

Keeping waterweed under control

Goulburn-Murray Water (GMW) and the Murray–Darling Basin Authority (MDBA) are successfully managing the growth and spread of the waterweed *Egeria densa* in Lake Mulwala by periodically lowering the water level of the lake to expose the weed to the open air.

Egeria densa

Lake Mulwala is a major feature of the Yarrawonga and Mulwala communities on the Murray River. Over the past 20 years, the environmental and aesthetic values of Lake Mulwala, along with its recreational use, have at times been impacted by the waterweed *Egeria densa* (Egeria).

The highly invasive nature of Egeria results in the weed outcompeting and displacing native underwater vegetation such as floating pondweed and ribbonweed.

Apart from these environmental effects, when it is abundant and widespread Egeria can also restrict usage of the lake, making it difficult to launch a boat, troll a lure, swim, or water ski without getting tangled in the weed. It can also cause issues by blocking pipes for those drawing water from the lake.

Egeria is an introduced plant species known as a submersed aquatic macrophyte, which thrives underwater. This means it does not tolerate being exposed to the open air and drying out.

It is unknown how the Egeria got into the lake but it is at highest levels of infestation according to the latest survey conducted by the Agriculture Victoria research unit. This report also found that the native underwater plant population has been slowly increasing.

Lake drawdowns

Lowering the water level of Lake Mulwala, known as a 'drawdown', and exposing the weed to open air has proved to be an effective way of controlling the waterweed's distribution and abundance across the whole lake. The drawdown does not have a dramatic effect on the native plants as history show they bounce back quite quickly.

Between 1993 and 2007, Lake Mulwala experienced a prolonged period of stable water levels, being drawn down only once in this time for weir maintenance to be done. The stable water levels enhanced the suitability of conditions in the lake for Egeria to flourish.

By 2008 Egeria occupied about 60 per cent of the area of the lake. That same year the lake was drawn down in the course of day-to-day operations but this it wasn't low enough to expose all the Egeria. Since then, targeted drawdowns have been conducted every 3 to 5 years during winter to the point where the weed has been sufficiently exposed to the open air. The table below provides a summary of the results.

YEAR	DEPTH OF DRAWDOWN BELOW FULL LAKE LEVEL	EFFECT ON EGERIA
2008	2.86 metres	Minimal effect. The drawdown was not deep enough to expose the lake bed where Egeria was growing.
2009	5.43 metres	Dramatic effect. All Egeria was exposed, reducing it from 60% to 1% of the lake's area.
2011	3 metres	Good effect. Maintained Egeria at its lowest level since monitoring began
2015	3.5 metres	All Egeria exposed. Good effect in the first two years, but abundance increased significantly by 2018
2018	5 metres	Excellent effect in first 2 years All Egeria was exposed and abundance decreased to manageable levels, but it has increased significantly in 2021



In 2008 (left), most of the Egeria below the surface of these mounds remained alive throughout the drawdown because it was protected from frost and drying out. Source: DEDJTR, Victoria

In the 2015 drawdown (right) most of the Egeria was exposed. Source: MDBA.

Future management

Like most weeds, *Egeria* cannot be eradicated entirely but it can be managed. Lowering the water level to expose the weed to air and frost to dry it out has been found to be the only feasible management option for controlling *Egeria* over the whole lake.

Based on the success of this strategy, as well as the positive community feedback, lowering Lake Mulwala periodically will continue to be the preferred method for managing *Egeria* in the lake into the future.

Every year, GMW engages aquatic weed biologists from the Victorian Department of Environment, Land, Water and Planning to assess the weed distribution, density and depth throughout the lake.

Based on their findings, the lessons from previous drawdowns, stakeholder feedback and river conditions, the MDBA and GMW arrange the drawdown of the lake to control the weed every three to five years.

The lake continues to be an important feature of the Yarrowonga and Mulwala environment and community amenity. Ongoing consultation with local government, recreational groups, irrigators, the local community and other water users will help to ensure the future enjoyment of the lake.

The drawdowns offer an opportunity for landowners to carry out maintenance works on their assets at the lake edge and local businesses have maximised these events, with tourists travelling to the region to view the changed environment.



Winter 2018 drawdown

Egeria (in the foreground) exposed and dried during the 2018 drawdown.
Source: MDBA



Winter 2015 Drawdown

The same location with no *Egeria*, but small areas of native floating pondweed reaching the water surface.
Source: DEDJTR, Victoria

More Information

For more information about the active management of *Egeria densa* in Lake Mulwala, contact Goulburn-Murray Water's Yarrowonga office:

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