

# Native Fish Report Card

## Thomson and Macalister rivers 2024

West Gippsland Region

This report card summarises the **2024** Native Fish Report Card (NFRC) survey in the Thomson and Macalister rivers



SITES: 9

ELECTROFISHING

### Fish found in the Thomson and Macalister rivers in our 2024 surveys

#### Target Species

✓ recorded in 2024



✓ **Australian Bass**

*Perkalates novemaculeata*



✓ **Australian Grayling**

*Prototroctes maraena*

\* These non-target species were incidentally captured during NFRC surveys since 2017 but not measured as for target species.

# Native species translocated outside its natural range.

#### Non-target species

✓ recorded since 2017\*

##### Large-bodied native species

- ✓ Golden Perch#
  - ✓ Long-finned Eel
  - ✓ Pouched Lamprey
  - ✓ Short-finned Eel
  - ✓ Short-headed Lamprey
  - ✓ Tupong
- + a further five estuarine fish species (see following pages)

##### Small-bodied native species

- ✓ Australian Anchovy
- ✓ Australian Smelt
- ✓ Common Galaxias
- ✓ Flatheaded Gudgeon
- ✓ Flinder's Pygmy Perch

##### Exotic species

- ✓ Brown Trout
- ✓ Eastern Gambusia
- ✓ Common Carp
- ✓ Goldfish
- ✓ Oriental Weatherloach
- ✓ Rainbow Trout
- ✓ Redfin
- ✓ Roach

## Fish community

The NFRC Program began in 2017 to monitor population dynamics of key iconic fish species that have high recreational and/or conservation values, in large rivers across Victoria. In the Thomson and Macalister rivers, the target species are Australian Bass and Australian Grayling. The equipment used and habitats surveyed target these species, which are measured to determine their population structures. Other fish species that are incidentally captured are counted, but not measured. Surveys occur every March, at nine sites from the junction with the Latrobe River to Lake Glenmaggie on the Macalister River, and to Denison on the Thomson River. The site at Denison on the Thomson River just downstream of Rainbow Creek junction was shifted to the Rainbow Creek just upstream the Thomson River junction in 2021 and 2022 due to access logistics. The original Denison site was again surveyed in 2023 and 2024 after flooding changed the instream channel, allowing the whole site to be fished. The Thomson and Macalister river surveys use boat electrofishing.

### Summary of key health indicators for target species in 2024

Species	Key Health Indicators		
	Recent recruitment	Multiple size classes	Mature fish present
Australian Bass	Yes	Yes	Yes
Australian Grayling*	-	-	-

Recent recruitment means young-of-year fish

\* - cannot be determined due to low abundances

Australian Bass in the Thomson and Macalister river systems are towards the western most extent of their natural range. Historically they occurred no further west than Wilsons Promontory. Australian Bass are an important recreational species and the population is supplemented by stockings. Australian Grayling was once widespread across coastal Victoria, including these rivers. Changes to flow regimes and addition of barriers negatively affect this species.

**Non-target species** The non-target fish species incidentally recorded in NFRC surveys since 2017 are:

**Large-bodied native species** The diadromous Short-headed Lamprey was recorded for the first time in NFRC surveys in 2024. Other large-bodied species recorded in 2024 were Estuary Perch, Long-finned Eel, Short-finned Eel and Tupong. Other species recorded in previous NFRC surveys are Black Bream, Golden Perch, Pouched Lamprey, River Garfish, Sea Mullet and Yellow-eye Mullet. Five of the non-target large-bodied species (Black Bream, Estuary Perch, River Garfish, Sea Mullet and Yellow-eye Mullet) are considered estuarine species. Long-finned and Short-finned Eel, Pouched Lamprey and Tupong are diadromous species. Golden Perch is a translocated species in these rivers.

**Small-bodied native species** Australian Smelt and Flatheaded Gudgeon are common species distributed across Victoria and have been recorded in all eight NFRC surveys. Common Galaxias and Flinder's Pygmy Perch are regularly recorded during the NFRC surveys, whilst Australian Anchovy are rarely recorded. The Common Galaxias is a diadromous species found across coastal Victoria. Flinder's Pygmy Perch (listed as vulnerable in Victoria under the *Flora and Fauna Guarantee Act 1988*) are common in offstream habitats such as billabongs, wetlands and lagoons. Australian Anchovy is an estuarine species and only expected to be detected at the lowest site/s (i.e. closest to the estuary).

