

YEA RIVER SURVEYS 2016

Methods

We surveyed eight sites in the Yea River (site selection based on previous surveys) for Macquarie perch (Table 1). At each site, ten single wing fyke nets (5 mm mesh) were set overnight with an approximate soak time of 13 hours. Floats were used at the cod end of each net to ensure that any mammals or turtles captured would be safely held until release. An external t-bar tag and internal PIT tag was given to Macquarie perch individuals greater than 200 mm total length and a small sample of fin tissue was also collected for genetic investigations. All fish were released at the site of capture after being measured for total length (mm) and weight (g).



Table 1. Site location of fyke netting surveys of the Yea River, February 2016.

Site	Location	Gear type
A	Yea River on private property – 277 Larritts Road, Glenburn, off Melba Highway. Nets set over a ~150m reach (from launch site to u/s)	Fyke netting (x10)
B	Yea River from Devlin's Bridge to 450 metres upstream, access off Larritts Road.	Fyke netting (x10)
C	Yea River on private property - 4543 Melba Hwy (Falls View Charolais). Site is at Neil Reid and Paul Hilderbands's boundary fence. Approximately 300m reach.	Fyke netting (x10)
D	Yea River on Neil Reid's Property.	Fyke netting (x10)
E	Yea River on private property - Ythanbrae - 171 Nashs Road.	Fyke netting (x10)
F	Yea River on private property - Glendatlock - #4958 Melba Highway.	Fyke netting (x10)
G	Yea River upstream of Nashs Bridge. Nets set from just downstream of bridge to just above boat launch.	Fyke netting (x10)
H	Break O'Day Rd, off Melba Highway upstream of site A. Extra site.	Fyke netting (x10)

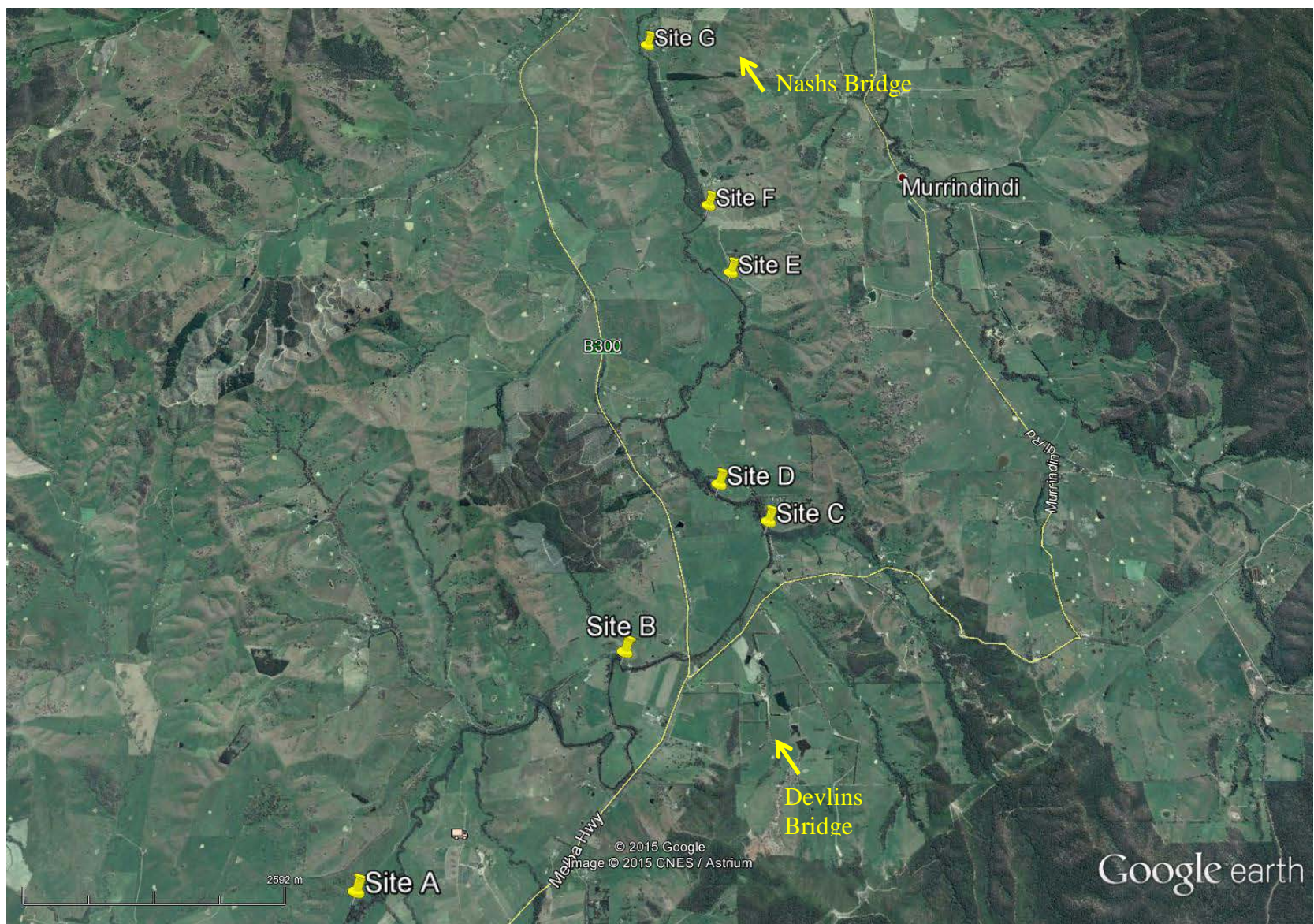


Figure 1. Map of survey sites in the Yea River. (Note additional Site H located upstream of Site A).

