hydro-Electric Commission in 1969 and is 84 m high. The narrowness of the gorge and the computer-aided design of its double-curvature shape enabled engineers to minimise the volume of concrete and hence the cost of the dam. Flood waters falling freely from the crest strike concrete slabs carefully positioned on the abutments to prevent undermining of the dam by erosion.

Dedicated by The Institution of Engineers, Australia 2001

## Mersey Forth Power Development

This scheme develops the hydro-electric resources of the Mersey, Forth and Wilmot rivers.

There are seven dams and power stations.

Devils Gate Power Station is located at the foot of the dam and contains a 63 MW Francis turbine.

## Heritage Dams Project

Devils Gate Dam was one of the 25 dams selected in a national survey to find those dams with the highest heritage values.