Inland Fisheries Service

Central Highlands Fish Trap Report
Brown Trout 2025



Inland Fisheries Service

Central Highlands Fish Trap Report – Brown Trout 2025

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Introduction

The Inland Fisheries Service (IFS) recognises the value of maintaining wild fisheries as they are best suited to our environment and provide a much sought-after angling experience.

The wild brown trout fisheries of Yingina / Great Lake, Arthurs Lake and Lake King William have traps to capture trout as they migrate upstream to spawn during late autumn and winter. Traps are used to monitor brown trout populations from these lakes. Some of the trapped fish are transferred to Assisted Fisheries (i.e. fisheries with no, or very little, natural recruitment) with the remainder counted and allowed pass through the traps to spawn upstream. The management of adult spawning fish is guided by the *Tasmanian Inland Recreational Fishery Management Plan 2018-28*.

Trapping has occurred at Liawenee Canal, Yingina / Great Lake since the 1960's and has been the primary source of wild adult brown trout for stocking Assisted Fisheries. A trap at Sandbanks Creek, Yingina / Great Lake became operational in 2015. At Arthurs Lake, a trap has been operating on Hydro Creek since the 1970's. In 2014 traps were built on Scotch Bobs and Tumbledown creeks for monitoring of the brown trout at Arthurs Lake. The trap on the River Derwent above Lake King William, built in 2016, became operational in 2017, has been an important source of additional adult brown trout for stocking.

Several environmental factors influence how effectively the fish traps operate, which in turn affects the number of fish captured each season. In 2025, trap performance was particularly constrained due to the below-average rainfall experienced throughout the season.

Brown trout spawning run 2025

Trapping of the 2025 brown trout spawning run commenced on 1 May 2025 and finished on 13 August 2025. A total of 14,921 adult brown trout were transferred to waters across the state, with 3,755 released upstream of the traps to spawn (Table 1).

Table 1. Wild adult brown trout caught in Central Highland fish traps in 2025

Trap	Number transferred	Number released above trap
Liawenee Canal – Yingina / Great Lake	3,682	1
Sandbanks Creek – Yingina / Great Lake	2,138	10
Tumbledown Creek – Arthurs Lake	3,773	3,512
Scotch Bobs Creek – Arthurs Lake*	0	0
Hydro Creek – Arthurs Lake	0	232
River Derwent – Lake King William	5,328	0
Total	**14,921**	**3,755**

*Note: The fish trap at Scotch Bobs Creek (Arthurs Lake) was not activated in 2025, as river flows were insufficient to inundate the trap and allow effective operation.

Table 2. Total number of wild adult brown trout caught in Central Highland fish traps in the past five years.

Trap	2025	2024	2023	2022	2021
Liawenee Canal - Yingina / Great Lake Est. 2006	3,683	2,056	7,590	4,746	10,240
Sandbanks Creek – Yingina / Great Lake Est. 2015	2,138	1,815	1,532	1,265	2,077
Tumbledown Creek – Arthurs Lake Est. 2014	7,285	2,743	3,173	10,676	8,850
Scotch Bobs Creek – Arthurs Lake Est. 2014*	0	1,074	996	2,223	3,438
Hydro Creek – Arthurs Lake Est. 2017	232	1,975	4,049	2,850	2,651
Derwent River - Lake King William Est. 2016	5,328	66	831	2,787	6,265
Total	**18,666**	**9,729**	**18,171**	**24,547**	**33,521**

*Note: The fish trap at Scotch Bobs Creek (Arthurs Lake) was not activated in 2025, as river flows were insufficient to inundate the trap and allow effective operation.

Liawenee Canal – Yingina / Great Lake

The trap was opened on 27 May 2025 and closed on 13 August 2025. The start of the spawning run was delayed due to limited rainfall in March, April, and May.

To ensure spawning trout were not stranded in the canal during low or intermittent flows, the IFS liaised with Hydro Tasmania to delay releases from Lake Augusta into the Liawenee Canal until consistent, sustainable flow levels could be maintained.

The coordinated release of water stored in Lake Augusta commenced on 27 May despite minimal inflows from the broader catchment. A water height of 0.7 m in the Canal was maintained for seven days before levels declined due to low water levels in Lake Augusta. Flows remained low until 25.6 mm of rain fell on 7 June. From that point onward, rainfall became more consistent, and the catchment inflows were sufficient to keep the trap operating effectively (Figure 1a and 1b).

Historically, the spawning run at Liawenee can begin as early as late March and typically peaks in mid-May. Because adequate flow did not occur until the end of May, the initial release of water triggered a surge of 2,360 fish entering the trap in the first week of operation. This early pulse likely consisted of trout that had been holding out for suitable spawning conditions. However, a significant number of early-running fish would not have been able to hold out until flows arrived, meaning they likely missed their spawning opportunity and were therefore not represented in this year's run.

The remaining 1,323 fish entered the trap over the following month, with numbers concentrated around rainfall events. The trap was decommissioned on 18 August, later than usual, because fish were being held for the tagged trout promotion commencing on 1 August at the start of the fishing season. The trap caught a total of 3,683 fish for the season.

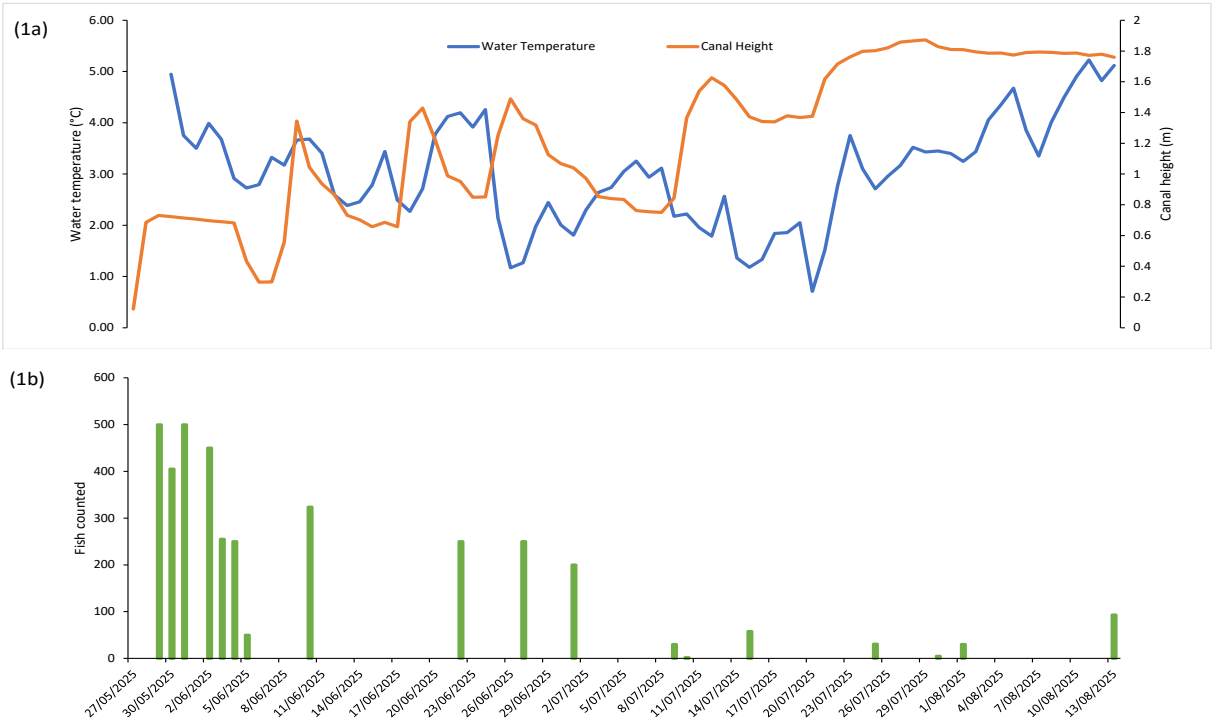


Figure 1a. Water temperature (measured within the fish trap) and water height (measured from Hydro Tasmania's gauging station) for Liawenee Canal fish trap, May to August 2025.
Figure 1b. Number of brown trout captured in the trap (counted when they are removed from the trap), May to August 2025.

