

Mid to Upper Barwon River Fish Monitoring Report 2026

L. Hogan and F. Amtstaetter

June 2026

Arthur Rylah Institute for Environmental Research
Unpublished Report



Project summary

Context

The Barwon River is a flow-stressed system and management interventions are required to support native fish communities. Monitoring is critical in understanding how fish communities are responding to these management interventions. General fish monitoring was commissioned by Barwon Water in 2024 and 2025 to collect information on fish communities throughout the mid to upper Barwon River. Likewise, threatened species monitoring work (targeting Yarra Pygmy Perch (*Nannoperca obscura*) and Little Galaxias (*Galaxiella toourtkoourt*)) was commissioned by Corangamite Catchment Management Authority in 2024. Comparable fish monitoring surveys were commissioned in 2026 to continue the general and threatened species monitoring surveys.

Aims

The main aim of the study was to continue to monitor the fish communities residing in the mid to upper Barwon River through general (all species) and targeted (threatened species) surveys. The general surveys were designed to maintain consistency with sampling conducted in previous years and in other Victorian coastal rivers. The general fish surveys were expanded in 2026 to increase the spatial scope of the project, increase the sampling effort in one reach (i.e. more sites) and include a reference site in a tributary of the upper Barwon River.

An additional aim of the program was to co-host a community engagement event with Barwon Water and Corangamite CMA, which was held to continue to build awareness of aquatic fauna residing in the mid to upper Barwon River, and demonstrate the tools used to monitor waterway condition with local community members and Landcare groups.

Methods

General fish surveys were conducted at 17 sites (comprising 12 original sites and five new sites). Either a backpack, bank-mounted or boat-mounted electrofishing unit was used to survey the sites. Fish captured were identified, counted and measured before release.

Targeted fish surveys were conducted at nine sites. A tenth site was planned but could not be sampled because private property access could not be organised in time for the surveys. Sites were sampled using a backpack electrofishing unit, bait traps and/or vigorous dip netting. All fish collected during the threatened species sampling were identified, counted and measured before being released.

An informative community engagement event was conducted on the Barwon River at one of the sampling sites. A backpack electrofishing demonstration was conducted, along with a demonstration of fish processing and data collection.

Results

A total of 2011 fish were recorded during the general fish surveys in 2026, comprising seven native species and six introduced species and 935 fish recorded during the targeted species surveys, comprising six native and two exotic species.

For general fish surveys some specific results include:

- A high proportion of the fish collected were native species, with over half of all catches being small-bodied native fish. Catches were mostly comprised of Southern Pygmy Perch (*Nannoperca australis*) and Ornate Galaxias (*Galaxias ornatus*).
- A relatively low species richness and generally low abundance of introduced species were recorded.

For targeted fish surveys some specific results include:

- A total of 90 Little Galaxias were recorded, with most being detected at one site.
- A total of five Yarra Pygmy Perch were detected at one site during sampling in 2026.

Conclusions and Implications

High abundances of Southern Pygmy Perch and Ornate Galaxias were recorded in the reach above the Boundary Creek confluence across multiple years (2024-2026). This is likely driven by abundant suitable habitat (e.g. dense aquatic vegetation) and a generally low density of introduced predatory species such as Brown Trout (*Salmo trutta*) and Redfin Perch (*Perca fluviatilis*). There was a normal distribution of size

classes and a wide range of lengths of both Southern Pygmy Perch and Ornate Galaxias, with relatively recent recruitment evident.

The catch of Little Galaxias was high (compared to the results from a previous study), and most individuals were collected at one site. This species persisted at all four sampling sites where they were captured in 2024.

The detection of five Yarra Pygmy Perch confirmed the persistence of the species at one site. The detection of the species at this site is consistent with the findings in 2024 and comprises the only known population of Yarra Pygmy Perch in the upper Barwon River catchment.

Introduction

Fish monitoring is integral to assessing changes in the composition of fish communities over time. A long-term dataset on fish communities collected through consistent monitoring can be used to detect changes in the abundance and diversity of species across temporal and spatial scales, including contributing to statewide analyses that investigate fish population changes across catchments with similar datasets. Evaluating changes in fish communities can be used to inform management interventions by identifying environmental conditions that impact fish populations. For example, knowledge of fish community responses to stochastic events such as droughts, floods and fires and to management intervention such as habitat enhancement and releases of environmental water provides managers with more confidence in making decisions that affect fish communities.

Prior to 2024, very few fish monitoring surveys were conducted in the mid to upper reaches of the Barwon River, a regulated river in South-Central Victoria. The Arthur Rylah Institute for Environmental Research (ARI) conducted some general fish assessments in 2006-07 (Lieschke et al. 2013) and a project targeting Short-finned Eel (*Anguilla australis*) in 2021 (Koster 2021). A riverine acidification event, caused by multiple complex factors, occurred in a tributary of the Barwon River in 2017 and resulted in a minor fish kill in the mid Barwon River. This event highlighted the need for an established dataset to quantify the impact that environmental stressors have on fish communities in the Barwon River.

To address the lack of sufficient data to assess the status of fish populations in the mid to upper Barwon River, new monitoring projects were commissioned by Barwon Water (BW) and Corangamite CMA (CCMA) in 2024. These included general fish surveys in 2024 and 2025 funded by BW and CCMA, with the aim of establishing a dataset on fish communities across a broad set of locations within the mid to upper Barwon River (Hogan and Amtstaetter 2025) and targeted sampling for threatened species in the upper Barwon River catchment funded by CCMA in 2024 (Walker and Bloink 2024). The latter aimed to reassess the presence of two fish species, Yarra Pygmy Perch (*Nannoperca obscura*) and Little Galaxias (*Galaxiella toourtkoourt*), at several locations where they were historically recorded, as well as sampling other nearby locations where they may reside to determine possible localised range extensions. Yarra Pygmy Perch and Little Galaxias are listed under the *Flora and Fauna Guarantee Act 1988* as 'threatened' and 'endangered', respectively.

Results from the general and targeted fish sampling in 2024 highlighted the need to review the ecological objectives of water for the environment in the mid to upper Barwon River, so that these objectives can more accurately reflect the species that are present in these reaches and consider the current limitations on meeting these objectives (e.g. barriers to fish passage, environmental water entitlement size and the risk of flooding private property). As a result, CCMA, BW and ARI developed a fish monitoring plan to provide data to inform whether existing management objectives are being met (e.g. objectives for the use of water for the environment (from VEWH 2024), create more specific ecological objectives and to inform intervention planning and target setting (Amtstaetter et al. 2025a). The monitoring plan also considered continued monitoring for threatened species, one of which (Yarra Pygmy Perch) is included in objectives for the use of water for the environment and the other (Little Galaxias) is included in CCMA habitat objectives. In general, the fish monitoring plan increased the spatial scope of the general fish surveys and focussed the threatened species monitoring on several sites where they had recently occurred or may be reestablished.

This project covers the first year of the implementation of the fish monitoring plan and compares to results from fish surveys conducted in 2024 and 2025, including those from Walker and Bloink (2024). The aims of this project were to:

- Continue to monitor fish communities in the mid to upper Barwon River, including new sites both within and downstream of the original study area.
- Continue surveys to monitor the persistence and recruitment of Yarra Pygmy Perch and Little Galaxias.
- Participate in an informative community engagement activity for relevant stakeholders and public groups.

Methods

Study area

The Barwon River originates in the Otway Ranges and flows in a general north-easterly direction then south-easterly direction (Figure 1). The study area comprised portions of the east and west branches of the Barwon River, the Barwon River down to Pollocksford, as well as some tributaries (Boundary Creek, Callahan Creek, Pennyroyal Creek and Gosling Creek). This area of the Barwon River catchment is characterised by agricultural land, with minimal riparian vegetation, open livestock grazing, and channel modification.