**Exotic fish species** Common Carp and Redfin were the only exotic species recorded in 2024 and have been detected in all eight NFRC surveys. These species are widespread through the lower reaches of the Thomson and Macalister rivers. Other exotic species recorded during previous NFRC surveys are Brown Trout, Eastern Gambusia, Goldfish, Oriental Weatherloach, Rainbow Trout and Roach. Brown Trout and Rainbow Trout are restricted to the upper sites in the Macalister River. Goldfish are present in both rivers, in low abundances. Eastern Gambusia were detected in Rainbow Creek in 2021 and the Macalister River in 2022 and are often found in slower flowing waters. Roach, which prefer vegetated waters and are often a schooling species, have been recorded twice in the Thomson-Macalister system [2021 (not NFRC) and 2023]. Oriental Weatherloach is a habitat generalist but prefers muddy waters and can tolerate a wide range of conditions including oxygen depleted waters. Oriental Weatherloach has only been captured in the Thomson River three times since being first recorded in 2010.

**Other native fish species known from the Thomson and Macalister rivers** Some fish species known to occur in the Thomson and Macalister rivers have never been recorded in the eight NFRC surveys (e.g. Climbing Galaxias, Mountain Galaxias, Spotted Galaxias, River Blackfish). The Climbing Galaxias and Spotted Galaxias are diadromous species, with patchy distributions in coastal Victoria. They occur in lowland areas but are hard to detect using NFRC sampling methods. The Mountain Galaxias is found on both sides of the Great Dividing Range from Melbourne eastwards in Victoria. In the Thomson and Macalister rivers they were patchy and relatively uncommon in the lower areas but were more common in higher altitudes and are hard to detect using the NFRC sampling methods. The River Blackfish is a lowland species, generally found at altitudes below 200 metres. This species has declined in distribution and abundance across the State and was historically considered relatively widespread throughout the Thomson basin<sup>1</sup>. This species is still present in the Thomson River, though upstream of NFRC sampling sites.

**Other notable species** Surveys have also recorded Eastern Long-necked Turtles.

## Environmental and Management Context

### Environment

Low flow conditions were present from 2017-2024, albeit slightly higher in 2021.

### Waterway and fisheries management efforts in the Thomson and Macalister rivers

Many rehabilitation actions have occurred and are underway to improve the health of the Thomson and Macalister rivers. These are informed by the West Gippsland Waterway Strategy 2014-2022. Efforts include revegetation, weed control and fencing of riparian areas and floodplain wetlands, allocations and delivery of water for the environment, removal of migration barriers and erosion control. Some monitoring of the fish community occurs, including related to management efforts above. This includes the Victorian Environmental Flow Monitoring and Assessment Program (VEFMAP). The [West Gippsland Catchment Management Authority](#), DEECA and the [Victorian Fisheries Authority](#) support rehabilitation and management of the Thomson and Macalister rivers.

See the ARI website for further information on the [Native Fish Report Card program](#).

<sup>1</sup>Lieschke et al. (2013). The status of fish populations in Victorian rivers 2004–2011 – Part A. Arthur Rylah Institute for Environmental Research Technical Report Series No. 246. Department of Environment and Primary Industries, Heidelberg, Victoria.

*The NFRC program, and related monitoring initiatives, provide improved understanding of the structure of fish communities and how rivers can be best managed.*



Figure 1. Map showing the section of Thomson and Macalister rivers where NFRC sampling occurs.



Figure 2. An Australian Grayling



Figure 3. An Australian Bass

# Australian Bass

*Percalates novemaculeata*



## Key Health Indicators

- ✓ Recent recruitment
- ✓ Multiple size classes
- ✓ Mature fish present

## Monitoring Results

Total number of fish caught	36
Fish per 1km of waterway	6.4
Largest fish by length (cm)*	38.9
Largest fish by weight (kg)	1.13
% of the catch that is legal size	27.8

## Thomson and Macalister rivers

## Recreational Species

Australian Bass (*Percalates novemaculeata*) - formerly *Macquaria novemaculeata* - are a targeted recreational fishing species in the Thomson and Macalister rivers. Recruits, juveniles and adults were collected in 2024 and have been collected in six of the eight years (2017-18 and 2021-24), with recruits absent in 2019 and 2020 (Figure 4). The number of adults decreased in 2024, after a large increase from 2022 to 2023 (Figure 4). There was a wide range of sizes detected in 2024 from recruits to large adult fish (Figure 5). The absence of recruits in 2019 and 2020 is possibly due to stocking occurring away from NFRC sites, rather than the recruits not surviving.