Sandbanks Creek – Yingina / Great Lake

The Sandbanks Creek trap was opened on 25 May 2025 and closed on 8 July 2025. Like the Liawenee Canal trap, the spawning run was delayed due to dry conditions and subsequent low flows, which initially prevented spawning fish from entering the creek. The first significant rain event of the season occurred on 24 May, with 15.8 mm recorded at Liawenee. Because the Sandbanks Creek catchment is much smaller and more responsive than the Liawenee system, this rainfall was sufficient to generate adequate flows for trout to commence spawning.

Within the first three days of trap operation, 1,525 trout were captured (Figure 2b). As with the Liawenee trap, this early surge likely comprised of fish that had been holding out for suitable spawning conditions. However, this start to the spawning run was likely too late for many early-running fish. Those fish probably missed their spawning opportunity and were therefore not represented in this year's run.

The initial pulse of fish was short-lived, as much of the rainfall recorded at Liawenee did not translate into substantial precipitation on the eastern side of the lake. As winter progressed and water temperatures dropped, the comparatively small creek cooled more rapidly and fluctuated more than the Liawenee Canal (Figure 2a). Spawning activity slows during cold nights when water temperatures fall, and as a result only 623 additional trout entered the trap for the remainder of the season.

The Sandbanks Creek trap captured a total of 2,148 brown trout in 2025.

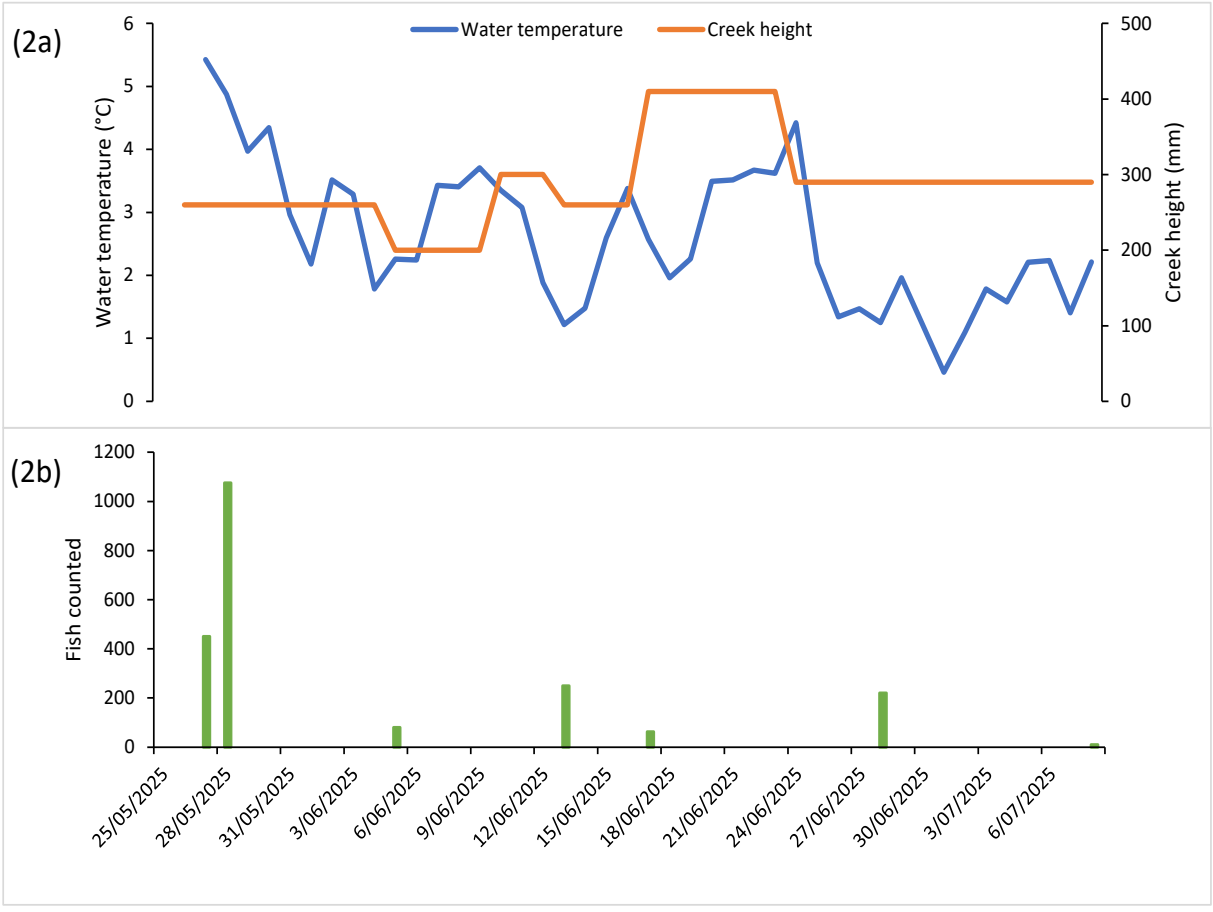


Figure 2a. Water temperature and water height (measured from within the fish trap) for Sandbanks Creek fish trap, May to July 2025.

Figure 2b. Number of brown trout captured (counted when they are removed from the trap), May to July 2025.

Hydro Creek – Arthurs Lake

The Hydro Creek trap was opened on 8 July 2025 and closed on 28 July 2025. Due to persistently low rainfall, Hydro Creek experienced very low flows throughout May and June, which are typically the start and peak of the spawning run. As a result, suitable spawning conditions were not available until the trap was opened in July.

Although minimal creek height data was recorded during the trap's operation, anecdotal observations indicate that flows remained relatively low throughout the period. Additionally, water temperatures remained very cool throughout the month of July (Figure 3a). These poor spawning conditions likely contributed to the very low number of fish captured during this year's spawning run.

A total of 232 fish were caught in the Hydro Creek trap in 2025. This represents the lowest number recorded at this site since 2017.