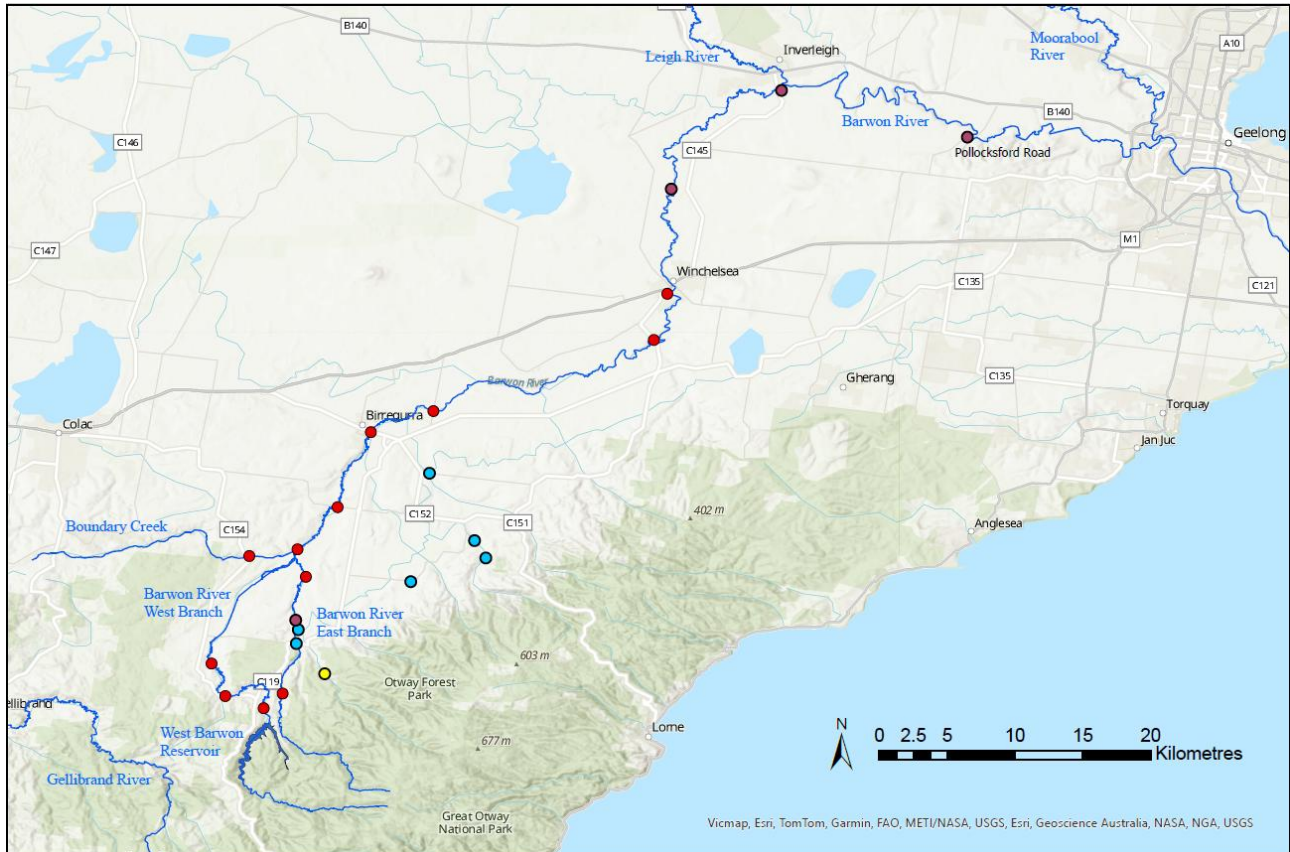


Figure 1. Map showing the study area in the mid to up Barwon River catchment, with previously sampled intervention sites, new intervention sites, reference site and threatened species sites.

Red circles indicate previous intervention sites, purple circles new intervention sites, the yellow circle indicates the reference site, and light blue circles indicate threatened species sites.

Seventeen sites were sampled as part of the general fish monitoring, including five sites that were added since the 2025 surveys (Table 1). Sixteen of these are considered 'intervention' sites as they have been identified as likely to be affected by current or future management actions (e.g. environmental water delivery, habitat rehabilitation) (Amtstaetter et al. 2025a) and one is considered a reference site (Figure 1). This site was chosen to represent conditions unaffected by management actions expected to be implemented in the Barwon River and can be used along with sites in other rivers (i.e. the Moorabool and Gellibrand Rivers) collected through other monitoring programs to help the future assessment of the effects of management actions on fish populations in the Barwon River (Amtstaetter et al. 2025a).

Nine sites were sampled targeting Yarra Pygmy Perch and/or Little Galaxias (Figure 1; Table 2), with one on the East Barwon River, three on tributaries of the Barwon River, one on the West Barwon River and four in a wetland complex adjacent to the East Barwon River (all four included as one point in Figure 1). One of the sites in the wetland complex was not included in the original sampling plan but was sampled briefly (i.e. low effort). This was done opportunistically, as field staff were already in the vicinity of the site. A third site on Pennyroyal Creek was planned for sampling but could not be sampled in 2026 because access to the private property could not be arranged.

Table 1. Intervention sites and a reference site surveyed during fish monitoring in the mid to upper Barwon River and tributaries in 2026.

*Denotes a site added since the 2025 general fish monitoring surveys.

Waterbody	Site name	Coordinates
East Barwon River	Kents Road	-38.4890, 143.7429
	Dewings Bridge Road	-38.4348, 143.7479
	Wickhams Lane*	-38.4636, 143.7412
West Barwon River	Boundary Road Bridge	-38.4923, 143.6854
	Upstream of Roadknight Creek confluence	-38.5138, 143.6945
	Kaanglang Road	-38.5219, 143.7199
Boundary Creek	Boundary Creek	-38.4211, 143.7104
Callahan Creek	Barwon Water Property*	-38.1491, 144.3000
Barwon River	Downstream of Boundary Creek confluence	-38.1491, 144.3000
	Barwon St	-38.4167, 143.7423
	Colac-Lorne Road	-38.3391, 143.7909
	Cons Lane	-38.3887, 143.8323
	Winchelsea-Deans Marsh Road	-38.3251, 143.9783
	Dwyer Street	-38.2780, 143.9873
	Upstream Pollocksford Bridge*	-38.1437, 144.1860
	Inverleigh*	-38.1127, 144.0629
	McMillans Lane*	-38.1476, 143.9935

Table 2. Threatened species sites surveyed during fish monitoring in the upper Barwon and tributaries in 2026.

Waterbody	Site name	Coordinates
Pennyroyal Creek	Bush's Road	-38.4109, 143.8596
	Downstream of Pennyroyal Station Road	-38.4224, 143.8671
	Upstream of Rifle Butts Road	-38.3663, 143.8298
Gosling Creek	Division Road	-38.4381, 143.8174
East Barwon River	Birregurra -Forrest Road	-38.4382, 143.8174
	Railway Bridge (SW wetland)	-38.4702, 143.7431
	Railway Bridge (SE wetland)	-38.4697, 143.7440
	Railway Bridge (NW wetland)	-38.4699, 143.7429
	Railway Bridge (under bridge)*	-38.4697, 143.7436
West Barwon River	Seven Bridges Road	-38.4748, 143.6893

*This site was not part of the original plan but sampled opportunistically.

Survey methodology

Sampling was conducted predominantly in February 2026, with two sites sampled in June of 2026 (Boundary Creek and Seven Bridges Road). Fish data and water quality data were collected at all survey sites.

All fish captured were identified and counted. At sites where a large number of fish were collected (over 50 individuals of a species per site) a sub-sample of fish (approximately 50 individuals of each species per site) were measured. Fish length was measured in millimetres (mm) (total length or fork length for species with forked tail). Fish over 35 mm in length were weighed in grams. All fish collected during the study were released at point of capture after processing.

Water quality was assessed by collecting physicochemical data, using a YSI Pro DSS multiparameter digital water quality meter, taken prior to fish sampling. These data included water temperature, electrical conductivity, dissolved oxygen, turbidity and pH.

General fish surveys

A standardised surveying methodology was applied at each site. Fish were sampled using backpack, bank-mounted or boat electrofishing depending on site conditions. A Smith-Root® LR20B 1000V backpack electrofishing unit (Figure 2) was used to sample fish at twelve sites where electrical conductivity (EC) was $<1000 \mu\text{S}/\text{cm}$, and a Smith-Root® model 7.5 GPP bank-mounted electrofishing unit was used at three sites where EC was $\geq 1000 \mu\text{S}/\text{cm}$ and there was sufficient access to the site to get the car close to the river. Both the backpack and bank-mounted electrofishing equipment was used in water depth up to 1 m. Two sites were sampled using a Smith-Root® Model 5 GPP boat-mounted electrofishing unit due to a water depth greater than 1m.