## Stocking

Nine thousand Australian Bass were stocked in 2016; 28,500 in 2017; 10,000 in 2018 and 2019; 25,000 in 2020; 26,000 in 2021; 27,000 in 2022; and 25,000 in 2023.

# Australian Bass

*Percaletes novemaculeata*

Thomson and Macalister rivers densities of Australian Bass size classes from 2017 to 2024

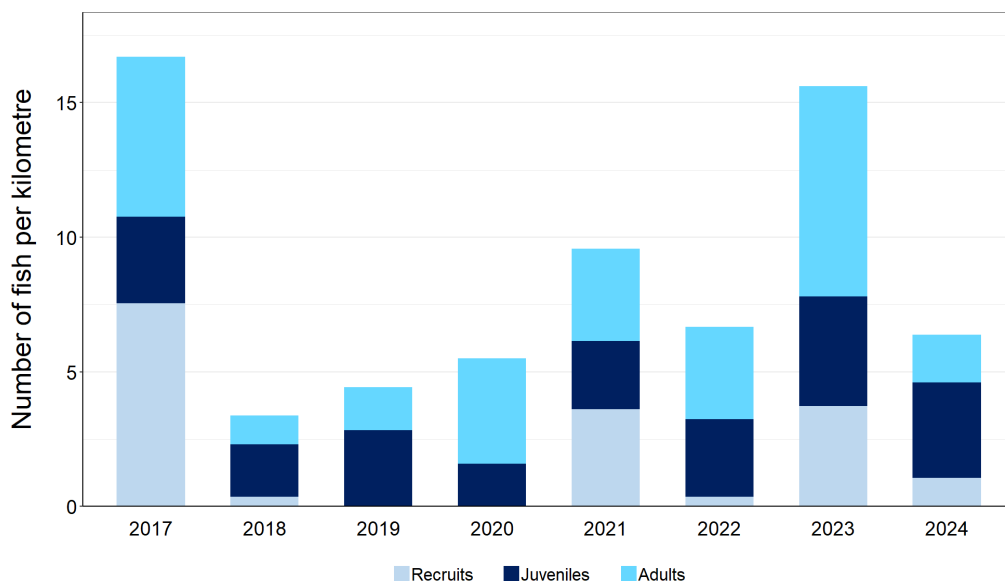


Figure 4. The densities of recruits, juveniles and adult Australian Bass for NFRC surveys in the Thomson and Macalister rivers from 2017 to 2024