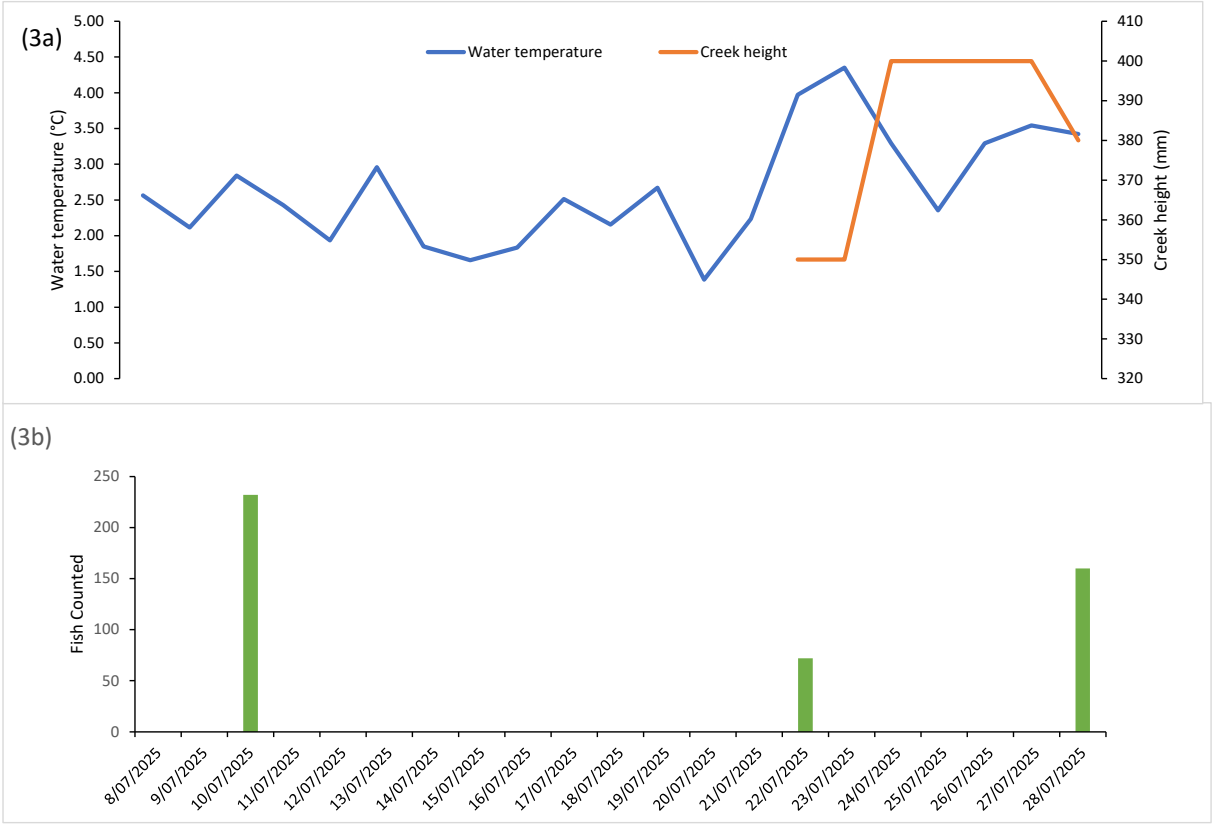


Figure 3a. Water temperature and water height (measured from within the trap) for Hydro Creek fish trap, July 2025.

Figure 3b. Number of brown trout captured (counted when they are removed from the trap) for Hydro Creek fish trap, July 2025.

Scotch Bobs Creek – Arthurs Lake

The Scotch Bobs Creek trap was not opened this year because the creek didn't receive adequate flows to allow for trap operation. Insufficient rainfall meant that suitable conditions for trout to enter the creek and migrate upstream were never achieved. As a result no trapping was undertaken at this site for the season.

Tumbledown Creek – Arthurs Lake

The Tumbledown Creek trap was opened on 25 May 2025 and closed on 30 July 2025. Because its catchment is geographically similar to Sandbank Creek, both traps were opened at the same time. The spawning run began strongly, with 850 fish captured within the first four days of operation. Spawning at Arthurs Lake generally begins in early May, so this initial pulse likely consisted of trout that had been waiting for suitable spawning conditions.

Because the spawning run at Arthurs Lake typically lags behind the Yingina / Great Lake system by about a month, it is unlikely that this trap missed a significant number of early-running fish that were unable to wait for flows. The run progressed steadily throughout the season. A significant rain event on 17 June increased both creek height and water temperature, triggering the peak of the spawning run (Figure 4a and 4b). Following this event, water temperatures dropped, rain was inconsistent, and the spawning run stabilised at lower daily numbers.

The Tumbledown Creek trap captured a total of 7,285 brown trout in 2025.

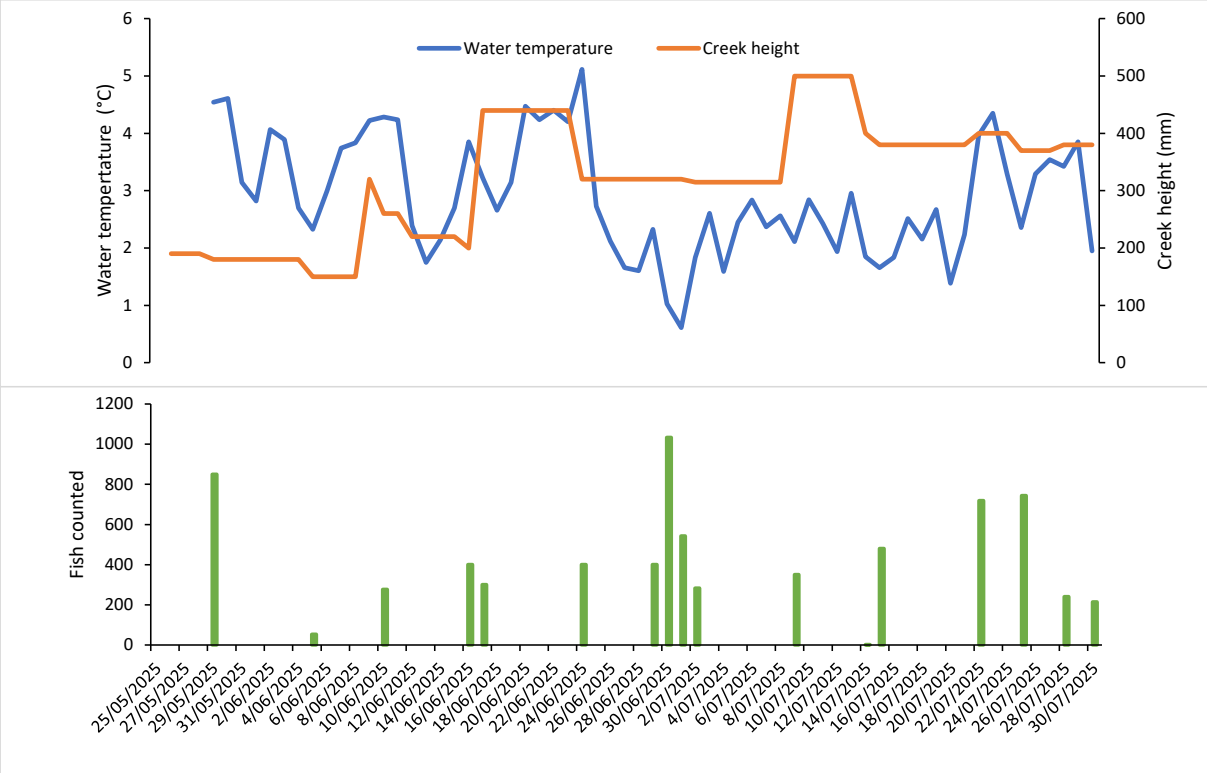


Figure 4a. Water temperature and water height (measured from within the trap) for Tumbledown Creek fish trap, May to July 2025.

Figure 4b. Number of brown trout captured (counted when they are removed from the trap), May to July 2025.