Up to 1200 electrofishing seconds (the cumulative amount of time the machine applied electrical current to the water) was applied per site where the electrofishing backpack or bank-mounted unit was used. At sites where the electrofishing boat was used, 1080 electrofishing seconds was applied. In some cases, the duration of electrofishing at a site was limited by the amount of accessible habitat present (e.g., when it was too deep to sample effectively and safely for wading or it was too shallow to continue boat electrofishing).

Raw catch data was standardised to catch-per-unit-effort (CPUE) as an index of abundance. This is presented as the number of fish caught per hour of electrofishing, which allows for comparisons of catch data between sites and, more broadly, with other monitoring programs.



Figure 2. ARI staff backpack electrofishing in the Barwon River at Dwyer St, Winchelsea.
Source: Will McCance, Barwon Water.

Targeted fish surveys

Surveys targeting threatened species used multiple gear types, like in 2024, and were designed to detect the presence of these species. Generally, 600 electrofishing seconds using a backpack electrofishing unit (if conditions permitted) was first used to survey sites. At sites targeting Little Galaxias, electrofishing was done simultaneously with vigorous dip netting. Vigorous dip netting refers to rapid and frequent scooping, which is required to effectively capture small fish such as Little Galaxias. If the target species was not captured during the initial electrofishing, additional sampling effort (either more electrofishing or the use of bait traps) was undertaken at the site. In cases where electrofishing could not be used (e.g. high electrical conductivity or deep water with limited access to the edge) bait traps were set or vigorous dip netting was used. For the latter scenarios, effort stopped once the presence of Little Galaxias or Yarra Pygmy Perch was confirmed at the site. Table 3 details the gear and effort at each of the sites targeting threatened species.

Table 3. Sampling effort used at sites targeting threatened species in the upper Barwon River catchment in 2026.

Stream	Site name	Sampling method	Sampling effort
Pennyroyal Creek	Bush's Road	Backpack electrofishing	1384 s
	Downstream of Pennyroyal Station Road	Backpack electrofishing	600 s
		Bait traps	10 set overnight
	Upstream of Rifle Butts Road	Sampling did not take place	
Gosling Creek	Division Road	Dip netting	One location
East Barwon River	Birre-Forrest Road	Backpack electrofishing	600 s
	Railway Bridge (SW wetland)	Backpack electrofishing	514 s
		Bait traps	10 set for 130 min*
	Railway Bridge (SE wetland)	Dip netting	One location
	Railway Bridge (NW wetland)	Dip netting	Six locations ⁺
	Railway Bridge (under bridge)	Dip netting	one location
West Barwon River	Seven Bridges Road	Backpack electrofishing	600 s

* 514 s of electrofishing was enough to sample the entire perimeter of the wetland (the rest was too deep to access), and bait traps were set despite Little Galaxias being captured (for demonstration purposes).

⁺ Vigorous dip netting could not be used due to thick, emergent vegetation at the water's edge and depth elsewhere.

Community Engagement

On 24 February 2026, ARI co-hosted a community engagement event in collaboration with BW and CCMA to discuss the objectives and methodology of the fish monitoring program with relevant stakeholders and interested members of the public (15 attendees in total). An electrofishing demonstration was conducted at the Dywer Street site in Winchelsea to show stakeholders and members of the public the technology and methods used to collect fish data in the monitoring program. Fish processing was also conducted to demonstrate how fish data is collected, along with a brief discussion on the ecology and biology of key fish species residing in the Barwon River. At this event staff from BW and CCMA also discussed the ecological context of the fish monitoring program and how it relates to the delivery of ecological objectives under existing environmental projects or programs supported or facilitated by the two organisations.

Results

General fish surveys

A total of 2011 fish were recorded (captured and observed) at the reference site and intervention sites in 2026. This comprised 1504 native individuals from seven species (Table 4) and 507 introduced individuals from six species. Across all intervention sites and the reference site, Southern Pygmy Perch (*Nannoperca australis*) was the most abundant (n = 471), followed by Eastern Mosquitofish (*Gambusia holbrooki*) (n = 432) and Australian Smelt (*Retropinna semoni*) (n = 367).

Similar to survey results in 2024 and 2025, native species made up most individuals collected in the 2026 sampling event, with approximately 77% of all individuals recorded at the intervention sites and the reference site being native species. A high proportion of these individuals were small-bodied native species (n = 1371), comprising approximately 68% of the total catch at the intervention sites and reference site.

Table 4. Summary of catch data for general fish surveys in the mid to upper Barwon River, 2026.

*Denotes an introduced species

Common name	Scientific name	Total recorded (observed and collected)	Length range (mm)
Australian smelt	<i>Retropinna semoni</i>	367	20-65
Common galaxias	<i>Galaxias maculatus</i>	72	68-103
Flat-headed gudgeon	<i>Philypnodon grandiceps</i>	213	22-99
Ornate Galaxias	<i>Galaxias ornatus</i>	249	27-73
Short-finned Eel	<i>Anguilla australis</i>	123	150-930
Southern Pygmy Perch	<i>Nannoperca australis</i>	471	18-81
River Blackfish	<i>Gadopsis marmoratus</i>	9	104-273
Brown trout*	<i>Salmo trutta</i>	6	190-318
Common carp*	<i>Cyprinus carpio</i>	50	33-608
Eastern Mosquitofish*	<i>Gambusia holbrooki</i>	432	19-58
Goldfish*	<i>Carassius auratus</i>	5	57-212
Redfin Perch*	<i>Perca fluviatilis</i>	12	85-255
Tench*	<i>Tinca tinca</i>	2	115-145

The mean and median CPUE of Southern Pygmy Perch was similar across all three years (Figure 3). Like in the 2024 and 2025 sampling events, relatively high abundances of Southern Pygmy Perch were observed at some sites in 2026, particularly at Dewings Bridge Road (n = 65) and Kents Road (n = 58). The control site on Callahan Creek, first sampled in 2026, also had a relatively high catch (n = 55). The length frequency of Southern Pygmy Perch collected in 2024, 2025 and 2026 show a wide range of lengths and a similar distribution across survey years (Figure 4).