Australian Bass size range percentage for Thomson and Macalister rivers in 2024

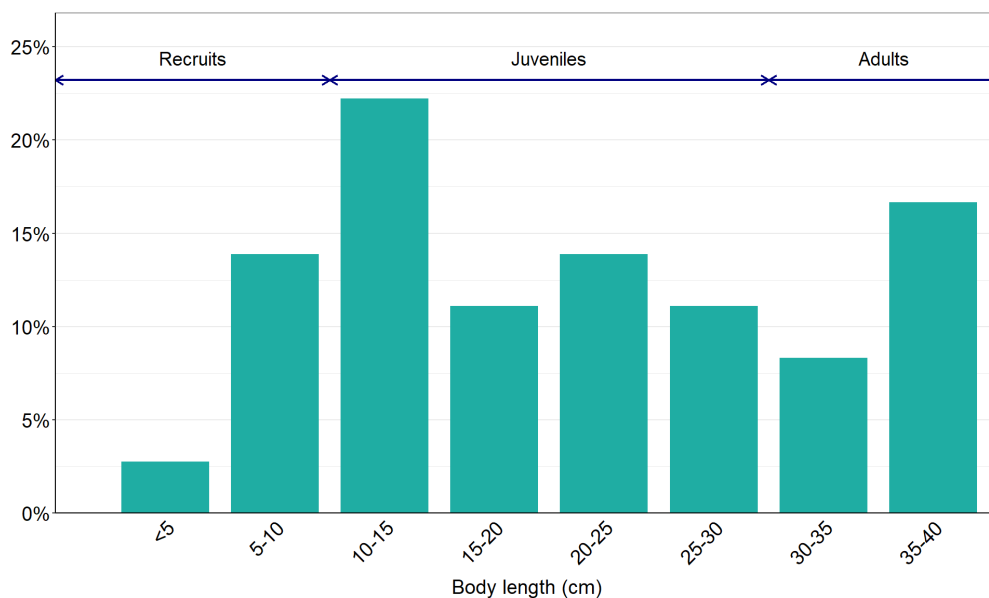
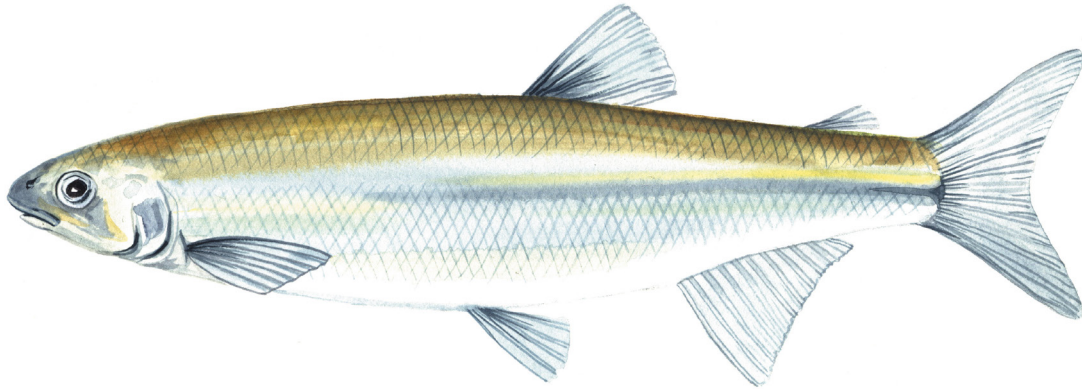


Figure 5. The size range percentage of Australian Bass measured from the Thomson and Macalister rivers during NFRC surveys in 2024

# Australian Grayling

*Prototroctes maraena*



## Key Health Indicators

- Cannot be determined
- Cannot be determined
- Cannot be determined

## Monitoring Results

Total number of fish caught	2
Fish per 1km of waterway	0.35
Largest fish by length (cm)	21
Largest fish by weight (kg)	0.14
% of the catch that is legal size	NA <sup>#</sup>

<sup>#</sup> This species is a Protected Freshwater Species and taking or possessing is prohibited (Victorian Recreational Fishing Guide 2024-24)

## THOMSON + MACALISTER RIVERS

## THREATENED SPECIES

Australian Grayling (*Prototroctes maraena*) is a diadromous species that has undergone declines in distribution and abundance across its range. The species is listed as endangered in Victoria (*Flora and Fauna Guarantee Act 1988*) and nationally (*Environment Protection and Biodiversity Conservation Act 1999*). While NFRC expects to only capture low numbers of this species, the monitoring can provide a greater understanding of the current status of the populations which is essential to inform management of these species.

Only adult Australian Grayling were detected in 2024 (Figure 7). Australian Grayling have been captured in six of the eight NFRC survey years (2017-18, 2020-21 and 2023-24) although abundances have been low, with the highest captures being five in 2018 and 2020. Due to the low abundances of Australian Grayling collected during NFRC, the key health indicators cannot be determined. Adults have been captured in 2017-18, 2020, 2023 and 2024 with juveniles also detected in 2020 and 2021 (Figure 6). No Australian Grayling were detected in 2019 or 2022. The presence of juveniles in 2020 and 2021 (Figure 6) points towards successful recent immigration by recruits into the Thomson and Macalister rivers. This indicates stream conditions attracted recruits into the system and supported their subsequent upstream dispersal and survival in 2019 and 2020.

## Stocking

No stocking has occurred.