River Derwent – Lake King William

The River Derwent trap was opened on 1 May 2025 and closed on 17 September 2025. The effectiveness of this trap is strongly influenced by the water level in Lake King William. When the lake level is lower than 9 m below full supply, the trap becomes less effective because extensive suitable spawning habitat becomes available in the lower reaches of the river, reducing the need for fish to move upstream into the trap. Conversely, when the lake level rises to within 4 m of full supply, water begins to back up against the anti-jump weir in the river, allowing fish to bypass the trap.

When the trap was activated, Lake King William was 7.9 m below full supply. Water levels continued to fall, reaching 12.1 m below full supply on 12 July, before rising again to 5.1 m below full supply when the trap was removed on 17 September due to flood risk (Figure 6). These conditions provided only moderate suitability for trap operation. However, from early June onwards, spawning conditions in the river downstream of the trap would were likely favourable, which would have reduced the trap's overall effectiveness.

Water height from the time the trap was opened until mid-July was moderate, offering acceptable but not optimal conditions for guiding fish into the trap (Figure 5a). Fish entered the trap consistently throughout the operational period, with a peak in early July (Figure 5b).

The River Derwent trap captured a total of 5,328 fish in 2025.

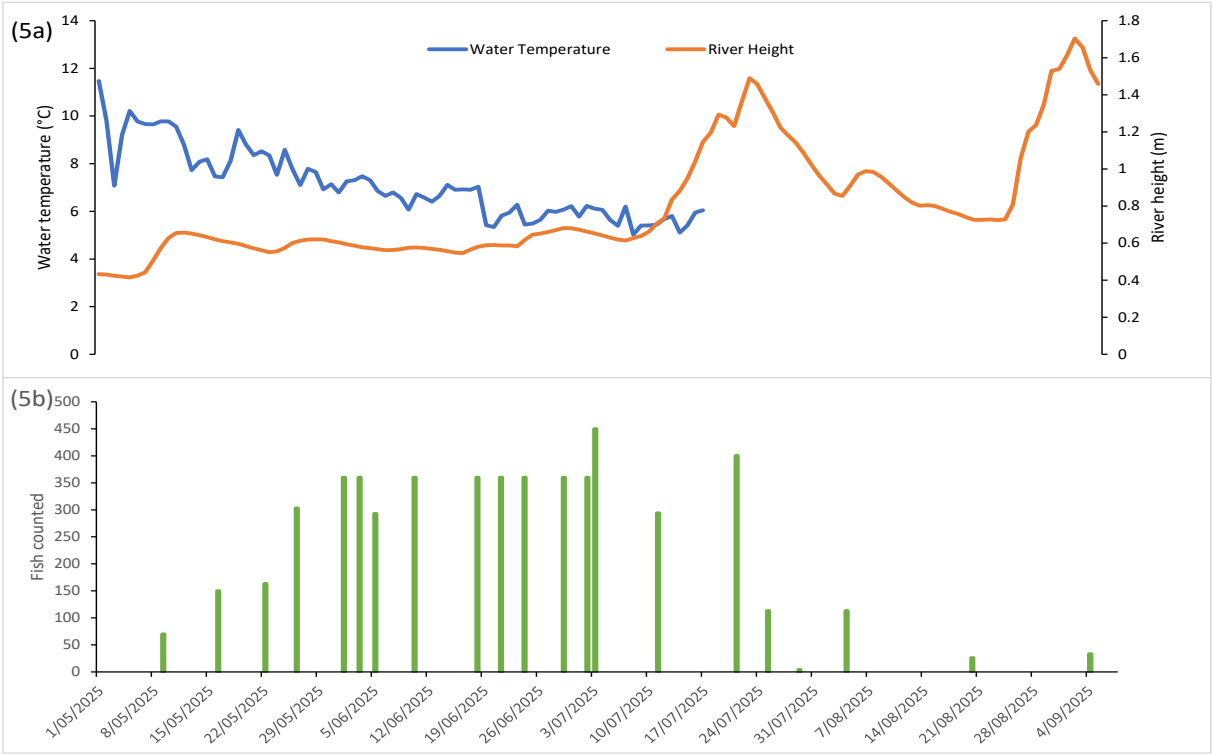


Figure 5a. Water temperature (measured within the fish trap) and water height (measured from Hydro Tasmania's gauging station) for the Derwent River fish trap, May to September 2025.

Figure 5b. Number of brown trout captured in the trap (counted when they are removed from the trap), May to September 2025.

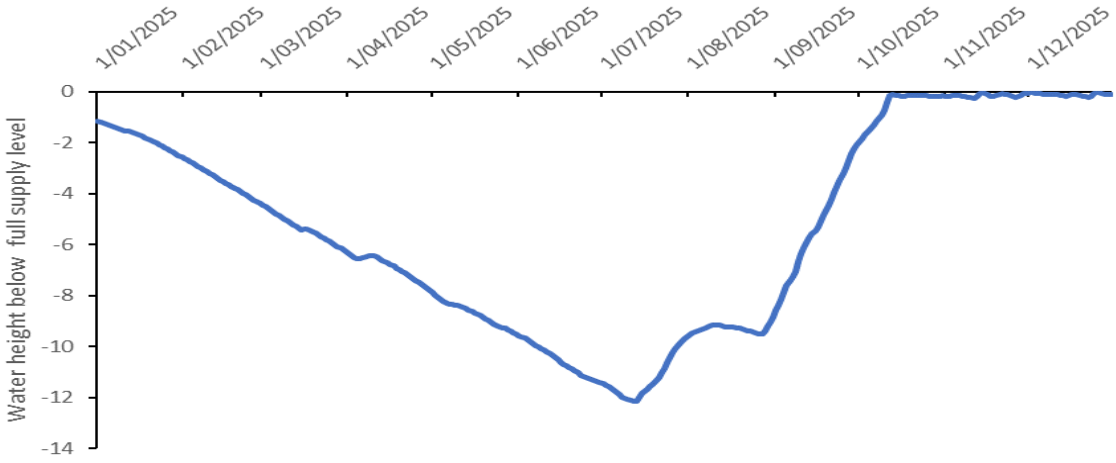


Figure 6. Lake King William water level for 2025 measured in meters below full supply.

Weigh and measure – brown trout

One hundred males and 100 females were weighed and measured from the Liawenee Canal, Tumbledown Creek and Derwent River traps.

Spawning fish sizes 2025

Table 3. Summary of weigh and measure sample results for each trap in 2025.

Trap	Weight Range (g)	Average Weight (g)	Length Range (mm)	Average Length (mm)
Liawenee Canal – Yingina / Great Lake	330 - 1,900	795	302 - 560	411
Tumbledown Creek – Arthurs Lake	180 - 1,160	426	253 - 475	338
Derwent River – Lake King William	50 - 880	527	165 - 444	358

Liawenee Canal – Yingina / Great Lake weigh and measure results

Table 4. Summary of weigh and measure sample at Liawenee Canal in 2025.