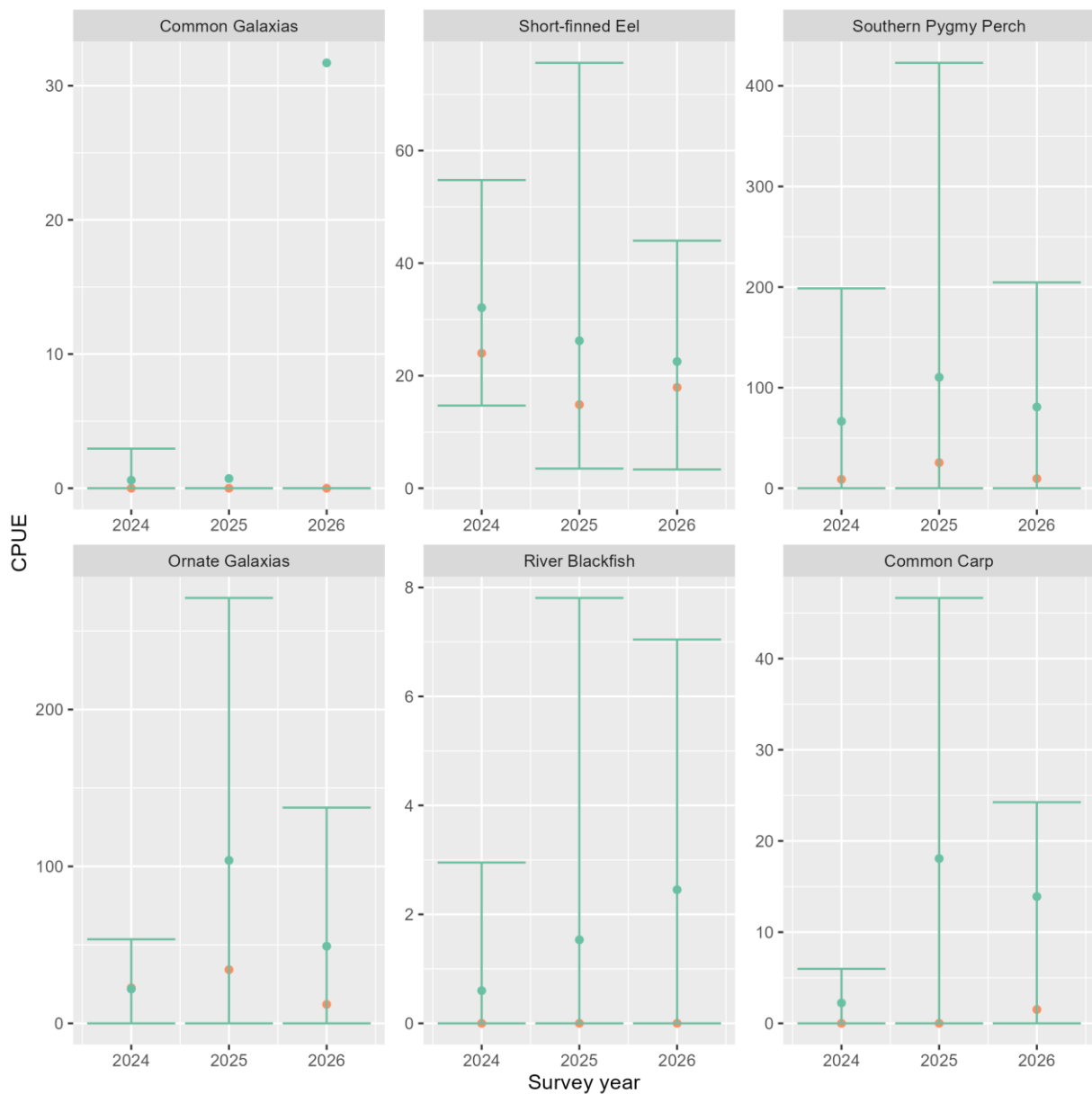


Figure 3. Catch Per Unit Effort (CPUE), presented as fish per electrofishing hour, of selected species collected from the mid to upper Barwon River from 2024 to 2026.

Green dots represent the mean and orange dots represent the median. Relatively high catches of Common Galaxias in 2026 were the result of the addition of a site where they were all captured in 2026.

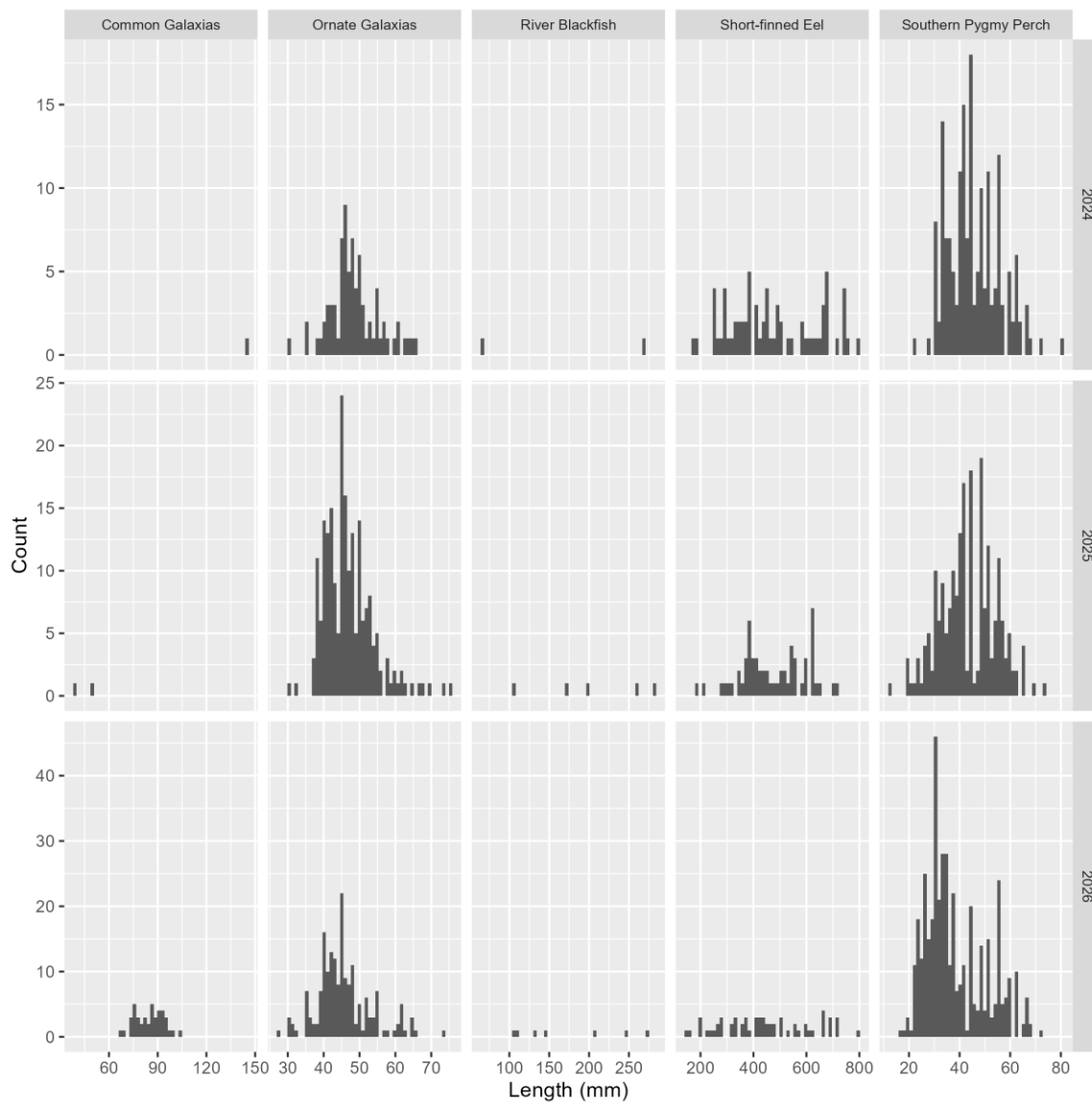


Figure 4. Length frequency of selected species collected from the mid to upper Barwon River from 2024 to 2026.

The CPUE of Ornate Galaxias in 2026 was within the range observed in 2024 and 2025 (Figure 3). The majority of the Ornate Galaxias recorded from 2025 to 2026 were detected at the most upstream reaches of the study area, in the East and West Barwon River sites. Similar to Southern Pygmy Perch, a wide range of lengths and numerous length classes were recorded in 2024, 2025 and 2026 (Figure 4).

The observed mean CPUE of River Blackfish (*Gadopsis marmoratus*) increased from <1 to over 2.5 fish/hour from 2024 to 2026. Like in 2024 and 2025, most of these fish were captured at one site (Dwyer Street) but some were captured at one of the new sites sampled in 2026 (Upstream Pollocksford Bridge).

Similar to the 2024 and 2025 sampling events, Short-finned Eel (*Anguilla australis*) was ubiquitous in the study area, being detected at almost every site in 2026. The CPUE of Short-finned Eel was similar across all years (Figure 3), with a similar range of sizes observed across all years (Figure 4).

The CPUE of Common Carp (*Cyprinus carpio*) in 2026 was within ranges observed during previous years of sampling (Figure 3). Common Carp was detected across a wider range of sites in 2026 (eight sites in 2026 compared to six in 2025 and three in 2025).

A much higher CPUE of Common Galaxias (*Galaxias maculatus*) was recorded in 2026 compared to previous sampling events (Figure 3). The higher catch rate in 2026 was due to the addition of a site (Upstream Pollocksford Bridge) where all these fish were detected in 2026.

Targeted fish surveys

A total of 935 fish were recorded (captured and observed) at the threatened species sites in 2026, comprising 763 native individuals from six species (Table 5) and 172 introduced individuals from two species. Approximately 80% of all fish captured at the threatened species sites were native species. Southern Pygmy Perch was the most abundant, followed by Eastern Mosquitofish.

