



King Parrot Creek Fish survey results 2021



Survey methods and sites

Surveys were undertaken during March 2021 at five long-term monitoring sites between Flowerdale and Kerrisdale (Figure 1). Fish were captured at each site using backpack electrofishing and single-wing fyke netting.

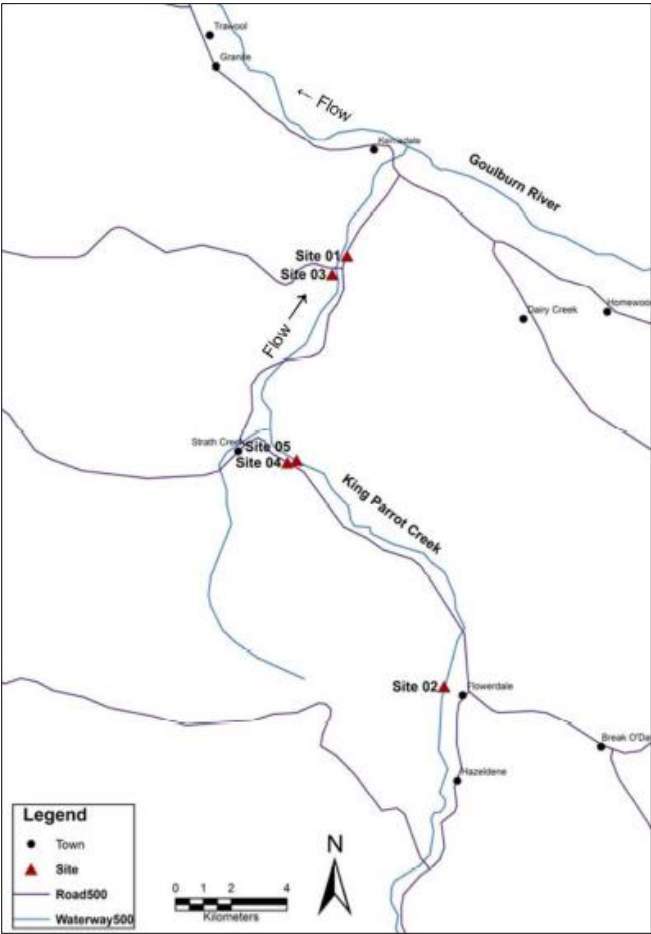


Figure 1. Map of survey sites in King Parrot Creek

Highlights

- A total of 379 fish were captured from King Parrot Creek, representing seven native and five introduced fish species. Native fish accounted for 55% of total fish caught, though Spiny Freshwater Crayfish, Common Yabby, Eastern Long-neck Turtle and Platypus were also recorded.
- Macquarie Perch (*Macquaria australasica*, n=111) was the most abundant native species captured and was recorded at all five survey sites.
- Following the significant low flow period in 2019 where the creek ceased to flow below the township of Strath Creek, the relative abundance of Macquarie Perch is steadily increasing and is comparable to 2018 survey results (Figure 2).
- All Macquarie Perch captured were in excellent condition.
- Good food resources were observed with a particularly high abundance of freshwater shrimp (*Paratya australiensis*) at all sites. Water quality parameters were considered good and likely thanks to steady flows prior to and during the surveys.

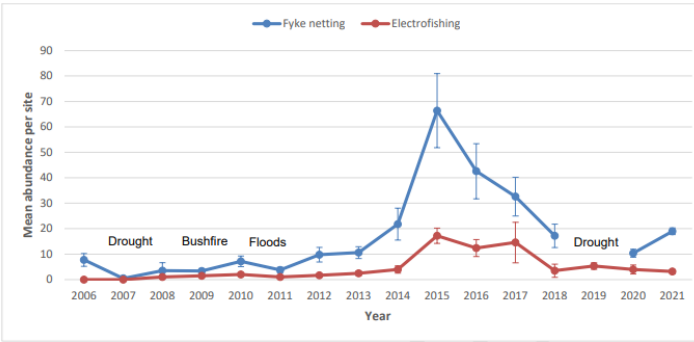


Figure 2. Mean abundance of Macquarie perch per site during surveys conducted between 2006 and 2021