# Australian Grayling

*Prototroctes maraena*

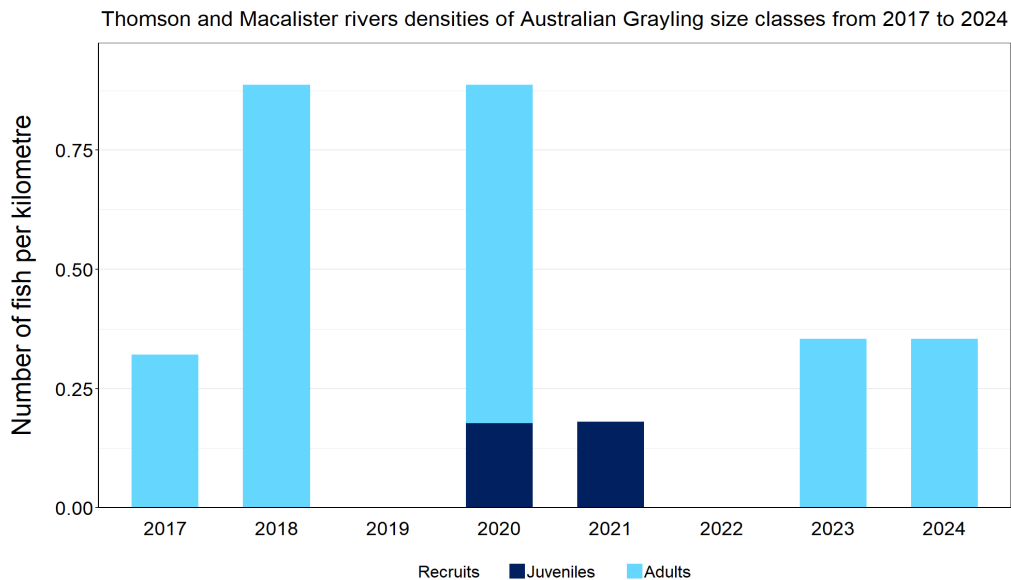


Figure 6. The densities of recruits, juveniles and adult Australian Grayling for NFRC surveys in the Thomson and Macalister rivers from 2017 to 2024

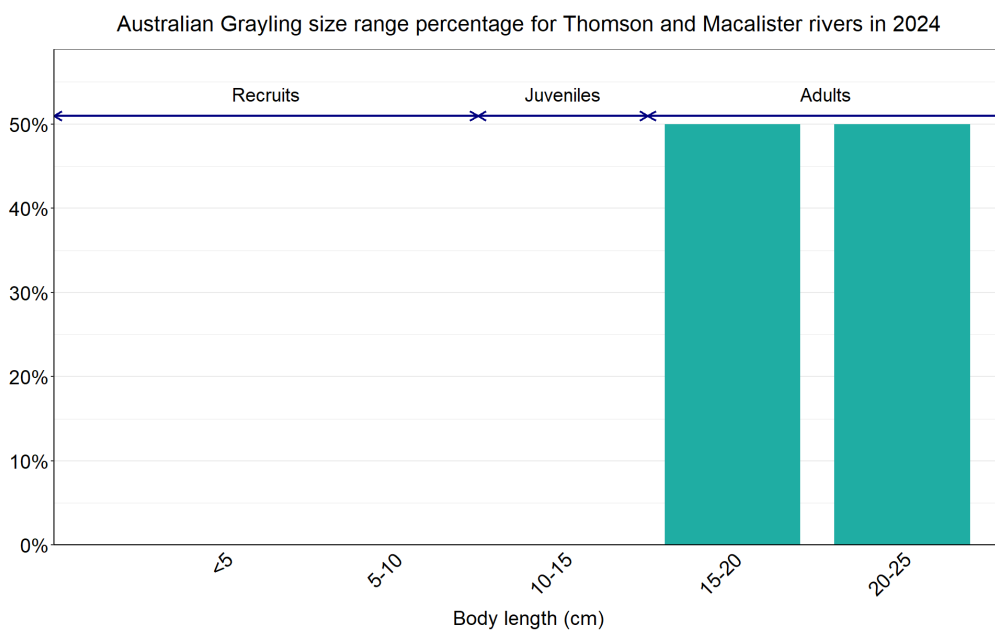


Figure 7. The size range percentage of Australian Grayling in the Thomson and Macalister rivers during NFRC surveys in 2024



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.



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