



Yea River Fish survey results 2023



Survey sites

Given the Yea River supports a self-sustaining population of Macquarie perch, (*Macquaria australasica*) fish surveys have been intermittently undertaken in the mid-reach of the waterway since 2013.

Despite an increase in reported angler captures of Macquarie perch in the lower Yea River (between the Yea township and Ghin Ghin), the species was not recorded from this reach in 2019 surveys but rather restricted to the upper reaches (between Nash's Road and upstream of Devlin's Bridge). This was the first survey of the Yea River population since 2019.

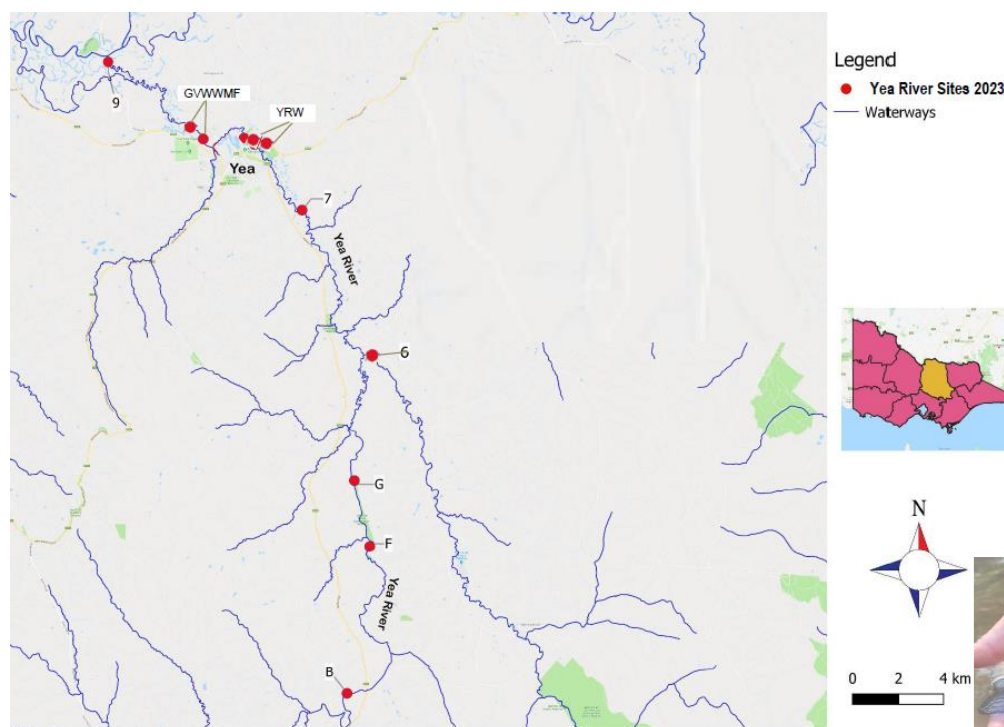


Figure 1. Map of survey sites in Yea River

Image 2 (below):
Adult Macquarie perch



Highlights

- A total of 17 fish were captured from Yea River, which included four native (45% of total fish catch) and three introduced fish species (45% of total fish catch). Other fauna captured and released included the spiny freshwater crayfish (n=2) and a male and female platypus (n=2).
- The size range of Macquarie perch captured (size range = 115-310 mm TL) suggests multiple cohorts present, aged between 1+ and 5+ years old. No young of year (YOY, age <1, <100 mm TL) fish were captured however, the mesh size of the gear type makes it unlikely that early juvenile fish would be retained in nets (Fig 3). Indeed, compared to 2018 and 2019 surveys, high rainfall preceding surveys conducted in 2023, resulted in greater water depths and flow, which limited suitable habitat to set fyke nets and perform backpack electrofishing.

- All Macquarie perch individuals (n=4) captured were in healthy condition with no individuals reported with the external parasitic anchor worm, *Lernaea*.