Table 5. Summary of catch data for targeted fish surveys in the mid to upper Barwon River catchment, 2026.

*Denotes an introduced species.

Common name	Scientific name	Total number (observed and collected)	Length range (mm)
Flat-headed Gudgeon	<i>Philypnodon grandiceps</i>	3	92
Little Galaxias	<i>Galaxiella toourtkoourt</i>	90	12-28
Ornate Galaxias	<i>Galaxias ornatus</i>	27	36-47
Short-finned Eel	<i>Anguillia australis</i>	19	155-835
Southern Pygmy Perch	<i>Nannoperca australis</i>	619	16-70
Yarra Pygmy Perch	<i>Nannoperca obscura</i>	5	34 - 55
Eastern Mosquitofish*	<i>Gambusia holbrooki</i>	171	16-50
Redfin Perch*	<i>Perca fluviatilis</i>	1	350

Little Galaxias (Figure 5) were recorded at six of the threatened species sites (Birregurra-Forrest Road, Seven Bridges Road and all but the NW wetland at the Railway Bridge wetlands in 2026), with 90 individuals recorded in total (Table 6). Most of these individuals were captured at the Railway Bridge SE wetland site (n = 72). Little Galaxias were captured at the same locations as in 2024, except for the Railway Bridge (under bridge) site and the Seven Bridges Road site, which were not sampled in 2024 (Table 6).



Figure 5. Little Galaxias captured during targeted fish surveys in the upper Barwon River catchment area.

Table 6. The number of Little Galaxias (*Galaxiella toourtkoourt*) and Yarra Pygmy Perch (*Nannoperca obscura*) captured during targeted sampling for the species in the upper Barwon River catchment in 2024 and 2026.

Data from 2024 are from Walker and Bloink (2024). Sampling effort varied across sites and years due to sampling conditions.

Species	Site	2024	2026
Little Galaxias	Division Road	17	4
	Birre-Forrest Road	3	4
	Railway Bridge (SW wetland)	1	6
	Railway Bridge (SE wetland)	7	72
	Railway Bridge (NW wetland)	0	0
	Railway Bridge (under bridge)	-	1
	Seven Bridges Road	-	3
Yarra Pygmy Perch	Bush's Road	36	5
	Downstream of Pennyroyal Station Road	0	0
	Upstream of Rifle Butts Road	0	Not sampled

Yarra Pygmy Perch were detected at one site, Bush's Road in Pennyroyal Creek, during the 2026 sampling event. This is consistent with results from 2024. The catch rate of Yarra Pygmy Perch was lower in 2026 than in 2024, with 5 fish collected in 1384 s of backpack electrofishing (or 13/h of electrofishing), compared with 36 captured during 600 backpack electrofishing seconds (216/h of electrofishing) at this site in 2024. The catch at this site was dominated by Southern Pygmy Perch in 2026 (123 during 1384 s of backpack electrofishing or 320/h).

Community Engagement

The community engagement event, co-hosted by staff from BW, CCMA and ARI, was attended by approximately 15 stakeholders and interested members of the public. Along with the electrofishing demonstration, staff from BW and CCMA also discussed how fish monitoring relates to delivering the ecological objectives of environmental projects and programs in the mid to upper Barwon River catchment.

Discussion

General fish surveys

The data collected in the 2026 general fish surveys continues to build upon the dataset established from data collected in 2024 and 2025. This provides an important set of information on the population demographics of fish communities in the mid to upper Barwon River and will provide a basis of information to help evaluate the effectiveness of management interventions in the catchment area and inform future management decision relating to native fish populations.

In general, native, small-bodied fish populations in the mid to upper Barwon River have remained stable over the three years in which sampling was conducted. The relatively high abundances, wide range of sizes, normal distribution of sizes and evidence of recent recruitment of Southern Pygmy Perch (Figure 6) and Ornate Galaxias in the reaches above the Boundary Creek confluence suggest stable populations. The range of sizes observed for both species shows populations comprise a mixture of adults and juveniles across upper reaches of the Barwon River, and the relatively normal distribution of sizes across sampling events indicates stable populations with regular recruitment.

The high abundances of Southern Pygmy Perch and Ornate Galaxias is likely due to the ample habitat and food resources for these species provided by the dense instream and fringing vegetation consistently observed across the three years of sampling at these sites. Similarly, the new site in Callahan Creek, first surveyed in 2026, had both high abundances of Southern Pygmy Perch and a density and coverage of aquatic vegetation similar to those observed in the East and West Barwon River sites. Southern Pygmy Perch distribution is strongly associated with the prevalence of aquatic vegetation, which provides food, spawning habitat and refuge from predators (Humphries 1995). Likewise, instream cover (including aquatic vegetation) is an important habitat feature for Ornate Galaxias (Raadik 2014). While the CPUE of Southern Pygmy Perch and Ornate Galaxias fluctuated slightly between 2024 and 2026 (with 2025 having a higher observed CPUE of Southern Pygmy Perch and Ornate Galaxias than 2024 and 2026), this could reflect an inter-annual variance in abundances of these species or sampling variation.



Figure 6. Southern Pygmy Perch of varying lengths collected during general fish surveys in the mid to upper Barwon River.

The abundance of native small-bodied species in the upper reaches of the study area has likely also been influenced by the relatively low abundances of non-native, piscivorous fish species (Brown Trout *Salmo trutta* and Redfin Perch *Perca fluviatilis*) observed across the three sampling events. Both Brown Trout and Redfin Perch have been implicated in the declines of many species of small-bodied native fish, including Southern Pygmy Perch and Ornate Galaxias (Wager and Jackson, 1993; Woodward and Malone 2002; McDowall 2006; Wedderburn and Barnes 2016, Lintermans et al. 2019a). Relatively low abundances of Brown Trout and Redfin Perch were recorded across the study area in 2026, with six Brown Trout and 12 Redfin Perch detected. However, all Brown trout and one Redfin Perch recorded in 2026 were large enough to predate Southern Pygmy Perch and Ornate Galaxias.

Ornate Galaxias catch at one site (Boundary Road Bridge) was substantially lower in 2026 ($n = 3$) compared with 2025 ($n = 42$) (Table A1). This may be the result of an increase in Brown Trout abundance; the catch was higher in 2026 ($n = 5$) than 2025 ($n = 0$). Unfortunately, data from 2024 cannot be used to support or refute this hypothesis because of substantial changes that occurred at the site (removal of dense willow cover, increasing sampling efficiency) between sampling in 2024 and 2025. Ornate Galaxias and Brown Trout populations can coexist in streams with environmental conditions that are less favourable to trout (such as intermittently high water temperatures) (Lintermans 2023), especially in reaches with complex habitat structure such as aquatic plants (Stuart-Smith et al. 2007). Despite this, a relatively low density of adult Brown Trout can still significantly impact localised galaxias abundances by exerting strong predation pressure and negatively impacting galaxias behaviour (McIntosh et al. 1994).

The abundance of River Blackfish (Figure 7) was relatively low from 2024 to 2026 compared with catch rates from other Victorian coastal rivers. The median and CPUE of River Blackfish in the Barwon River across these years were 0 fish/hr (due to the high number of sites where none were captured) and around 1.5 fish/hr, respectively. This is much lower than results from two other Victorian coastal rivers in the last three years (median and mean usually > 50 fish/hr in the Glenelg River and a mean of almost 10 fish/hr and median > 3 fish/hr in the Moorabool River). It is also a bit lower than that in the Thomson River where although the median CPUE was 0 fish/hr, the mean value was often > 5 fish/hr (Amtstaetter et al. 2025b). For both the Barwon and Thomson rivers, the median CPUE is 0 because River Blackfish were not captured at most sites. The mean CPUE was higher in the Thomson River because the species was captured at more sites and in higher numbers. Lower abundance of the species in the Barwon River may be explained by environmental factors, such as altered flow regimes disrupting River Blackfish spawning behaviour and affecting recruitment success (Amtstaetter et al. 2024) the availability (or lack thereof) of suitable habitat, such as instream woody debris (Lintermans et al. 2019b) and increasing sedimentation contributing to recruitment failure (Lintermans et al. 2019b).



Figure 7. River Blackfish captured during general fish surveys at the Dwyer Street site on the Barwon River.

