

Seven Creeks Fish Survey 2021



Key points

- A total of 302 fish were captured or observed, with native fish making up 86% of the total fish catch.
- The 2015 & 2019 cease to flow events are continuing to have serious impacts on Trout cod and Macquarie perch numbers, particularly in the long-term monitoring reach below Gooram Falls.
- Trout cod numbers above Gooram Falls have not changed over the last 12 months although there is evidence of recruitment.

Seven Creeks is unique as it sustains populations of two nationally endangered fish species - Macquarie perch and Trout cod. Fish surveys are undertaken to monitor these important fish populations.

Survey sites

In March 2021, 32 sites were surveyed in Seven Creeks from Polly McQuinns weir to below Galls Gap Road. This included nine sites downstream of Galls Gap Road Bridge where habitat restoration works were undertaken in 2017 and 2018, 19 sites within the long-term monitoring reach between Gooram Falls and Galls Gap Road as well as four sites above Gooram Falls.

The Seven Creeks system experienced extremely low flows from spring 2018 to summer 2020 with water levels during this time the lowest since the cease-to-flow event in late 2015. The creek has received good flows since March 2020, improving water quality and connectivity - both critical for fish recruitment and survival.

Fish surveys in 2019 and 2020 revealed substantial declines in numbers of both Macquarie perch and Trout cod in the former stronghold and 3 km reach between Gooram Falls and Galls Gap Road where long term monitoring has occurred.



Photo 1. ARI Scientists measuring & weighing fish on Seven Creeks

Results

During the 2021 surveys 302 fish were captured or observed, representing six native and three introduced species (Table 1). Native fish included Trout cod, Macquarie perch, River blackfish, Southern pygmy perch and Mountain galaxias and accounted for 86% of the total catch. Other fauna captured included one eastern-long necked turtle and two platypus in the reach above Gooram Falls.

Common Name	Below Galls Gap Road Bridge - 1 km - 9 sites	Long term monitoring reach Galls Gap Rd to Gooram Falls	Above Gooram Falls (4 sites)	Total **
Trout cod	6	40	46	92
Macquarie perch	5	24	26	55
River blackfish	1	0	13	14
Mountain galaxias	18	45	0	63
Southern pygmy perch	0	0	2	2
Common yabby	Y	Y	Y	Y
Freshwater crayfish	0	0	0	0
Common long-neck turtle	0	0	Y	Y
Platypus	0	0	Y	Y
Carp*	8	7	0	15
Redfin*	1	3	7	11
Brown trout*	0	0	1	1
Mosquitofish*	10	5	Y	15
Total	49	124	95	268
*exotic species				
** does not include fish observed				

Table 1. Fish and fauna capture 2021

In the long-term monitoring reach (Galls Gap Road to Gooram Falls), the numbers of Macquarie perch captured was similar to 2020 and young of year (YoY) numbers remain low with only 6 YoY individuals captured, indicating that Macquarie perch are continuing to display poor recruitment in this reach.

Trout cod captures increased from 20 in 2020 to 44 in 2021. As expected the adult population of Trout cod has also remained much the same over the last 12 months while YoY numbers increased from zero in 2020 to 14 individuals captured in 2021 making the YoY the most dominate age class. Figure 2 below shows populations of both Macquarie perch and Trout cod have not recovered since the cease to flow events 2015/2016 & 2019 in the long-term monitoring reach.

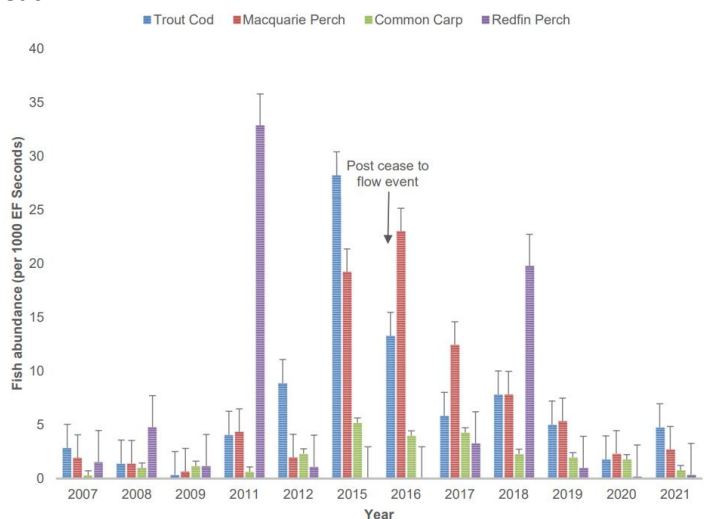


Figure 1. The standardised abundance of Trout cod, Macquarie perch, carp & redfin in Seven Creeks at the long-term monitoring site (Galls Gap Rd to Gooram Falls) between 2007 and 2021.

Downstream of Galls Gap Road three Macquarie perch and five Trout cod captured were utilising the habitat installed in 2018.

At the four sites surveyed above Gooram Falls, Macquarie perch numbers have slightly increased with 26 individuals captured. Sixty percent of the fish captured were 10-20cm and estimated to be 1-2 years of age.



Photo 2. Macquarie perch 1-2 years of age

Trout cod numbers have remained unchanged above Gooram Falls with 46 individuals captured. YoY represented 37% of the total catch and as seen for Macquarie perch the dominate size class was between 10-20 cm. This indicates successful recruitment in this part of the system between 2017-2020.

River blackfish are mostly restricted to sites above Gooram Falls and there has been a modest increase in numbers over the last 12 months including YoY (Photo 3).



Photo 3. River blackfish

Two adult Trout cod measuring 49cm and 53 cm were recaptured in 2021. One of these was last captured in 2012 and had only grown 3 cm in nine years. The other was tagged in 2011 and had evaded capture for 10 years and had grown 13cm. This particular individual was captured 200m downstream from where it was initially caught - two lucky adult survivors of the cease to flow event of 2015.

Fortunately, carp and redfin numbers remain low.

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