

# Seven Creeks Fish Survey 2020



## Key points

- Low flows 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 increased since 2019 with evidence of recruitment.

## Survey sites

Thirty-one sites were surveyed during February 2020. This included nine sites downstream of Galls Gap Road Bridge, 19 sites within the long-term monitoring reach between Gooram Falls and Galls Gap Road as well as four sites above Gooram Falls.

Sites were surveyed using backpack electrofishing. Fyke nets were used at the two most upstream sites above Gooram Falls.

All fish captured were measured and weighed. All species were released at site of capture (except for carp). A small fin clip was obtained from 30 Macquarie perch and Trout cod individuals of various sizes for future genetic analysis.

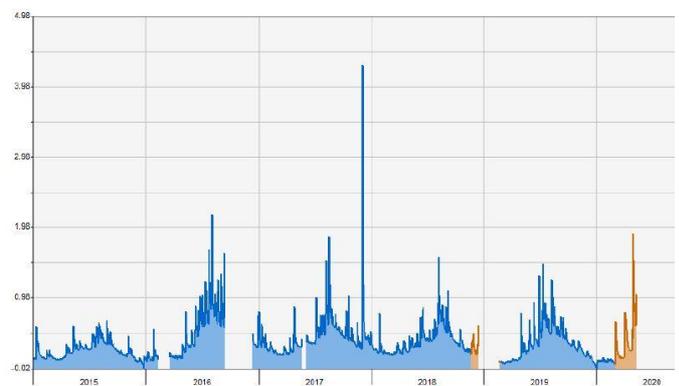


Figure 1. Water level (m) from Seven Creeks – Galls Gap Road Gauge 2015-2020 (validated data – blue unvalidated data – brown)

The Seven Creeks system experienced extremely low flows from spring 2018 to spring 2019 with water levels during this time the lowest since the cease-to-flow event in late 2015 (Figure 1). These low and cease-to-flow events are coinciding with substantial declines in Trout cod and Macquarie perch numbers.

The creek has received higher flows since March 2020.

## Results

A total of 336 fish and 21 yabbies, representing six native and three introduced species, were captured during the surveys (Table 1). Native fish accounted for 74% of the total catch. Other fauna of note captured included three eastern-long necked turtles and two platypus in the reach above Gooram Falls.

2020 Common Name	Galls Gap Rd to Gooram Falls - Long term monitoring reach	Below Galls Gap Road Bridge - 1 km - 9 sites	Above Gooram Falls (4 sites)	Total
Trout cod	20	0	46	66
Macquarie perch	26	11	20	57
River blackfish	0	3	9	12
Two-spined blackfish	0	0	0	0
Mountain galaxid	59	39	9	107
Australian Smelt	0	2	0	2
Carp gudgeon	1	4	0	5
Southern pygmy perch	0	0	0	0
Common yabby	16	1	4	21
Freshwater crayfish	0	0	0	0
Eastern long-neck turtle	0	0	3	3
Platypus	0	0	2	2
Carp*	20	29	0	49
Goldfish*	0	0	0	0
Redfin*	2	5	5	12
Brown trout*	0	0	0	0
Mosquitofish*	24	2	0	26
<b>Total</b>	<b>168</b>	<b>96</b>	<b>98</b>	<b>362</b>

\*exotic species

Table 1. Fish and fauna capture 2020

In the long-term monitoring Reach 1 (Galls Gap Road to Gooram Falls), numbers of Trout cod (20) and Macquarie perch (26) captured continued to fall, decreasing by more than 55% from the 2019 surveys. The numbers captured during the 2020 surveys were similar in numbers to that of the millennium drought (Figure 2).

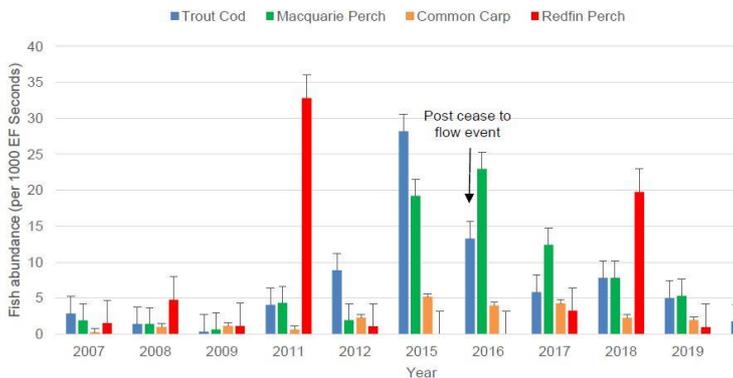


Figure 2. The standardised abundance of Trout cod, Macquarie perch, carp & redfin in Seven Creeks at the long-term monitoring site (Galls Gap Rd to Gooram Falls) between 2007 and 2020.

The number of Macquarie perch captured in Reach 1 was the lowest recorded since 2012. The majority (70%) of the fish were between 200-300mm indicating they are two to three years old.

Only two young-of-year Macquarie perch were captured. This is the fourth consecutive year that Macquarie perch have displayed poor recruitment in this reach.

Macquarie perch numbers above Gooram Falls (Reach 2) declined by 30% with 20 fish captured from two of the four sites. Only one young-of-year fish was captured, indicating poor recruitment in 2019.

Trout cod numbers have also declined in Reach 1 with no young-of-year fish captured. Of the Trout cod captured the majority (60%) were 340-520mm with an estimated age of 4+ years. This dominant size class reflects low levels of recruitment over the past two years.

Above Gooram Falls (Reach 2) there was a 60% increase in Trout cod numbers, with 46 captured, including 31 at one site. Of the total number of Trout cod captured 37% of these were young-of-year, indicating good recruitment in 2019.



Figure 4. Trout cod

River blackfish are mostly restricted to the reach above Gooram Falls. There has been a 90% reduction in numbers since 2019, possibly as a result of a combination of lower flows and predation due to the increase in Trout cod.

Six tagged fish – two Macquarie perch and four Trout cod were recaptured during the 2020 surveys, all below Gooram Falls. One Trout cod was first captured in 2015 and had grown 128mm in five years. Another was captured at the same site in 2012 and had grown just 33 mm over the eight years. It is surmised that the difference in growth rate is partly due to the resources available to individuals over their lifetime as a result of the changing environmental conditions of the creek.

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

