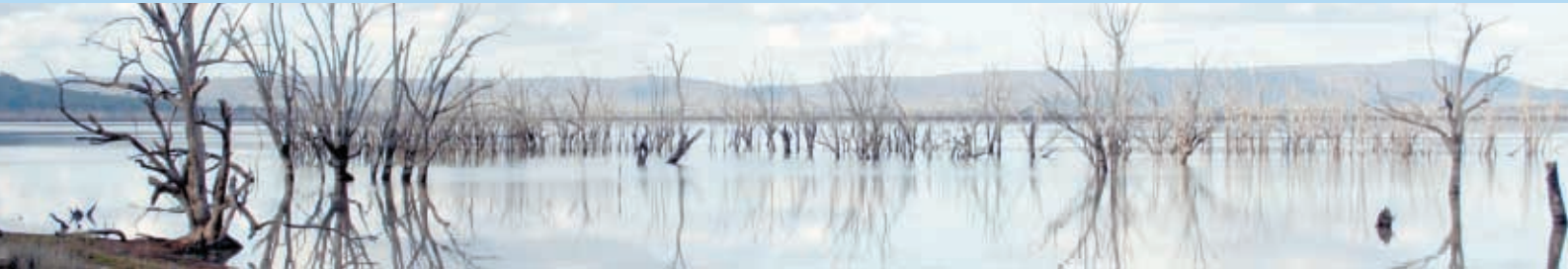


FACT SHEET 4

BROKEN SYSTEM - LAKE MOKOAN – MANAGEMENT AND OPERATION



Produced by Goulburn - Murray Water and Department of Sustainability and Environment

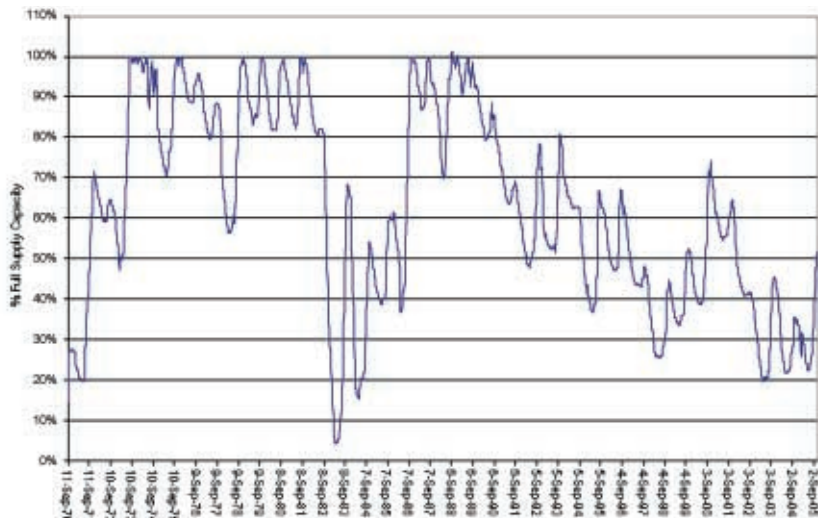
BACKGROUND

During the drought of 1982/83, Lake Mokoan was drawn down to 4 per cent of its capacity to supply the River Murray. (figure 4.1)

When the Lake refilled in 1986, mud and silt increased the turbidity of the waters. This meant that growth of submerged plants was limited and blooms of toxic blue-green algae (BGA) became more common. BGA blooms have occurred regularly at Lake Mokoan since the late 1980s and for the duration of blooms, the use of Mokoan waters for recreation or irrigation is prevented. (Impacts of BGA on system reliability are explained Fact Sheet 5.)

Since 1986 a number of changes to the operation of Broken System Storages have been made to improve water quality in Lake Mokoan. These changes and recent dry years have resulted in Lake Mokoan operating at water levels lower than were common before 1986.

Figure 4.1 Lake Mokoan Storage Trace (% FSL Volume)



HARVESTING

Water can be harvested when volumes of water flows into storages are in excess of downstream demand. This might happen after a period of high rainfall.

Harvested water is diverted to Lake Mokoan from the Broken River at Broken Weir and from Hollands Creek at Hollands Weir. Up to 2,400 ML per day can be diverted into Lake Mokoan, but water is only harvested if its turbidity is below the trigger level to maintain water quality and ward off BGA. The first flush after a dry period is not harvested for the same reason.

Lake Mokoan operations target a maximum seasonal rise or fall of 1.85 metres. When the target level has been met and inflow is still available, storage levels can increase to 300mm above that level for one week to help European Carp spawn and cull their eggs.

SAFETY

In 2002 Goulburn-Murray Water (G-MW) conducted a review of the safety of the dam at Lake Mokoan. The review found a risk of failure in the dam embankment through seepage and internal erosion - an event known as "piping".

As a precaution against a "piping" failure G-MW restricted the maximum level at which Lake Mokoan can operate. An interim Full Supply Level (FSL) of 165.90 metres Australian Height Datum (286,270 ML, 78% capacity), or 1 metre below the original FSL, now applies.

DIVERTER ORDERS

The "Waterline" ordering system allows diversion licence holders to enter orders into the G-MW irrigation planning database by telephone, which they are required to do 4 days prior to planned irrigation. The database captures information about flow rates, start times and duration of irrigation and means G-MW can plan the most efficient operation of the supply system.

REGULATED RELEASES

G-MW releases water from either Lake Nillahcootie or Lake Mokoan to meet the demands of irrigation, transmission loss, operational loss and other downstream requirements such as environmental flows and supply to the Goulburn River.

For more information please call 1800 013 357