

Seven Creeks Fish Survey 2022



Key points

- A total of 437 fish were captured, with native fish making up 95 per cent of the total catch.
- Both Trout cod and Macquarie perch numbers are up with the dominate size class of both species estimated to be between 1-3 years of age.
- No Young Of Year (YOY) Macquarie perch were recorded likely due to high flows during their breeding period.

Seven Creeks is unique as it sustains populations of two nationally endangered fish species - Macquarie perch and Trout cod. Both species are found in a 15 km section of the Seven Creeks between Polly McQuinns weir and just below Galls Gap Road. Fish surveys are undertaken regularly to monitor these important fish populations.

Survey sites

In February 2022, 32 sites were surveyed in Seven Creeks. 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. All fish captured were measured for total length (mm).

Seven Creeks experienced extremely low flows in the summer of 2015/2016, and again in 2019, which had detrimental impacts on the native fish populations. However since March 2020 flows have been higher. The higher flows have improved water quality and habitat connectivity; both critical for fish recruitment and survival.

High rainfall during spring and summer in 2021/2022 resulted in above average flows coinciding with the breeding period of both Trout cod and Macquarie perch. High rainfall events during the breeding season can be detrimental particularly to Macquarie perch as cold water can impact egg survival and higher flows can displace eggs and/or recruits.



Photo 1. Mature trout cod (Photo credit ARI)

Results

During the 2022 surveys 437 fish were captured or observed, representing five native and five introduced species (Table 1). Native fish included Trout cod, Macquarie perch and Mountain galaxias, River blackfish and Australian smelt. Other fauna captured included five Eastern-long necked turtles and one platypus all in the reach above Gooram Falls. Introduced species only made up 5 per cent of the total catch.

Common Name	Below Galls Gap Road - 1 km, 9 sites	Galls Gap Rd to Gooram Falls - Long term monitoring reach	Above Gooram Falls (4 sites)	Total
Trout cod	8	107	85	200
Macquarie perch	12	80	37	129
River blackfish	1	0	7	8
Two-spined blackfish	0	0	0	0
Mountain galaxias	8	64	0	72
Australian Smelt	0	2	0	2
Carp gudgeon	0	0	0	0
Southern pygmy perch	0	0	0	0
Common yabby	y	y	y	y
Freshwater crayfish	0	0	0	0
Common long-neck turtle	0	0	5	y
Platypus	0	0	1	y
Carp*	8	0	0	8
Goldfish*	0	1	0	1
Redfin*	0	5	4	9
Brown trout*	0	1	0	1
Mosquitofish*	1	y	0	1
Total	38	260	139	437
*exotic species				

Table 1. Fish and fauna capture 2022

In the long-term monitoring reach (Galls Gap Road to Gooram Falls), 80 Macquarie perch were captured which is the highest number detected in this reach since 2017. (Figure 1) The total length of individuals ranged from 100-400mm with fish estimated to be one year old making up 45 per cent of the population. The rise in numbers over the last three years is an indication the population is recovering from the 2015/2016 and 2019 low flow events. There were no fish found less than one-year old YOY, indicating poor recruitment in 2021. High flows during the breeding season (spring/early summer) are known to negatively impact recruitment success.

Trout cod numbers have also increased in this reach with 107 individuals captured. This is the highest number recorded since the 2016. Almost 50 per cent of the 107 captured were fish estimated to be one-year old indicating successful breeding in 2020. Twenty-two YOY fish were detected, indicating recruitment in 2021. The adult population of Trout cod increased in this reach by 30% over the last 12 months.

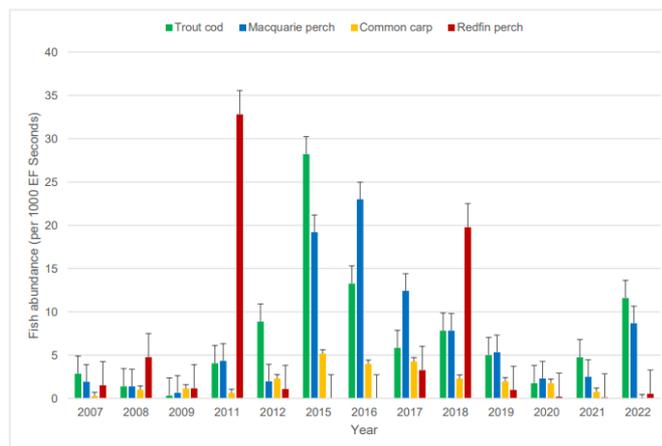


Figure 1. The standardised abundance of Trout cod, Macquarie perch, carp & redfin in Seven Creeks at the long-term monitoring site (Galls Gap Rd to Gooram Falls) between 2007 and 2022.

Downstream of Galls Gap Road 12 Macquarie perch and eight Trout cod were captured which is also an increase from last year. Fish were found to be utilising the habitat works that were installed in 2018.

Four sites were surveyed above Gooram Falls. This year Trout cod numbers increased from 46 in 2021 to 85 in 2022. The majority (86%) were between 100-300mm in length estimated to be between 1-3 years old. 16 YOY trout cod were also recorded.

Macquarie perch numbers above Gooram Falls have also increased from 26 captured last year to 37 in 2022. As with Trout cod the dominate size class (60%) is fish estimated to be between 1-3 years old.



Photo 2. Macquarie perch 1-2 years of age (Photo credit ARI)

River blackfish have mostly been captured from the sites above Gooram Falls and the decline in numbers continues with only seven captured this year compared to 112 in 2019. No YOY blackfish were detected.

Redfin and Carp numbers remain low; however, a source population of redfin is present in Polly McQuinns weir and remain an ongoing threat to native fish in the Sevens Creek.

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