

## Policy – Water Level Management in Lake Glenmaggie

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- Policy** When managing water levels in Lake Glenmaggie, we have three objectives :
- Maintain the structural integrity of the dam
  - Manage releases to minimise impacts on downstream communities, and
  - Maximise water harvest for entitlement holders

Whilst meeting the objective to store water for irrigation, we may operate the storage below Full Supply Level (FSL) during high inflow periods or where we experience unseasonably high storage levels to provide some mitigation for possible floods. This practice considers historical catchment behaviour, current inflows, forecast rain and river flow models.

Management is to follow procedures that align with these policy objectives. This means following the:

- Eastern Storages Flood Plan procedures;
- an MD approved release strategy during unseasonably high water levels; and,
- release strategies developed for each flood.

If short-term changes to the procedures are sought for a specific flood this requires the Managing Director to approve a release strategy before proceeding.

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**Definitions** Full Supply Level (FSL) is the design operating level of the storage measured at the dam wall. The storage can operate above FSL during floods. The flood plan limits this to 100 mm above FSL.

Eastern Storages Flood Plan – sets out the rules and procedures to follow for management of floods. It also provides guidance on the water level management in the lake during the winter and spring period when the lake is filling.

“Release strategy” is a document that is regularly updated during the winter and spring period where storage levels meet triggers defined in the “Eastern Storages Flood Plan”. Each update is signed off by the Managing Director.

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**Effective date** This policy takes effect on March 2018.

**and review  
date**

It is due for review by May 2021.

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**Who is  
affected**

This policy applies to staff responsible for operational decisions regarding the water level in Lake Glenmaggie.

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**Rationale**

As there are potentially competing objectives when managing water levels in Lake Glenmaggie and considering the importance of these to the downstream community and entitlement holders, this policy sets out the key documents to consider in the management of high inflows and water levels.

As the appointed storage operator for Lake Glenmaggie, Southern Rural Water (SRW) has a core obligation to manage the dam safely.

The purpose of Lake Glenmaggie is to store and release water for the Macalister Irrigation District. It is the prime source of water for the district.

SRW recognises the critical contribution that water in Lake Glenmaggie has for Macalister irrigators and to the economic well-being of the regional economy. The costs of managing the storage are charged to entitlement holders in the Macalister Irrigation District.

SRW understand the impacts of flooding on downstream houses, farms, businesses, other properties, roads and towns.

The reservoir holds 177,640 ML at the design FSL. The storage is small relative to its a catchment size 1891 km<sup>2</sup> and generally spills most years, typically during the period from late winter to early summer.

Its main spillway has fourteen gates that allow control of releases when the water level is above 67% (73.45 m AHD or 119,174 ML). Below 67% the ability to release flows is through the northern and southern outlets, which have very small capacity relative to floods.

Lake Glenmaggie compared to many dams has a limited capacity to mitigate floods due to its small size relative to peak flows. The impact depends on the storage level at the time of the flood and the size of the flood. Generally as the flood increases, the storage has less ability to delay or moderate the downstream flood impact.

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**Contact**

For more information on this policy, contact General Manager Technical Services

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**Related documents**

Dam Safety Management Policy  
Statement of Obligations – Section 5-3 & 7-2  
Water Act – c122ZL 2(d)  
Eastern Storages Flood Plan  
Corporate Incident Management Plan  
Glenmaggie Dam Safety Emergency Plan  
Release strategy

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**Communications**

This policy will be made available on SRW's website.

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