Survey results

- A total of 95 fish, representing three native and three introduced species, were collected during surveys of the Yea River. Other fauna also collected include platypus, common turtles, freshwater crayfish and yabbies (Table 2).
- The most abundant species captured was Macquarie perch (*Macquaria australasica* $n = 47$) followed by common carp (*Cyprinus carpio* $n = 27$).
- Macquarie perch individuals were collected from seven of the eight sites surveyed. These individuals ranged in size from 110-401 mm in total length, with two dominant size class between 100-140 mm TL (Figures 3).
- The size range of the juvenile fish captured is indicative of strong recruitment in the 2013 and 2014 spring spawning periods.
- Limited information can be inferred on the outcomes of the 2015 spawning success given the mesh size of the gear type and timing of surveys making it unlikely that early juvenile fish will be retained in nets. Nevertheless, the strong recruitment success in previous years appears to have resulted in a considerable increase in Macquarie perch abundance throughout the Yea River. This recruitment pattern follows the results of other populations throughout Victoria, including the King Parrot Creek, Sevens Creek and Hughes Creek (Goulburn Broken catchment); Lake Dartmouth and Yarra River.

Table 2. Raw catch data (Species, number and size range, TL) of fyke netting surveys of the Yea River, February 2016.

SITE No.																	
Species	a		b		c		d		e		f		g		h		TOTAL
	No.	Range (mm)	No.	Range (mm)	No.	Range (mm)	No.	Range (mm)	No.	Range (mm)	No.	Range (mm)	No.	Range (mm)	No.	Range (mm)	
Macquarie perch <i>Macquaria australasica</i>	4	206-280	16	120-258	2	114-194	13	110-352	3	118-210	6	135-401	3	134-215	-	-	47
River blackfish <i>Gadopsis marmoratus</i>	2	200-212	-	-	1	138	2	193-206	-	-	1	178	-	-	1	230	7
Two-spined blackfish <i>Gadopsis bispinosus</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	172-215	2
Brown trout <i>Salmo trutta</i>	2	291-320	2	240-304	2	296-370	-	-	-	-	-	-	-	-	2	257-409	8
Redfin <i>Perca fluviatilis</i>	-	-	2	98-379	1	290	-	-	-	-	1	-	-	-	-	-	4
Carp <i>Cyprinus carpio</i>	1	90	-	-	4	72-330	9	60-196	-	-	2	112-113	11	70-520	-	-	27
Yabby <i>Cherax destructor</i>	-	-	1	30	3	22-34	3	24-36	-	-	-	-	2	22-24	-	-	9
Spiny crayfish <i>Euastacus armatus</i>	-	-	2	36-38	-	-	1	30	-	-	-	-	-	-	1	87	4
Platypus <i>Ornithorhynchus anatinus</i>	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	2
Long-neck turtle <i>Chelodina longicollis</i>	1	-	-	-	2	-	-	-	1	-	-	-	2	-	-	-	6
Total	10	90	23	30	15	428	28	30	4	0	10	271	19	0	7		116

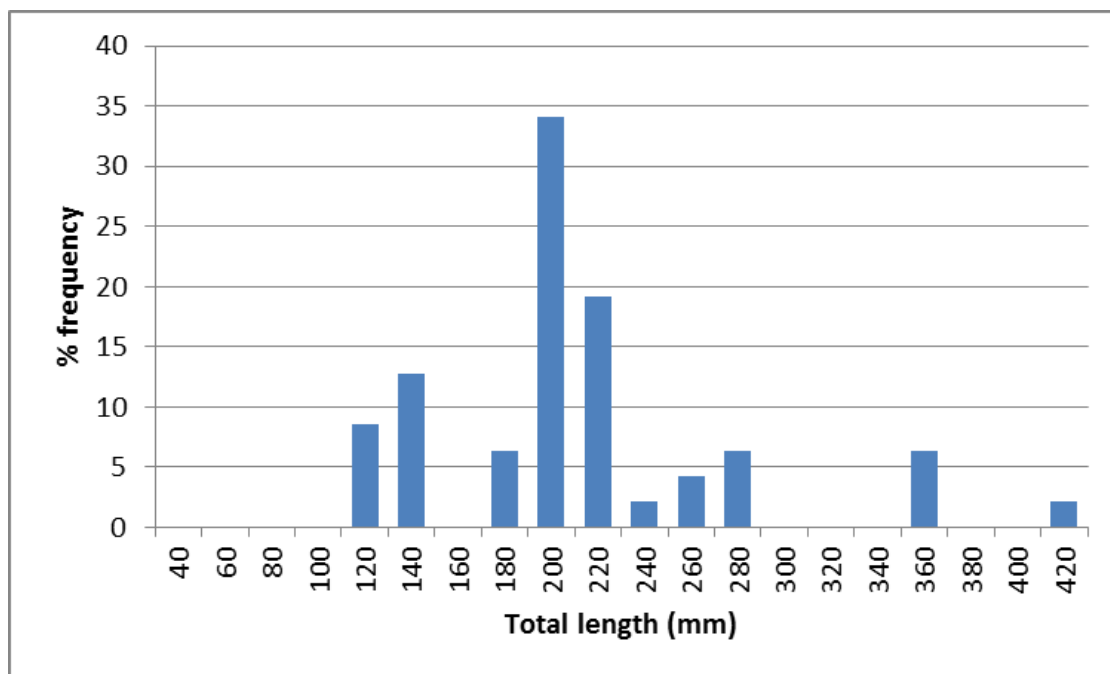


Figure 2. Size frequency histogram (% of occurrence) of Macquarie perch captured in the Yea River during February Fyke netting surveys.

Figure 3. Juvenile Macquarie perch