Short-finned Eel was the most widely distributed species in the study area, being detected at almost every site across all years (excluding Boundary Creek). A wide variety of lengths were observed in 2026. Similar distributions and size ranges were observed in 2024 and 2025, as well as in other coastal river systems (Amtstaetter et al. 2025b). The ubiquitous distribution of Short-finned Eel throughout the study area is driven by the ability to widely disperse upstream by traversing barriers (such as Buckley Falls) that impede the movement of other diadromous species. Their varied diet and tolerances for a range of environmental conditions also allows them to persist in the differing habitat types and conditions observed across the study area (Lintermans 2023).

The overall recorded numbers of Common Galaxias were much higher in 2026 compared to previous sampling years, due to the addition of the Upstream of Pollocksford Bridge site in 2026. All Common Galaxias observed during sampling in 2026 were detected at this site. The site at Pollocksford Bridge contains good habitat and favourable conditions for this species. Common Galaxias is also a schooling species (Lintermans 2023) and therefore can be present in high numbers in a localised area. Common Galaxias was observed in very low abundance in 2024 ($n = 2$) and 2025 ($n = 2$) and recorded at only two sites (Dwyer Street and Winchelsea-Deans Marsh Road). No Common Galaxias was detected at these sites in 2026.

Conditions at the site in Boundary Creek have been consistently poor across all years in which the mid to upper Barwon River surveys have been conducted, reflecting the ongoing impacts of Big Swamp (i.e. flushing of acidity and metals from known acid sulfate soils) on Boundary Creek. Water quality data collected during the fish surveys in 2024, 2025 and 2026 shows consistently low DO (≤ 1 mg/L) and relatively low pH (≤ 6.9), which likely comprises unfavourable conditions for fish. No fish have been recorded at this site in any of the sampling events.

Targeted fish surveys

The threatened species monitoring confirmed the persistence of Little Galaxias at sites in the upper Barwon River catchment. Most of the Little Galaxias recorded in 2026 were detected at one site (Railway Bridge SE wetland), which close to three other wetland sites adjacent to the East Barwon River. Not only was a large number captured at this site, but they were also captured using relatively low effort, indicating a very high abundance of the species. Although catch was lower at the other sites, it is not an indication of low densities because some of the other sites also had low sampling effort. This indicates relatively high densities of this threatened species at some of these sites. The continued presence of the species indicates successful recruitment and survival at these sites.

Little Galaxias is generally found in wetland type habitats or small, slow flowing creeks with dense aquatic vegetation which can be subject to seasonally variable inundation levels and connectivity (Coleman et al. 2019). The species is therefore likely to exist within a metapopulation structure, whereby the persistence of a population is influenced by the inter-connectivity of multiple sub-populations which exist at variable densities influenced by the natural wetting/drying cycles of their habitat (Coleman et al. 2019). This, along with the variation in sampling effort, may explain the respective high and low numbers of Little Galaxias observed across the threatened species sites sampled in 2026.

The threatened species monitoring also confirmed the persistence of Yarra Pygmy Perch in Pennyroyal Creek at the Bush's road site, with five captured in 2026. Catch rates of Yarra Pygmy Perch were much lower in 2026 compared with 2024. The CPUE of Yarra Pygmy Perch observed in 2024 suggested that this population could be large (Walker and Bloink 2024). However, the catch of one Yarra Pygmy Perch at this site in 1999 (T. Raadik, unpublished data) indicates that numbers can fluctuate widely, and the catch rate observed in 2026 is within the range previously observed at this site.

The two sites that were sampled on Pennyroyal Creek had relatively high abundances of Southern Pygmy Perch (particularly the site downstream of Pennyroyal Station Road where no Yarra Pygmy Perch were captured in 2024 or 2026). Southern Pygmy Perch are ecologically similar to Yarra Pygmy Perch, with overlapping habitat preferences and diets (Kuitert et al. 1996). The spatial distribution of Yarra Pygmy Perch can be negatively influenced by interspecific competition with Southern Pygmy Perch (Woodard and Malone 2002), whereby Yarra Pygmy Perch may be restricted to marginal habitat when outcompeted for space. It has been posited that the restriction to marginal habitat caused by interspecific competition with Southern Pygmy Perch may lead to higher predation rates of Yarra Pygmy Perch populations, particularly in the presence of Redfin Perch (one large Redfin Perch was detected at Bush's Road in 2026).

Community engagement

Overall, the community engagement event was received positively by those who attended and those who facilitated. The event was a demonstration of how various government agencies can collaborate on programs relating to river health. The electrofishing demonstration conducted by ARI staff provided the audience with an opportunity to see how fish data is collected in the mid to upper Barwon River monitoring program, and formed the basis of a discussion and sharing of knowledge on the ecology of key fish species (such as River Blackfish and Southern Pygmy Perch) that reside in the study area.

Conclusion and Recommendations

The data collected from the general fish surveys from 2024 to 2026 will contribute to the determination of whether ecological outcomes that support native fish populations in the mid to upper Barwon River catchment are being met. This three-year dataset should continue to be built upon through continuing consistent fish monitoring to allow for investigations into community-level responses to changes in the environment. This will allow for the evaluation of management interventions and can inform future management decisions regarding fish populations in the mid to upper Barwon River catchment. A consistent, long-term dataset can help to determine changes in fish abundances and assemblages influenced by management intervention (such as habitat improvement and water for the environment) and distinguish these changes from natural variation in fish communities. There is currently insufficient fish data in the mid to upper Barwon River to adequately measure the success of any management interventions relating to fish communities, highlighting the need to continue fish monitoring.

Fish monitoring surveys targeting the threatened Little Galaxias have confirmed the persistence of the species in the upper Barwon River catchment. We recommend continued monitoring at these sites. This will be useful in detecting decreases in their distribution (if it occurs) and the success of management actions that aim to benefit the species (e.g. habitat improvement and translocation).

Likewise, the detection of Yarra Pygmy Perch during the study confirmed the persistence of the species within the upper Barwon River catchment, and monitoring should continue. The site at Bush's Road currently constitutes the only known population of Yarra Pygmy Perch in the upper Barwon River catchment, highlighting the threatened nature of the species and the importance of this specific population. Historic data suggests that local abundances may fluctuate, however the co-occurrence of both Southern Pygmy Perch and Redfin Perch at the Bush's Road site may pose a risk to the Yarra Pygmy Perch population. On-going monitoring will be useful in detecting population decline (if any) and will help assess the effect of management interventions that target this species.

Continued monitoring of both these threatened species is merited, and predator control (i.e. removing invasive predatory species such as Redfin and Trout) could be conducted during sampling.

Some specific recommendations have been provided to continue to collate information on the fish communities of the mid to upper Barwon River catchment area. A summary of these recommendations is as follows.

- Continue general fish monitoring surveys to:
 - Ensure there is sufficient, consistent data collection across varying climatic and environmental conditions to monitor short-term and long-term changes in the fish population demographics.
 - Evaluate the effects of environmental events or management interventions and assess the effectiveness of these interventions over a sufficient temporal scale.
 - Inform future management decision making and initiatives aimed at improving fish community health.
- Continue targeted fish monitoring surveys to:
 - Monitor the persistence and recruitment of known populations of Little Galaxias.
 - Monitor the persistence and recruitment of the known population of Yarra Pygmy Perch

It is recommended that predator removal (Trout and/or Redfin) at threatened species sites be implemented on an ad hoc basis (i.e. opportunistically, if these species are found during sampling).