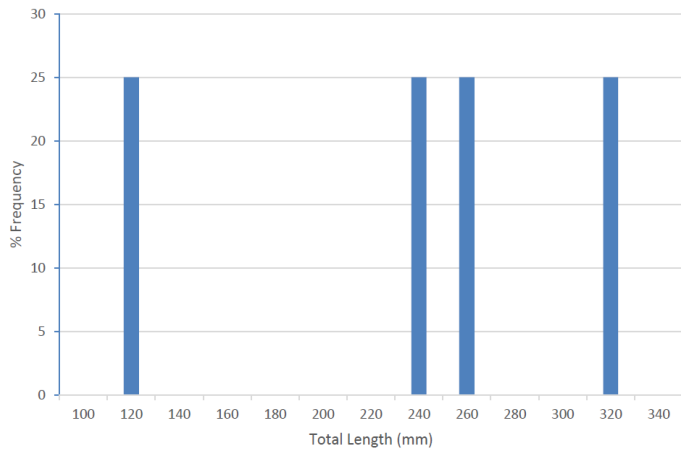


Figure 2. Size-frequency histogram (percentage of occurrence) of Macquarie perch captured in the Yea River.

- Despite an increase in reported angler captures of Macquarie perch, this species was only captured during our surveys from two long-term monitoring sites in the upper reaches of the Yea River.
- Despite good quantities of instream woody habitats throughout the entire survey reach, extensive sedimentation was observed, particularly in the lower Yea River. Water quality remains good throughout the survey reach.

Image 2 (right):
Large snag complex
at Site G



2023 results

- Macquarie perch abundance was lower than surveys from 2018 (n=45) and 2019 (n=9) due largely to three of the six long-term monitoring sites using a reduced fishing effort (four fyke nets compared with 10 in 2018).

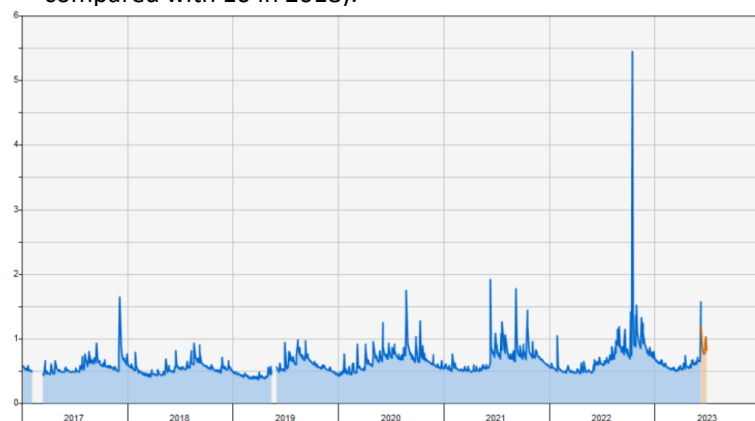


Figure 3. Water levels (m) from the Yea River (Devlin's Bridge) between 2017 and 2023.

- Redfin perch, *Perca fluviatilis* were recorded in notably lower numbers this year compared to the 2019 surveys (2019=23 vs 2023=2) which again is likely due to the poor efficiency of surveys this year.
- One large bodied native species, Golden perch, *Macquaria ambigua* was captured from the Yea River Wetlands anabranch. One river blackfish was recorded from Site F. All individuals were in excellent condition.
- Southern pygmy perch, *Nannoperca australis* were not detected in 2023. This could be due to the lack of native fringing vegetation habitat, slender knotweed (*Persicaria decipiens*), because of cattle grazing and flood damage. Small bodied fish may also have gone undetected in the sample method applied, therefore the extent of southern pygmy perch in the Yea River is unknown.



Image 3 (left):
Freshwater
spiny crayfish

Image 4 (right): Female
platypus captured from
fyke net



Recommendations

- Additional surveys to identify current distribution of southern pygmy perch in the Yea River.
- Protect riverbanks from cattle grazing and revegetate with aquatic vegetation (including aquatic slender knotweed) to increase habitat for southern pygmy perch.
- Repeat standardised surveys more frequently at long-term monitoring sites.
- Field day with ARI researchers and GB CMA staff to assess priority sites and areas for potential restoration.

This project is funded by the Victorian Government. Arthur Rylah Institute (DELWP) is engaged to undertake these surveys on behalf of the Goulburn Broken CMA.