

Seven Creeks Fish Survey 2018



Key points

- The numbers of trout cod and Macquarie perch are still lower than before the dry conditions of 2015/2016 although young of year fish of both species were detected downstream of Gooram Falls.
- Redfin numbers have increased significantly.

Survey methods and sites

During late February and early March 2018 fish surveys were undertaken in Seven Creeks.

All accessible parts of the stream from Galls Gap Road to Gooram Falls were surveyed using backpack electro fishing. Four sites above Gooram Falls and seven sites within the township of Euroa were surveyed using a combination of backpack electrofishing, boat electrofishing and fyke netting. An internal PIT (passive integrated transponder) tag was inserted into Macquarie perch and trout cod greater than 170 mm. The PIT tag allows individual fish to be identified in future surveys. A small fin clip was obtained from 30 Macquarie perch and 30 trout cod of different sizes for genetic analysis. Native fish were released after being measured and weighed.

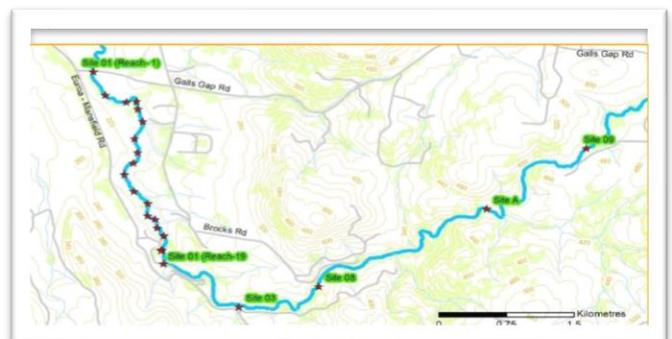


Figure 1. Survey locations

Results

A total of 892 fish, representing eight native and four introduced species, were captured during surveys of the Seven Creeks. Native fish accounted for 46% of the total catch. The most abundant native species were trout cod (149) and Macquarie perch (112). Other notable captures were river blackfish (42), platypus ((3), common long-neck turtle (3) and common yabby (98).

Common Name	Galls Gap Rd to Gooram Falls (entire reach)	Above Gooram Falls (4 sites)	Euroa Township (7 sites)	Total
Trout cod	93	56		149
Macquarie perch	93	19		112
River blackfish	24	10	8	42
Golden perch			3	3
Murray cod			2	2
Mountain galaxid	65		1	66
Australian Smelt	11		23	34
Carp gudgeon	1		4	5
Southern pygmy perch				0
Common yabby	82	1	15	98
Freshwater crayfish	1			1
Common long-neck turtle			3	3
Carp*	27		19	46
Goldfish*	1		16	17
Redfin*	294	8	105	407
Mosquitofish*	3	1		4
Total	695	94	199	988
*exotic species				

Table 1. Fish and fauna captures

The section of stream from Gooram Falls to Galls Gap Road remains the stronghold of the Macquarie perch and trout cod populations although the dry conditions experienced during 15/16 are still having a significant impact on the fish communities. Again, fewer trout cod and Macquarie perch were captured overall (compared to pre-15/16 surveys). Trout cod numbers have increased since last survey but unfortunately Macquarie perch numbers have declined. Few larger fish over 300mm were detected which suggests the loss of mature fish during the cease to flow events as they were particularly vulnerable to the dry conditions. However, the higher flows at the time of these surveys prevented some of the larger pools being fished where some of the larger fish may have been residing.



Figure 2. 1+ year-old Macquarie perch

An encouraging finding was the presence of young of year (YOY) trout cod and Macquarie perch below Gooram Falls which is an indication of successful breeding. These were not detected in 2017. YOY trout cod accounted for 30% of the total catch for this species whilst YOY Macquarie perch accounted for only 3% of the catch. A potential reason for the low recruitment of Macquarie perch may have been a high flow event in December 2017 after heavy rain. Research has shown that high flow events during the key spawning period for this species (October to December) is known to have detrimental impacts as Macquarie perch lay their eggs at the top of riffles where the eggs drift downstream and lodge amongst rock and gravel. High flows can result in the eggs and underdeveloped larvae being washed away or smothered by sediment.

Redfin were detected in large numbers with 294 collected below Gooram Falls which is the highest number since 2011 surveys. Favourable conditions for breeding in addition to the high flow event resulted in the dispersal from the source population in Polly McQuinn Reservoir. Redfin are a major threat to Macquarie Perch and trout cod through predation of young fish as well as competing for food and habitat.



Figure 3. Young of year redfin

A total of 46 carp (105 kg) and 407 redfin (6.6 kg) were removed from the creek during the surveys.

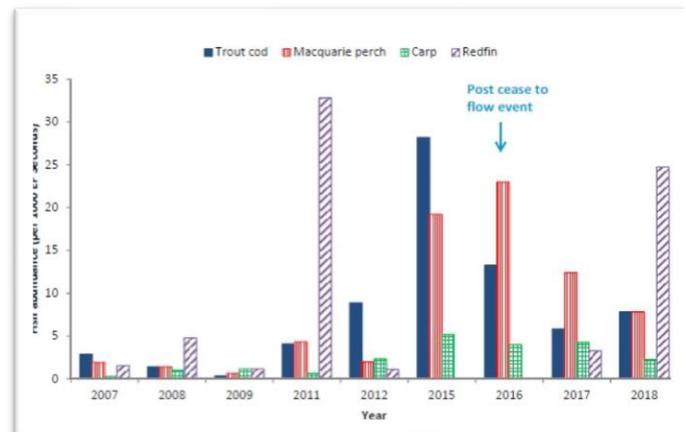


Figure 4. Abundance of trout cod, Macquarie perch, carp and redfin in Seven Creeks (Galls Gap Road to Gooram Falls) 2007-2018.

