



Green Lake (Horsham) Operating Rules

Green Lake is an off-stream reservoir that was originally constructed for irrigation purposes. Water from Green Lake can be directed through Dock Lake or bypassed around Dock Lake to supply the Horsham irrigation area via the main irrigation channel.

Following construction of the Wimmera Mallee Pipeline all future irrigation demands will be supplied from Taylors Lake. Green Lake will only be used for recreation purposes in the future.

Because Green Lake is no longer needed for water supply purposes, no clear rules were defined for how Green Lake will be supplied in the future under the current Bulk and Environmental Entitlement arrangements.

As part of stage one of the Reservoir Review process completed in 2008, GWMWater committed to supply Green Lake in wetter years to support recreation. The events from September 2010 to January 2011 have shown that this is possible without impacting on other entitlement holder's regulated entitlements. However, the exact nature of the supply rules are to be determined.



Figure 1 shows the general layout of Green Lake in relation to nearby reservoirs.

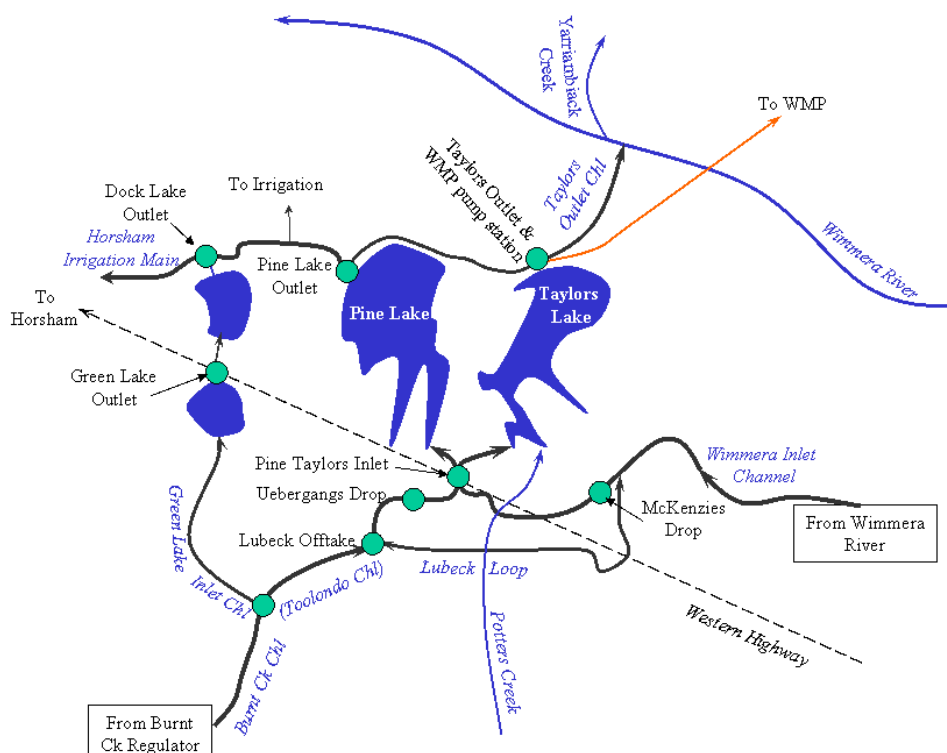


Figure 1: General layout of Green Lake

Overview of January 2011 Flood Event

Significant localised flooding occurred around the Mt Zero, Laharum and Burnt Creek areas during January. Many hundreds of megalitres found its way into Green Lake from its natural catchment. A similar additional volume was diverted into Green Lake via the Burnt Creek Channel to assist in protecting water supply assets in that area.

Flooding caused upstream channel embankments to be over-topped in some areas, with flows far exceeding intended design capacities. During flooding, priority is given to protecting water supply infrastructure to avoid failure and costly repairs. This is achieved by directing water to the nearest suitable reservoir (where spare capacity exists) or natural drainage line. Pine Lake was also used during this period for the protection of water supply assets.

Green Lake Facts and Figures	
Full Supply Level	135.70 m AHD
Full Supply Volume	5,350 ML
Spillway Level	None
Spillway Length	None
Spillway Capacity	None
Inlet Channel Capacity	100 ML/d
Maximum Discharge	100 ML/d
Catchment Area	Approximately 1,000 ha
Surface Area when Full	180 ha
Major Tributary	Mibus and Diggers Creek
Average Annual Inflow (2009)	

Current Operating Rules

- > Supply in wetter years.

Proposed Operating Rules

The following rules are aimed at defining what a 'wet' year is, with the intent that Bulk Entitlement and Environmental Entitlement holders will not be affected. Specifically, this would usually mean that a supply would only occur to Green Lake when there is no room for transfers into other reservoirs, particularly Taylors Lake.

Supply will be made into Green Lake:

- > From its own natural catchment at any time.
- > From flood waters diverted into the lake when necessary to protect upstream water supply assets.

Entitlement holders are considering the following scenarios for when supplementary supplies can be made into Green Lake:

- When Lake Wartook is spilling;
- When Rocklands water is being transferred to Toolondo Reservoir;
- When Rocklands water is being transferred to Taylors Lake; and
- When Rocklands water is being released to maintain its Maximum Operating Level.

Glossary

AHD – Australian Height Datum, used for altitude measurement. Zero is the mean sea level for the period 1966-68.

Freeboard - Height between normal maximum operating level and the top of the bank or spillway.

Full Supply Level - The normal maximum operating level of a reservoir behind a dam.

Reference: Grampians headworks system fact sheet

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