Grouping	Measurement	Mean	Minimum	Maximum
All fish n=200	Length (mm)	411	302	560
	Weight (g)	795	330	1900
	Condition Factor (K)	1.13	0.81	1.38
Male n=100	Length (mm)	433	302	560
	Weight (g)	887	330	1900
	Condition Factor (K)	1.08	0.92	1.22
Female n=100	Length (mm)	389	322	457
	Weight (g)	703	410	1140
	Condition Factor (K)	1.18	0.81	1.38

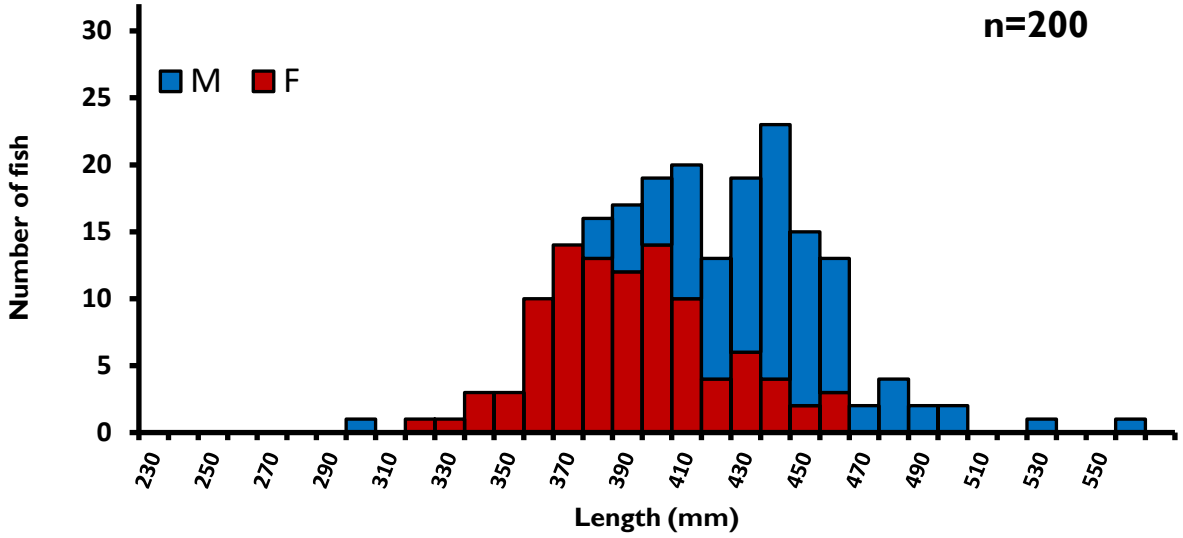


Figure 7. Length frequency histogram of fish sampled at Liawenee Canal in 2025.

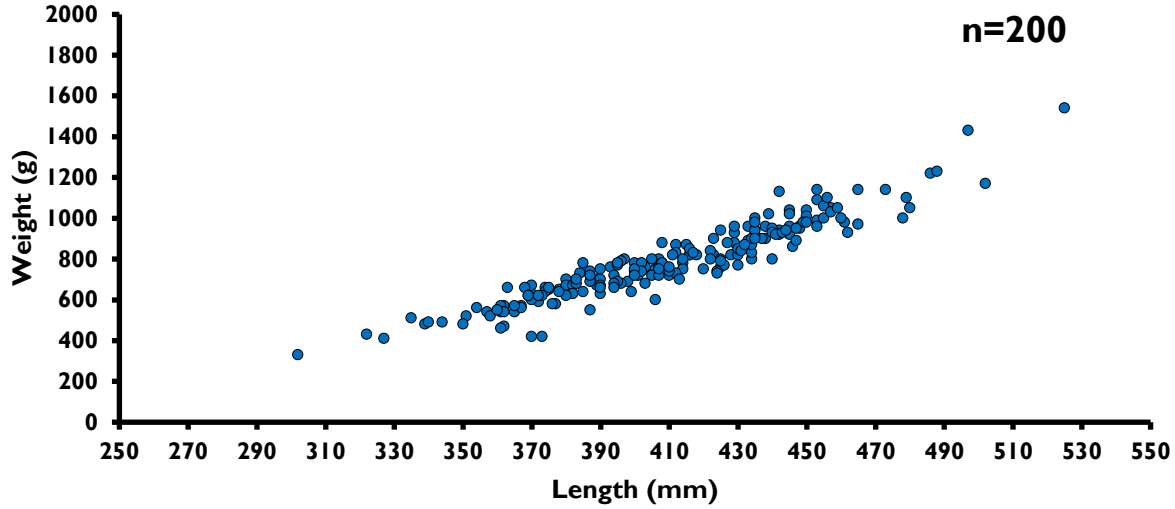


Figure 8. Length vs weight of fish sampled at Liawenee Canal in 2025.

Tumbledown Creek – Arthurs Lake weigh and measure results

Table 5. Summary of weigh and measure sample at Tumbledown Creek 2025.

Grouping	Measurement	Mean	Minimum	Maximum
All Trout n=200	Length (mm)	338	253	475
	Weight (g)	426	180	1160
	Condition Factor (K)	1.07	0.91	1.42
Male n=100	Length (mm)	347	253	475
	Weight (g)	457	180	1160
	Condition Factor (K)	1.06	0.91	1.42
Female n=100	Length (mm)	330	274	412
	Weight (g)	395	210	690
	Condition Factor (K)	1.08	0.93	1.33

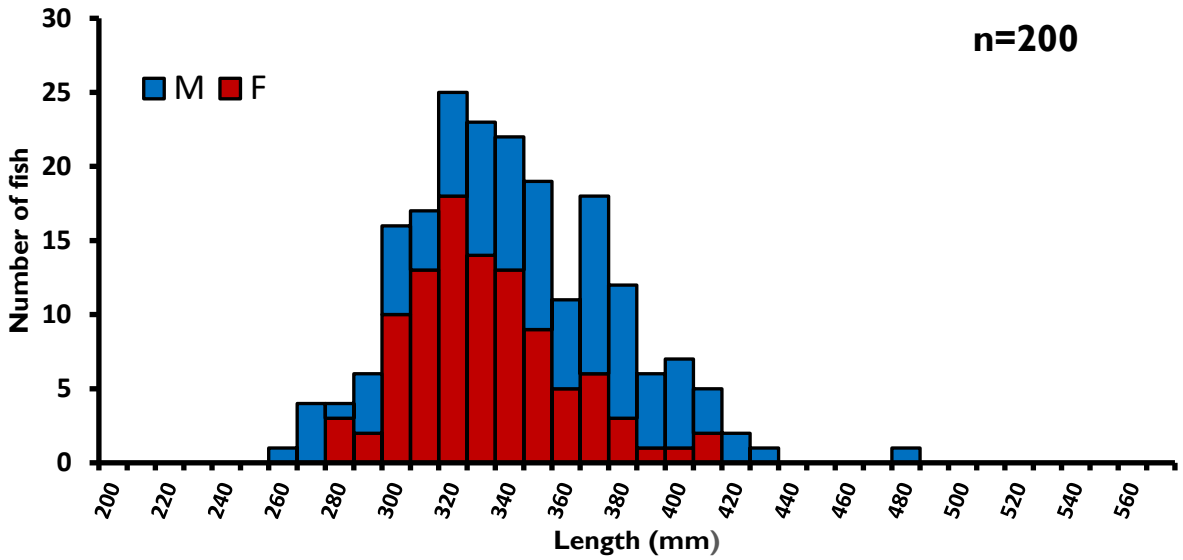


Figure 9. Length frequency histogram of fish sampled at Tumbledown Creek in 2025.

