

# Factsheet: What is a dam?

## Water Discovery



A dam is a wall-like structure that is built across a creek or river, to block the flow of water through the landscape.

When it rains, water builds up behind the dam, creating an artificial lake or reservoir.

### What materials are used to build dams?

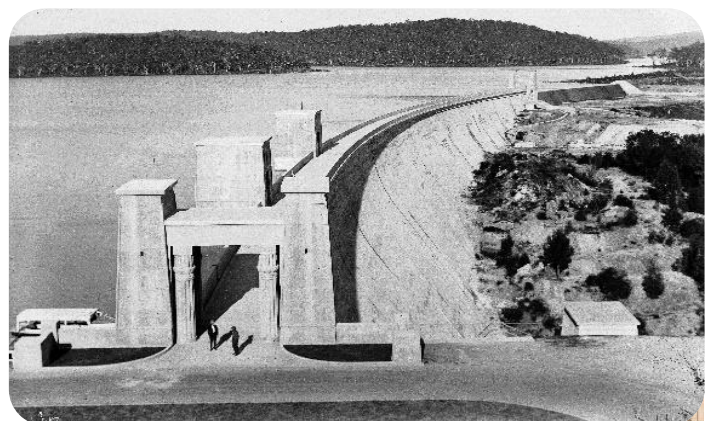
Dams can be built from a combination of earthfill, rockfill, concrete, or stone. Dams need to be strong enough to hold back the force of the water that pushes against them.



Chaffey Dam is a rock-fill dam with a clay core. The rock wall is 443 metres long and 55.8 metres high.



Warragamba Dam is constructed from giant concrete blocks.



Cordeaux Dam was built from sandstone blocks like the Egyptian pyramids and finished in 1926. It was modelled on Tutankhamun's Tomb.



### Why do we need dams?

We all need water to survive. WaterNSW dams contribute two thirds of water supplied across New South Wales including to metropolitan and regional areas.

The key purposes of dams are generally a combination of irrigation, hydropower, flood mitigation, and town water supply.

Dams can supply water for irrigation to grow food and for farm animals to drink. Some dams generate electricity from hydropower, while others can be used to minimise the impact of flood events. Some are also used for recreation purposes, including fishing, swimming, and sailing.



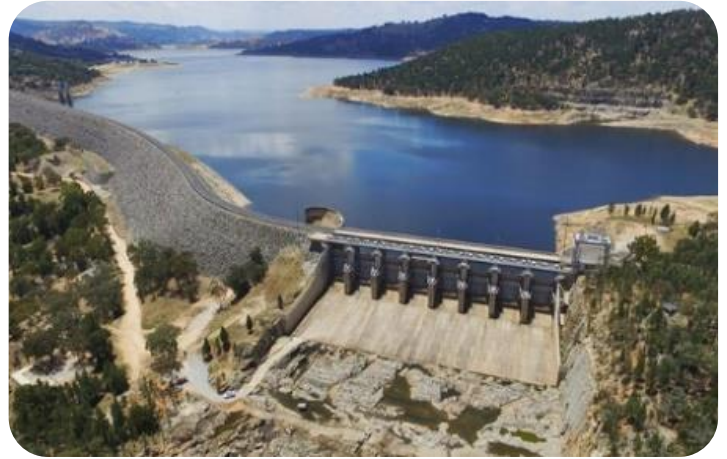
## What happens when the water reaches the top of the dam?

When it rains heavily, there is an increase in the quantity of water that is flowing into the reservoir. If the reservoir fills beyond its maximum capacity, it will overflow.

Dams are designed with gates and spillways so that water can overflow and safely escape, making its way downstream.

## How does WaterNSW manage and maintain its dams?

WaterNSW continually monitors and checks its dams. Automatic sensors are used to measure changes in dams. All major dams need to comply with state-wide, national, and international dam safety standards to make sure they are safe.

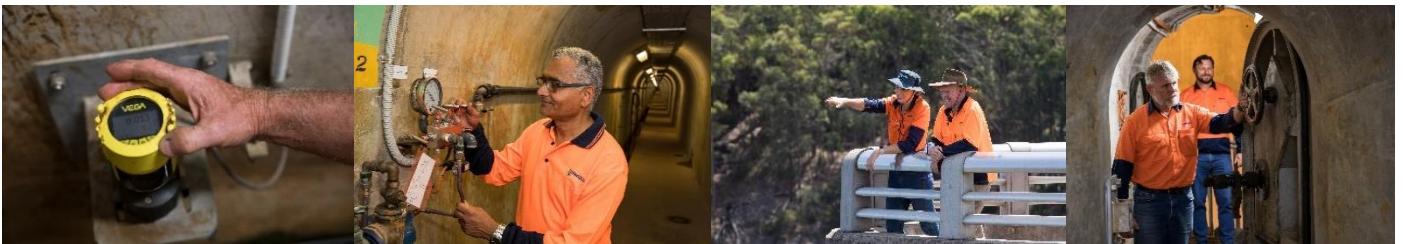


Wyangala Dam, NSW

## An example of daily maintenance.

There are drains on and in concrete dams that must be kept clean. This is important as water naturally seeps through the dam foundation which creates “uplift” pressure on the dam and must be able to escape so that it doesn't cause instability.

The area around an earthfill or rockfill dam must be kept clear of trees. This is important as when a tree dies, its roots rot and can form a “pipe” or seepage pathway. Water seeping through a pipe has the potential to lead to dam failure.



## Environmental flows.

An environmental flow is water released from a dam or a weir to maintain downstream river health. Environmental flows can help protect the life in the river and improve river conditions for recreational use.

## Did you know?

- WaterNSW operates over 40 dams across New South Wales.
- In 1978, Ken Worby set the World Water Speed Record in a wooden speed boat on Blowering Dam.
- Beavers build dams too. The biggest beaver-built dam is in Alberta, Canada. It is over 850 metres long. This is over two times the length of Warragamba Dam which is 351 metres long!

