Understanding fish communities of the Clare Valley 2026

To effectively manage the natural resources of the Clare Valley it is important to understand its current condition. This assessment provides current knowledge of the Clare Valley fish populations to help inform water resource management.

The Clare Valley is one of Australia's oldest wine producing areas, dating back to the 1850s. It is situated in the Mid North ranges.

To manage the natural resources of the area, the Northern and Yorke Landscape Board, in partnership with the Department for Environment and Water, undertake planning to ensure the sustainable use of resources.

This includes the management of water resources of the Clare Valley Prescribed Water Resources Area (Clare Valley PWRA) through a Water Allocation Plan.

This considers the water needs of economic, social, cultural and environmental users. To make sure that decisions are made on the most current environmental information, a selection of sites across the Clare Valley were sampled for fish communities.

Fish are socially and environmentally important indicators of watercourse health and environmental change. Monitoring patterns in the number and extent of the different species provides valuable information on changing conditions.

Status of fish communities of the Clare Valley

In 2026, 6 sites across the Clare Valley PWRA were sampled by Nature Glenelg Trust, funded by the Northern and Yorke Landscape Board, to provide an update on the status of the fish community.

All fish species encountered were identified, measured and counted.

Data was also recorded for water quality (flow, salinity, pH, temperature and dissolved oxygen), habitat and other animal species also encountered.

How are fish faring?

Fish sampling across the Clare Valley PWRA showed that the fish communities across the region are generally in a poor state.

The area was dominated by alien species, especially the declared noxious species Eastern Gambusia (*Gambusia holbrooki*) and to a much lesser extent Goldfish (*Carassius auratus*) and Redfin Perch (*Perca fluviatilis*).

The two native species, the Western Bluespot Goby (*Pseudogobius olorum*, bottom image) and the locally threatened and more sensitive Mountain Galaxias (*Galaxias olidus*, top image), were only present in low numbers.

Table 1: Summary of fish catch in the Clare Valley PWRA, 2026 and 2025.
Green = native species, orange = alien species.

Fish	2026	2025
Mountain Galaxias	20	25
Western Bluespot Goby	18	73
Eastern Gambusia	10,088	12,456
Goldfish	7	33
Redfin Perch	7	4
Total	10,140	12,591


Mountain Galaxias

Bluespot Goby

How will the information be used?

Different species of fish have different needs. Knowledge of where the different species of fish are present throughout the catchment allows for water planners to account for their needs in the planning process. For example, Mountain Galaxias require longer flowing periods and better water quality than other native species of fish. This knowledge allows for a more targeted approach to water planning in the Clare Valley PWRA.

It also increases our understanding of how the watercourses of the Clare Valley PWRA function and allows for more scientifically informed management of water resources for the benefit of all users.

Broughton River & Wakefield River catchments

Fish catch

A total of 10,140 fish (in 2026, compared with 12,591 in 2025) were caught comprising 5 species and included 2 native species and 3 alien species (same in 2025). The catch was dominated by the alien Eastern Gambusia (10,088 fish), which accounted for >99% of the total catch (same in 2025 with 12,456 fish). This species was also most widely distributed and sampled at 4 of the 5 monitoring sites where fish were caught, which included all three sites in the Wakefield River system and at one site in the Hutt River (same in 2025). No fish at all were found to be present at the mid Hill River site (same in 2025). Two other alien species, Goldfish (7 fish) and Redfin Perch (7 fish) (compared with 33 and 4 respectively in 2025) occurred in very low numbers in the Wakefield River system with the latter species only caught at the Skillogalee Creek. No alien fish were caught at the lower Hill River site (same in 2025).

The two native fish species, Western Bluespot Goby and Mountain Galaxias were recorded in very low numbers (18 and 20 fish, respectively) and were found in both river systems in 2026, despite the presence of no or low flow (same in 2025, with 73 and 25 respectively). Low or no flow conditions limit habitat suitability for the species. It is critical that adequate flow regimes are maintained in both rivers to support the sustainability of Mountain Galaxias populations. Eastern long-necked turtles (9), common yabby and freshwater shrimp were sampled opportunistically in 2026.

Summary of site conditions

Many of the watercourses of the Clare Valley are ephemeral and many permanent pools occur in these watercourses within the Broughton River and Wakefield River catchments. The Broughton River catchment includes the Hutt and Hill River sub-catchments with watercourses flowing in a northerly direction within the Clare Valley PWRA. In contrast, the Wakefield River catchment is situated in the southern section of the Clare Valley PWRA and flows in a south-westerly direction.

Three sites were sampled in each of the catchments.

Electrical conductivity, dissolved oxygen and pH levels were mixed at the sites from both river systems in 2026. Electrical conductivity in the Broughton River sites varied from 22,270 μScm^{-1} at the mid Hill River to 8,600 μScm^{-1} at the lower Hutt River, and in the Wakefield River from 8,709 μScm^{-1} at the lower Wakefield River to 5,683 μScm^{-1} at the mid Wakefield River.

Dissolved oxygen concentration in the Broughton River sites varied from 11.2 mgL^{-1} at the mid Hill River to 4.4 mgL^{-1} at the lower Hutt River, and in the Wakefield River from 8.2 mgL^{-1} at the lower Wakefield River to 5.7 mgL^{-1} at the mid Wakefield River.

The pH in the Broughton River sites ranged from 8.7 at the mid Hill River to 8 at the lower Hutt River, and in the Wakefield River from 8.12 at the Skillogalee Creek to 7.96 at the mid Wakefield River.

All sites in the Broughton River had no flow, whereas the Wakefield River sites had low flow or were seeping.


Long-necked turtle

Catchment	Location Pool condition (water level)	Flow	Salinity ($\mu S\ cm^{-1}$)	pH	Dissolved oxygen ($mg\ L^{-1}$)
Broughton River	Mid Hill River Concentrated (2m)	None	22,270	8.7	11.2
	Lower Hill River Low level (1.2m)	None	17,286	8.1	6.9
	Lower Hutt River Concentrated (3m)	None	8,600	8.0	4.4
Wakefield River	Mid Wakefield River Low level (2m)	Seep	5,683	7.96	5.7
	Lower Wakefield River Low level (1.5m)	Low	8,709	8.05	8.2
	Skillogalee Creek Low level (2m)	Seep	6,776	8.12	7.5

More information

Email: ny.landscapeboard@sa.gov.au
Phone: 08 8841 3444
www.landscapesa.gov.au/ny

This work was coordinated and funded by the Northern and Yorke Landscape Board.