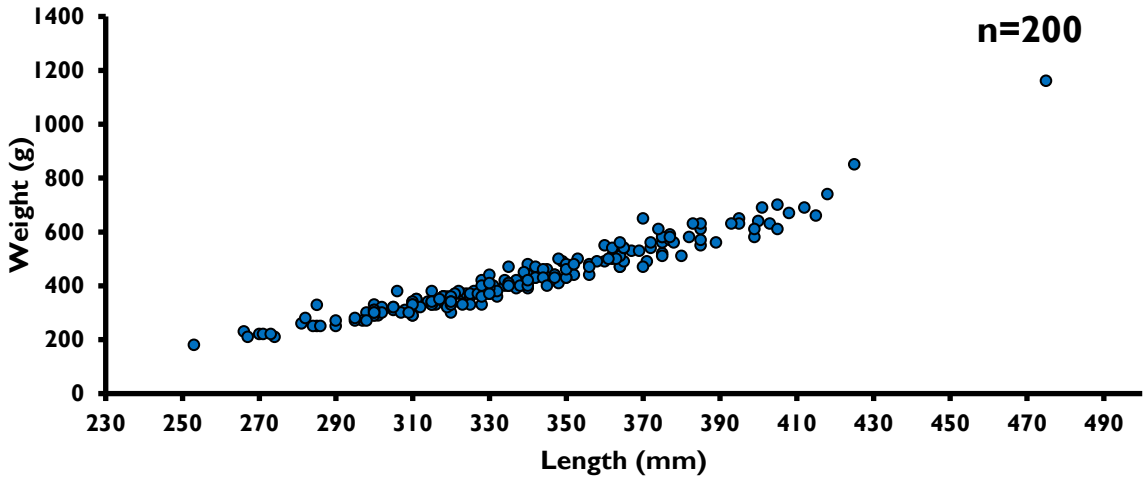


Figure 10. Length vs weight of fish sample at Tumbledown Creek in 2025.

Derwent River – Lake King William weigh and measure results

Table 6. Summary of weigh and measure sample at Derwent River 2025.

Grouping	Measurement	Mean	Minimum	Maximum
All Trout n=200	Length (mm)	358	165	444
	Weight (g)	527	50	880
	Condition Factor (K)	1.12	0.72	1.45
Male n=100	Length (mm)	360	165	444
	Weight (g)	536	50	880
	Condition Factor (K)	1.11	0.82	1.38
Female n=100	Length (mm)	356	178	411
	Weight (g)	518	50	810
	Condition Factor (K)	1.13	0.72	1.45

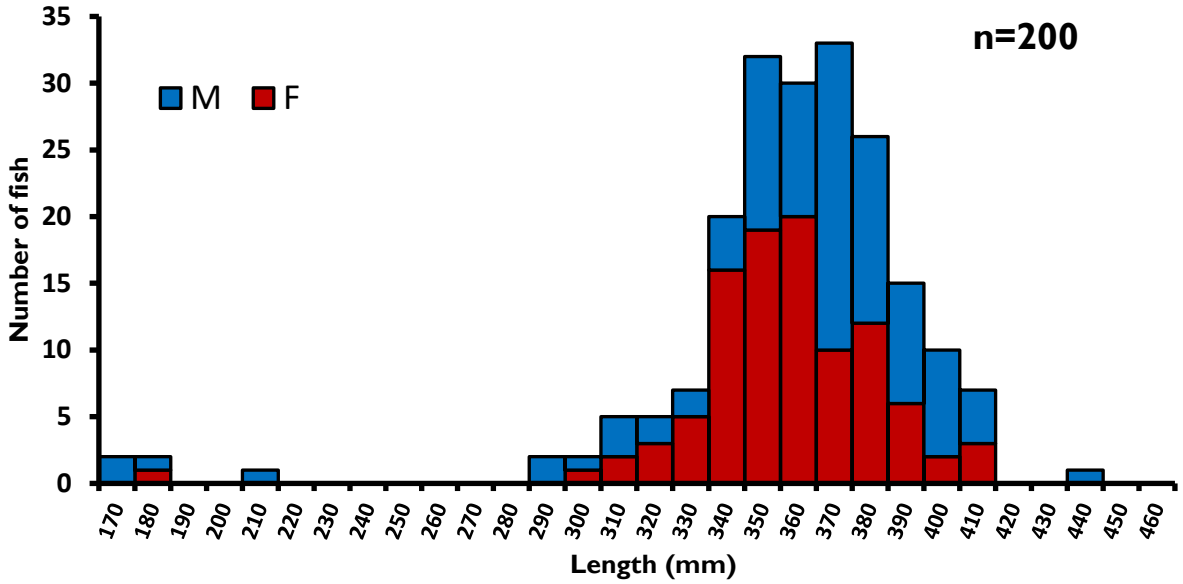


Figure 11. Length frequency histogram of fish sampled at Derwent River in 2025.

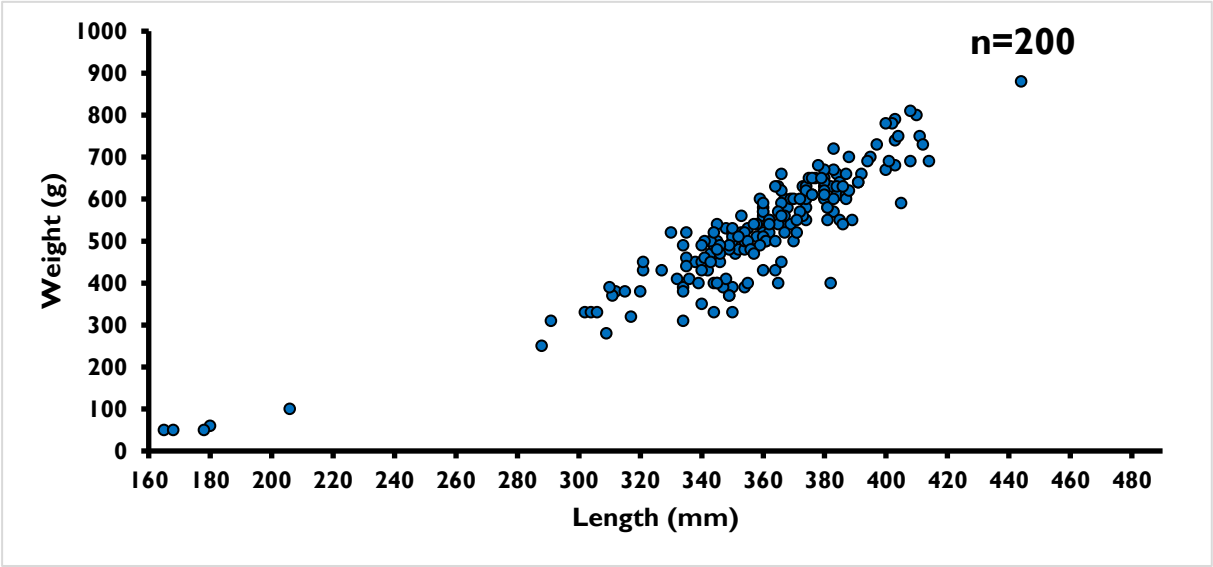


Figure 12. Length vs weight of fish sample at Tumbledown Creek in 2025.

Ova collection and hatchery production

A total of 433,450 ova were stripped from brown trout trapped at Liawenee Canal and Sandbanks Creek on Yingina / Great Lake. These were incubated and reared at the New Norfolk hatchery. Thirty Thousand of these were sold to the South Australian Fly Fishers Association. The rest were on-grown to fry and used for the stocking of public and private waters in Tasmania.

Trap history

A weigh and measure of spawning fish has been conducted in Yingina/Great Lake since 1962 and Arthurs Lake 1977. Figures 16 and 17 highlight the trends in length and weight of spawning from these two lakes.