References

- Amtstaetter, F., Jackson, R., Byrne, A. and McCance, W. (2025a). *Upper and Mid-Barwon River fish monitoring plan*. Arthur Rylah Institute for Environmental Research. Unpublished Report for the Corangamite Catchment Management Authority. Department of Energy, Environment and Climate Action, Heidelberg, Victoria
- Amtstaetter, F., Yen, J., Lieschke, J., O'Connor, J. and Tonkin, Z. (2025b). *Coastal Rivers Annual Monitoring Results 2025*. Arthur Rylah Institute for Environmental Research. Unpublished Report for the Water and Catchments Group, Department of Energy, Environment and Climate Action. Department of Energy, Environment and Climate Action, Heidelberg, Victoria.
- Coleman, R., Raadik, T. and Whiterod, N. (2019). *Galaxiella tooortkooort*. The IUCN Red List of Threatened Species 2019. ICUN Red List of Threatened Species, Cambridge, United Kingdom
<http://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T122904035A123382176.en>
- Corrangamite Catchment Mangment Authority (2025). *Little galaxias and Yarra pygmy perch found in Barwon*. <https://ccma.vic.gov.au/threatened-species/little-galaxias-and-yarra-pygmy-perch-found-in-barwon/> (accessed: 24/03/2025).
- Hogan, L. and Amtstaetter, F. (2025). *Upper and Mid Barwon Fish Monitoring Program Report*. Arthur Rylah Institute for Environmental Research. Unpublished Report for Barwon Water. Department of Energy, Environment and Climate Action, Heidelberg, Victoria.
- Humphries, P. (1995). Life history, food and habitat of Southern pygmy perch, *Nannoperca australis*, in the Macquarie River, Tasmania. *Marine and Freshwater Research* **46**, 1159–1169.
- Koster, W. (2021). *Surveys of Fish Populations in West Barwon Reservoir*. Arthur Rylah Institute for Environmental Research Unpublished Report for the Corangamite Catchment Manamgnet Authority. Department of Energy, Environment and Climate Action, Heidelberg, Victoria.
- Kuiter, R.H., Humphries, P.A. and Arthington, A. H. (1996). *Family Nannoperidae*. In *Freshwater Fishes of South-Eastern Australia*. 2nd edn. R.M. McDowall. Reed Books, Sydney, 168–175.
- Lieschke, J.A., Dodd, L., Stoessel, D., Raadik, T., Steelcable, A., Kitchingham, A. and Ramsay, D. (2013). *The status of fish populations in Victoria rivers 2004-2011- Part B: Individual basin assesments*. Arthur Rylah Institue for Envrionemntal Research Technical Report Series No. 247. Department of Environment and Primary Industries, Heidelberg, Vcitoria.
- Lintermans, M., Geyle, H.M., Beatty, S., Brown, C., Ebner, B.C., Freeman, R., Hammer, M.P., Humphreys, W.F., Kennard, M.J., Kern, P., Martin, K., Morgan, D.L., Raadik, T.A., Unmack, P.J., Wager, R., Woinarski, J.C.Z. and Garnett, S.T. (2019a). Big trouble for little fish: identifying Australian freshwater fishes in imminent risk of extinction. *Pacific Conservation Biology* **26**, 365-377. DOI: [10.1071/PC19053](https://doi.org/10.1071/PC19053)
- Lintermans, M., Freeman, R., Unmack, P. and Raadik T. (2019b). *Gadopsis marmoratus*. The IUCN Redlist of Threatened Species 2019. ICUN Red List of Threatened Species, Cambridge, United Kingdom. DOI: <http://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T123358463A123382771.en>
- Lintermans, M. (2023). *Fishes of the Murray–Darling Basin*. 3rd edn. Australian River Restoration Centre, Canberra, ACT.
- McDowall, R.M. (2006). Crying Wolf, Crying Foul, or Crying Shame: Alien Salmonids and a Biodiversity Crisis in the Southern Cool-Temperate Galaxioid Fishes? *Reviews in Fish Biology and Fisheries* **16**, 233-422.
- McIntosh, A.R., Crawl, T.A. and Townsend, C.R. (1994). Size-related impacts of introduced brown trout on the distribution of native common river galaxias. *New Zealand Journal of Marine and Freshwater Research* **28**, 135-144.
- Raadik, T.A. (2014). Fifteen from one: a revision of the *Galaxias olidus* Günther, 1866 complex (Teleostei, Galaxiidae) in south-eastern Australia recognises three previously described taxa and describes 12 new species. *Zootaxa* **1**, 1–198.
- Stuart-Smith, R., Stuart-Smith, J., White, RWG., Barmuta, L. (2007). The impact of an introduced predator on a threatened galaxiid fish is reduced by the availability of complex habitats. *Freshwater Biology* **52**, 1555–1563. doi:10.1111/j.1365-2427.2007.01787.x

- Wager, R. and Jackson, P.D. (1993). The Action Plan for Australian Freshwater Fishes. Australian Nature Conservation Agency, Canberra.
- Walker, G. and Bloink, C. (2024). *Fish Surveys in the Upper Barwon Catchment*. Report to Corangamite Catchment Management Authority. Ecology Australia Pty. Ltd. Melbourne, Victoria.
- Wedderburn SD and Barnes TC .(2016). Piscivory by alien redfin perch (*Perca fluviatilis*) begins earlier than anticipated in two contrasting habitats of Lake Alexandrina, South Australia. *Australian Journal of Zoology* **64**, 1–7.
- Woodward, G.M.A. and Malone, B.S. (2002). Patterns of abundance and habitat use by *Nannoperca obscura* (Yarra Pygmy Perch) and *Nannoperca australis* (Southern Pygmy Perch). *Proceedings of Royal Society of Victoria* **114**, 61–72.

Appendix. Total catch data per site in the Barwon River and tributaries in 2026

Table A1. Total catch data per site for general fish surveys in the mid to upper Barwon River, 2026.

*denotes an introduced species

Site name	Common name	Scientific name	Total recorded (observed and collected)
Kents Road	Ornate Galaxias	<i>Galaxias ornatus</i>	54
	Southern Pygmy Perch	<i>Nannoperca australis</i>	58
	Southern Shortfin Eel	<i>Anguilla australis</i>	4
Dewings Bridge Road	Australian Smelt	<i>Retropinna semoni</i>	2
	Flatheaded Gudgeon	<i>Philypnodon grandiceps</i>	1
	Ornate Galaxias	<i>Galaxias ornatus</i>	5
	Southern Pygmy Perch	<i>Nannoperca australis</i>	65
	Southern Shortfin Eel	<i>Anguilla australis</i>	6
	Eastern Gambusia*	<i>Gambusia holbrooki</i>	4
	Redfin Perch*	<i>Perca fluviatilis</i>	3
Wickhams Lane	Ornate Galaxias	<i>Galaxias ornatus</i>	19
	Southern Pygmy Perch	<i>Nannoperca australis</i>	115
	Southern Shortfin Eel	<i>Anguilla australis</i>	11
	Eastern Gambusia*	<i>Gambusia holbrooki</i>	29
	Redfin Perch*	<i>Perca fluviatilis</i>	2
Boundary Road Bridge	Ornate Galaxias	<i>Galaxias ornatus</i>	3
	Southern Pygmy Perch	<i>Nannoperca australis</i>	44
	Southern Shortfin Eel	<i>Anguilla australis</i>	7
	Brown Trout*	<i>Salmo trutta</i>	5
Upstream of Roadknight Creek confluence	Ornate Galaxias	<i>Galaxias ornatus</i>	18
	Southern Pygmy Perch	<i>Nannoperca australis</i>	58
	Southern Shortfin Eel	<i>Anguilla australis</i>	6
	Eastern Gambusia*	<i>Gambusia holbrooki</i>	58
Kaanglang Road	Flatheaded Gudgeon	<i>Philypnodon grandiceps</i>	37
	Ornate Galaxias	<i>Galaxias ornatus</i>	100
	Southern Pygmy Perch	<i>Nannoperca australis</i>	55
Callahan Creek	Southern Pygmy Perch	<i>Nannoperca australis</i>	55
	Southern Shortfin Eel	<i>Anguilla australis</i>	14
Downstream of Boundary Creek confluence	Australian Smelt	<i>Retropinna semoni</i>	1