2021 results

Length frequency data from this year’s surveys suggests multiple age classes were present in the system, with individuals ranging between 110-170 mm total length (estimated to be 1+ years old) representing 51% of the total catch of Macquarie Perch (Figure 3). This is the second consecutive year this size class has been the dominant cohort and indicates successful spawning and recruitment during spring/summer years of 2018/19 and 2019/20. Importantly, this result demonstrates this species resilience given a large proportion YOY (young-of-year) fish survived the ceased to flow event and adult fish were successfully able to breed approximately 7 months following the cease of flow.

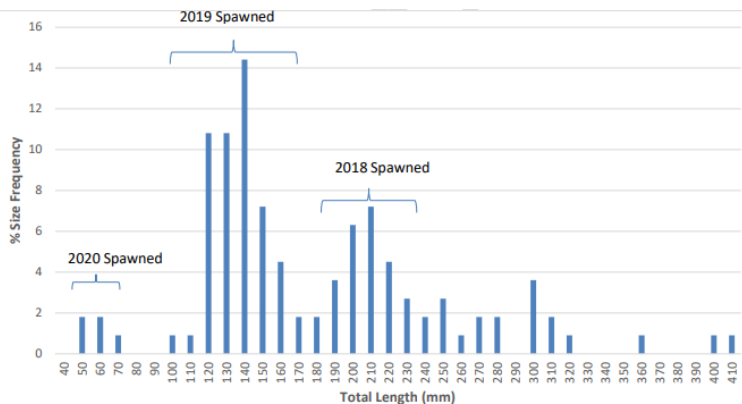


Figure 3. Size frequency histogram (% of occurrence) of Macquarie Perch captured in King Parrot Creek 2021

Unlike Macquarie Perch, the relative abundance of River Blackfish (*Gadopsis marmoratus*, n=22) shows a slight decreasing trend in recent years. The relative abundance of River Blackfish is however, still much higher than the levels recorded during the last years of the Millennium drought. It is possible that this species has yet to recover following the cease to flow period in 2019. Low numbers of Two-spined Blackfish (*Gadopsis bispinosis*, n=1) continue to only be found within the most upstream survey site (Moores Rd – site 02).



Figure 4. River Blackfish (left) and Southern Pygmy Perch (right) from site 02, Moores Rd

Southern Pygmy Perch (*Nannoperca australis*, n=11) were also only recorded at site 02 in 2021, increasingly slightly in relative abundance since 2020. This species continues to show recovery post Millennium Drought where they were undetected in the survey reach between 2006 and 2013.

The number of Redfin Perch (*Perca fluviatilis*, n=2) captured remain low since targeted reduction of exotic species in 2019. The number of Brown Trout (*Salmo trutta*, n=128) captured in 2021 was much higher than previous years, with most of these fish < 120 mm in length. This result highlights the conditions for successful spawning (autumn and early winter) and recruitment in 2020 were favourable for the species.

Breaking barriers

- As noted in previous years, illegal weir constructions remain an ongoing concern as a significant barrier to fish passage, particularly during low flows when weirs prevent fish accessing deep pool refuges and potentially impede upstream migration to spawning sites.
- In May this year, four members from Native Fish Australia (NFA), were instrumental in breaking down the growing number of rock weirs. NFA members volunteered to spend the morning in waders to breach ten rock weirs found at, and above, Moores Reserve.



Figure 5. Native Fish Australia (NFA) members breaching rock weir barriers

- Though most of these weirs were built by hand, no doubt for some fun play in warmer months, a few of the weirs were more significant in formation. People are reminded to think about fish passage and ensure any temporary obstructions to this are dismantled before departing a manipulated stream site.
- It is illegal to construct weirs, particularly when involving machinery and of a more permanent nature, without authorisation of a Works on Waterways permit. These permits are obtained from the GB CMA and are issued for all approved works undertaken within waterways, commonly crossings and bridges, where the works are warranted and can be delivered with minimal impact.

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.