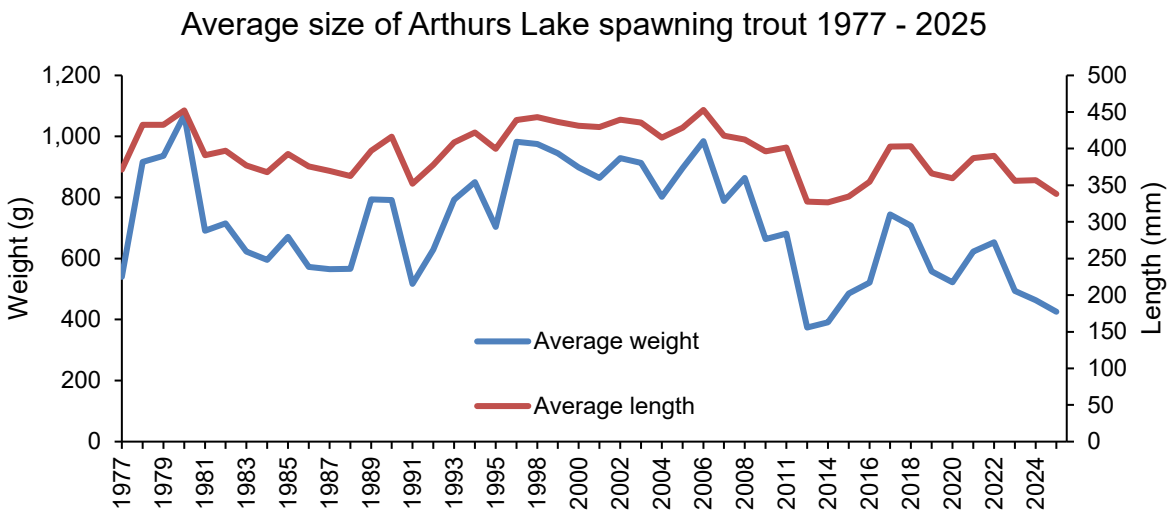


Figure 16. Average length and weight of spawning brown trout from Hydro Creek trap at Arthurs Lake since 1977. Note the data includes the three Arthurs Lakes traps combined from 2020 – 2023 and Tumbledown trap from 2024.

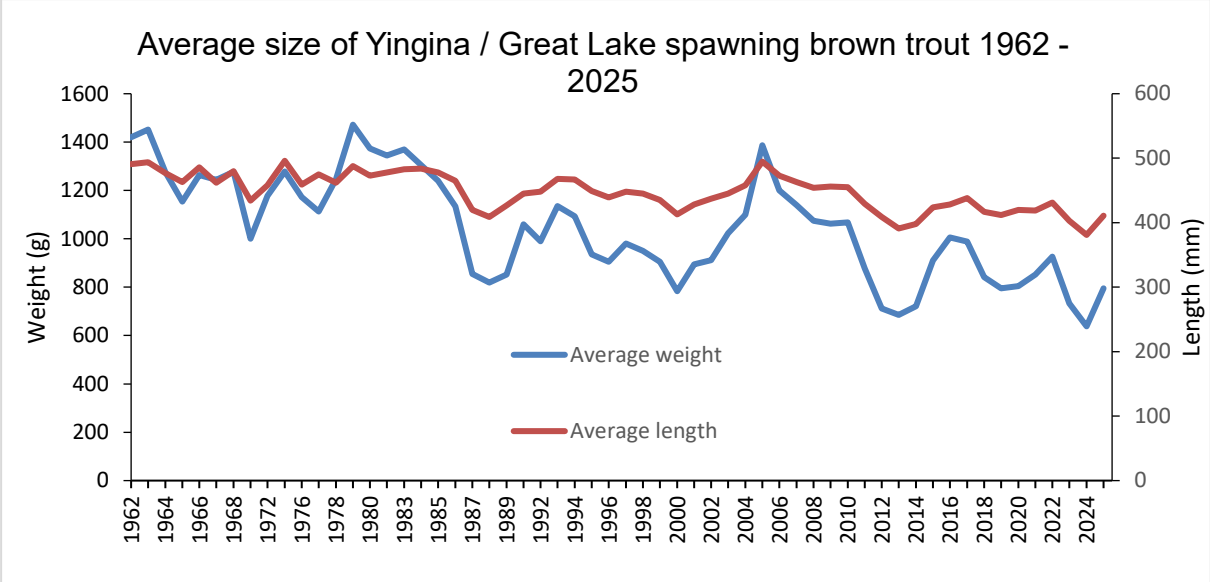


Figure 17. Average length and weight of spawning brown trout from the Liawenee Canal trap at Great Lake since 1962.

Conclusion / Discussion

Low rainfall during March, April and May 2025 delayed the start of the spawning runs at both Yingina / Great Lake and Arthurs Lake. Because Yingina / Great Lake fish typically begin spawning around a month earlier than those at Arthurs Lake, this delay had a more pronounced effect on the spawning runs at Liawenee Canal and Sandbanks Creek. As a result, these traps experienced reduced performance compared with Tumbledown Creek, where the later-timed run was less affected by the delay.

Through close liaison with Hydro Tasmania, flows in the Liawenee Canal were delayed until they could be maintained at reasonable levels. This ensured no water was used until suitable flows for trapping fish could be provided. In contrast, small continuous releases in 2024 made trapping less effective. Despite a similarly dry start to the spawning run in both years, the 2025 run at Liawenee resulted in 3,682 fish, 1,627 more than in 2024, however, this is still below the five-year average of 5,663.