Site name	Common name	Scientific name	Total recorded (observed and collected)
	Ornate Galaxias	<i>Galaxias ornatus</i>	11
	Southern Pygmy Perch	<i>Nannoperca australis</i>	14
	Southern Shortfin Eel	<i>Anguilla australis</i>	8
	Common Carp*	<i>Cyprinus carpio</i>	1
	Eastern Gambusia*	<i>Gambusia holbrooki</i>	5
	Redfin Perch*	<i>Perca fluviatilis</i>	1
	Australian Smelt	<i>Retropinna semoni</i>	3
	Flatheaded Gudgeon	<i>Philypnodon grandiceps</i>	1
	Ornate Galaxias	<i>Galaxias ornatus</i>	14
	Southern Shortfin Eel	<i>Anguilla australis</i>	11
	Common Carp*	<i>Cyprinus carpio</i>	5
	Eastern Gambusia*	<i>Gambusia holbrooki</i>	3
Barwon St	Redfin Perch*	<i>Perca fluviatilis</i>	1
	Australian Smelt	<i>Retropinna semoni</i>	9
	Flatheaded Gudgeon	<i>Philypnodon grandiceps</i>	1
	Ornate Galaxias	<i>Galaxias ornatus</i>	25
	Southern Pygmy Perch	<i>Nannoperca australis</i>	4
	Southern Shortfin Eel	<i>Anguilla australis</i>	5
	Eastern Gambusia*	<i>Gambusia holbrooki</i>	5
Colac-Lorne Road	Australian Smelt	<i>Retropinna semoni</i>	8
	Southern Shortfin Eel	<i>Anguilla australis</i>	4
	Common Carp*	<i>Cyprinus carpio</i>	4
	Eastern Gambusia*	<i>Gambusia holbrooki</i>	221
	Redfin Perch*	<i>Perca fluviatilis</i>	1
Cons Lane	Southern Pygmy Perch	<i>Nannoperca australis</i>	1
Winchelsea-Deans Marsh Road	Southern Shortfin Eel	<i>Anguilla australis</i>	16
	Common Carp*	<i>Cyprinus carpio</i>	5
	Flatheaded Gudgeon	<i>Philypnodon grandiceps</i>	8
	River Blackfish	<i>Gadopsis marmoratus</i>	7
	Southern Pygmy Perch	<i>Nannoperca australis</i>	2
	Southern Shortfin Eel	<i>Anguilla australis</i>	11
Dwyer Street	Southern Shortfin Eel	<i>Anguilla australis</i>	11

Site name	Common name	Scientific name	Total recorded (observed and collected)
	Common Carp*	<i>Cyprinus carpio</i>	7
	Eastern Gambusia*	<i>Gambusia holbrooki</i>	30
	Australian Smelt	<i>Retropinna semoni</i>	302
	Common Galaxias	<i>Galaxias maculatus</i>	72
	Flatheaded Gudgeon	<i>Philypnodon grandiceps</i>	19
	River Blackfish	<i>Gadopsis marmoratus</i>	2
	Southern Shortfin Eel	<i>Anguilla australis</i>	2
	Brown Trout*	<i>Salmo trutta</i>	1
	Common Carp*	<i>Cyprinus carpio</i>	15
	Eastern Gambusia*	<i>Gambusia holbrooki</i>	73
	Redfin Perch*	<i>Perca fluviatilis</i>	3
Upstream Pollocksford Bridge	Australian Smelt	<i>Retropinna semoni</i>	38
	Flatheaded Gudgeon	<i>Philypnodon grandiceps</i>	76
	Southern Shortfin Eel	<i>Anguilla australis</i>	2
	Common Carp*	<i>Cyprinus carpio</i>	7
	Eastern Gambusia*	<i>Gambusia holbrooki</i>	4
	Goldfish	<i>Carassius auratus</i>	5
	Tench	<i>Tinca tinca</i>	1
Inverleigh	Australian Smelt	<i>Retropinna semoni</i>	4
	Flatheaded Gudgeon	<i>Philypnodon grandiceps</i>	70
	Southern Shortfin Eel	<i>Anguilla australis</i>	16
	Common Carp*	<i>Cyprinus carpio</i>	6
	Redfin Perch*	<i>Perca fluviatilis</i>	1
	Tench	<i>Tinca tinca</i>	1
McMillans Lane			

Table A2. Total catch data per site for targeted fish surveys in the mid to upper Barwon River, 2026.

*denotes an introduced species

Site name	Common name	Species name	Total recorded (observed and collected)
Bush's Road	Flatheaded Gudgeon	<i>Philypnodon grandiceps</i>	3
	Ornate Galaxias	<i>Galaxias ornatus</i>	3
	Southern Pygmy Perch	<i>Nannoperca australis</i>	123
	Southern Shortfin Eel	<i>Anguilla australis</i>	12
	Yarra Pygmy Perch	<i>Nannoperca obscura</i>	5
	Redfin Perch*	<i>Perca fluviatilis</i>	1
	Eastern Gambusia*	<i>Gambusia holbrooki</i>	27
Downstream of Pennyroyal Station Road	Ornate Galaxias	<i>Galaxias ornatus</i>	14
	Southern Pygmy Perch	<i>Nannoperca australis</i>	253
	Southern Shortfin Eel	<i>Anguilla australis</i>	2
Division Road	Little Galaxias	<i>Galaxiella toourtkoourt</i>	4
	Southern Pygmy Perch	<i>Nannoperca australis</i>	60
Birre-Forrest Road	Little Galaxias	<i>Galaxiella toourtkoourt</i>	4
	Ornate Galaxias	<i>Galaxias ornatus</i>	1
	Southern Pygmy Perch	<i>Nannoperca australis</i>	66
	Southern Shortfin Eel	<i>Anguilla australis</i>	2
	Eastern Gambusia*	<i>Gambusia holbrooki</i>	81
Railway Bridge (SW wetland)	Little Galaxias	<i>Galaxiella toourtkoourt</i>	6
	Southern Pygmy Perch	<i>Nannoperca australis</i>	97
	Eastern Gambusia*	<i>Gambusia holbrooki</i>	41
Railway Bridge (SE wetland)	Little Galaxias	<i>Galaxiella toourtkoourt</i>	72
Railway Bridge (NW wetland)	Eastern Gambusia*	<i>Gambusia holbrooki</i>	15
Railway Bridge (under bridge)	Little Galaxias	<i>Galaxiella toourtkoourt</i>	1
	Southern Pygmy Perch	<i>Nannoperca australis</i>	2
Seven Bridges Road	Little Galaxias	<i>Galaxiella toourtkoourt</i>	3
	Ornate Galaxias	<i>Galaxias ornatus</i>	9
	Southern Pygmy Perch	<i>Nannoperca australis</i>	18

Eastern Gambusia*	<i>Gambusia holbrooki</i>	2
-------------------	---------------------------	---

Acknowledgements

This project was funded by the Department of Energy, Environment and Climate Action (DEECA) and Barwon Water (BW). Project funding was sourced by Corangamite Catchment Management Authority (CCMA) and Barwon Water (BW). We would like to thank the following for their assistance and support with the project: Rose Jackson (CCMA), for project funding and inception, project support, site selection and organising and assisting with community engagement events; Will McCance (BW) for project funding and inception, site selection, organising and aiding with community engagement events and project support; and Anthony Byrne (CCMA) for assistance with private property access, site selection and field work liaison. We thank Gabriel Cornell (formerly of the ARI) for his contribution to the development of the project and assisting with site selection. We acknowledge the following staff from ARI for field assistance: Andrew Pickworth, Lauren Johnson and Will Sowersby. Di Crowther and Jason Lieschke from ARI are thanked for reviewing an earlier draft of this report. This work was completed under Victorian Fisheries Permit RP 827, FFG Research Permit 10007273, and DEECA Animal Ethics Permit 19/006.

Arthur Rylah Institute for Environmental Research
Department of Energy, Environment and Climate Action
PO Box 137, Heidelberg, Victoria 3084
Phone (03) 9450 8600
Website: www.ari.vic.gov.au

Citation: Hogan, L. and Amtstaetter, F. (2026). *Mid to Upper Barwon River and Threatened Species Fish Monitoring Report*. Arthur Rylah Institute for Environmental Research. Unpublished Report for Corangamite Catchment Authority and Barwon Water. Department of Energy, Environment and Climate Action, Heidelberg, Victoria.

Front cover photo: East Barwon River at Kents Road, Forrest (Liam Hogan).

We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, their unique ability to care for Country and deep spiritual connection to it.

We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices.

DEECA is committed to genuinely partnering with Victorian Traditional Owners and Victoria's Aboriginal community to progress their aspirations.



© The State of Victoria Department of Energy, Environment and Climate Action, June 2026.

Disclaimer

This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.