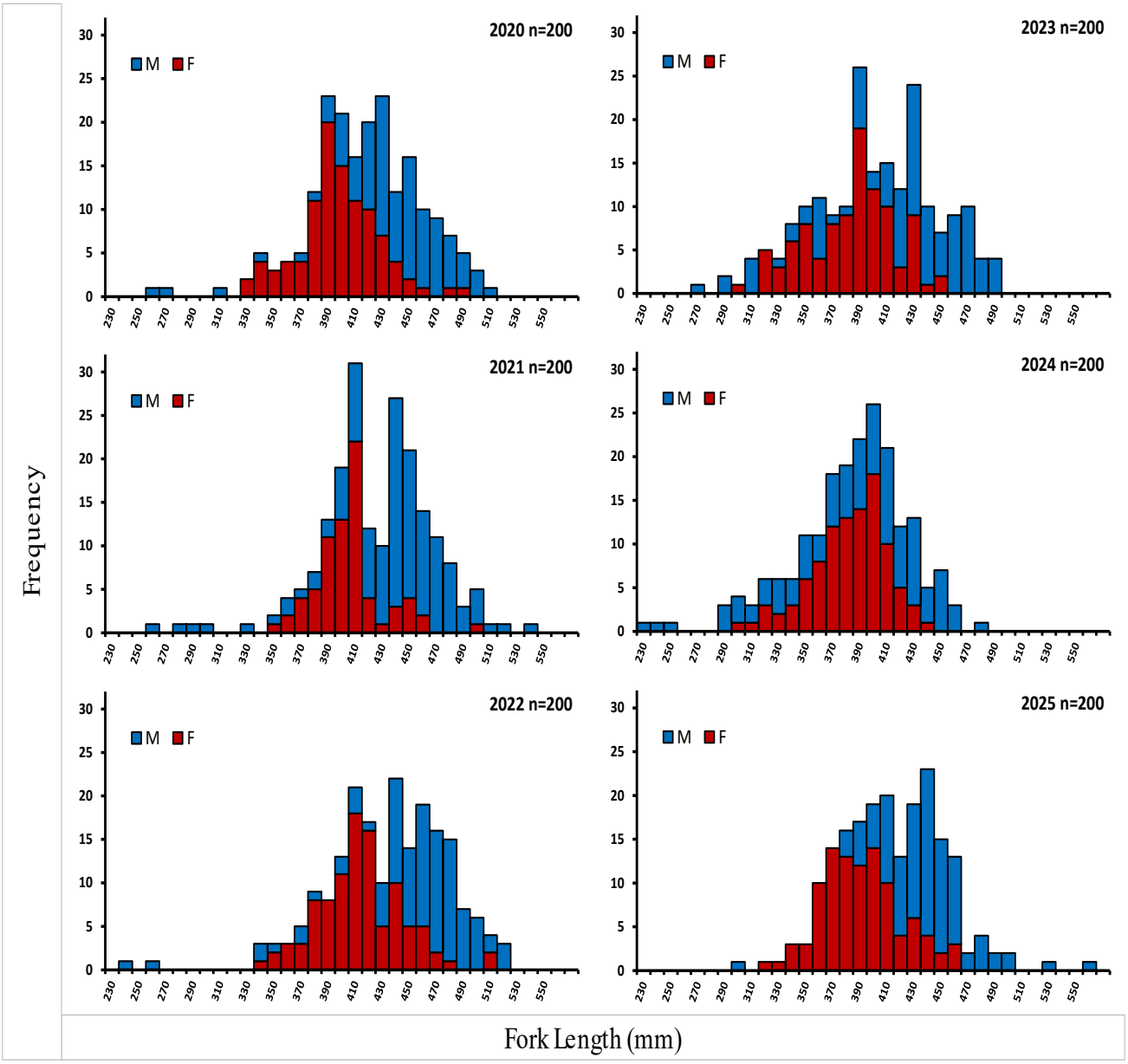
Rainfall across the three trap catchments at Arthurs Lake was unevenly distributed, with more rain falling in the Tumbledown catchment at the northern end of the lake than in the Scotch Bobs and Hydro Creek catchments. As a result, the Tumbledown trap opened much earlier and produced substantially more fish. Hydro Creek only received enough flow to operate the trap for 20 days at the end of the run, while Scotch Bobs Creek never received sufficient rainfall to open. The Tumbledown trap captured a total of 7,285 fish, exceeding the five-year average of 6,545. The strong performance of the Tumbledown trap may have been aided by the limited flowing water and restricted spawning opportunities elsewhere in Arthurs Lake. Under these conditions, some fish were likely compelled to move across the lake to Tumbledown to spawn.

Average fish size has increased in both Yingina / Great Lake, while fish in Arthurs Lake have decreased in size compared with last year’s weigh and measure results. Environmental conditions and high cormorant predation in 2024 likely contributed to reduced trout numbers across all lakes. Elevated cormorant abundance last year would have suppressed trout populations, decreasing competition for food and creating more favourable growth conditions for the fish that remained. However, the reduced trout size observed at Arthurs Lake may still reflect lingering impacts on lake productivity following the extremely low water levels experienced in 2009

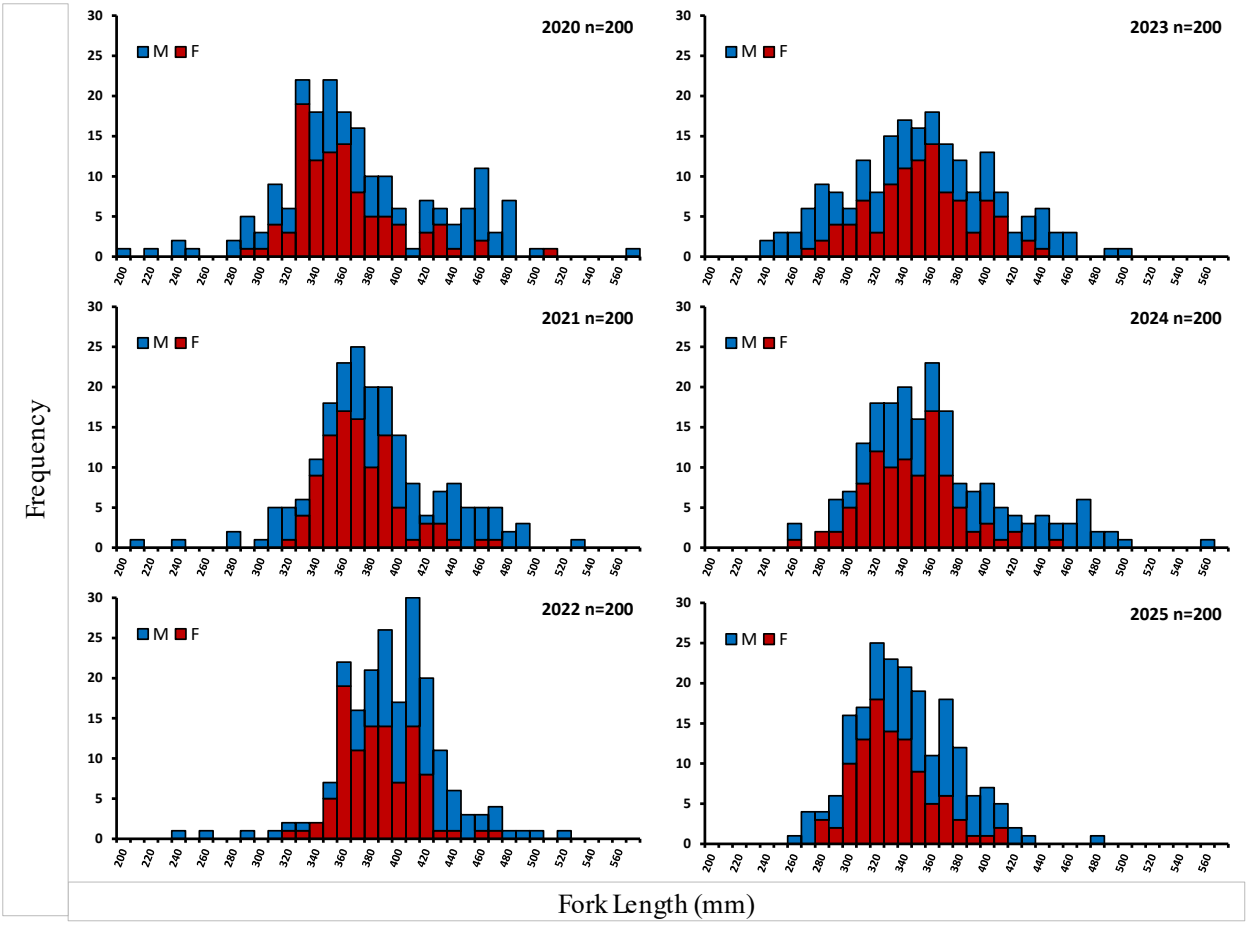
Recommendations

- Continue to liaise with Hydro Tasmania to ensure that water releases from Lake Augusta after 1 April can be maintained for the duration of the brown trout spawning run.
- Collect fertilised ova at the first available opportunity. This enables earlier rearing of brown trout fry that can be stocked out in Spring.
- Open the River Derwent trap at Lake King William when the lake is between nine and six metres below full supply. At these lake levels, the trap should be opened during May for a June peak in the spawning run and continue to operate till the end of October.

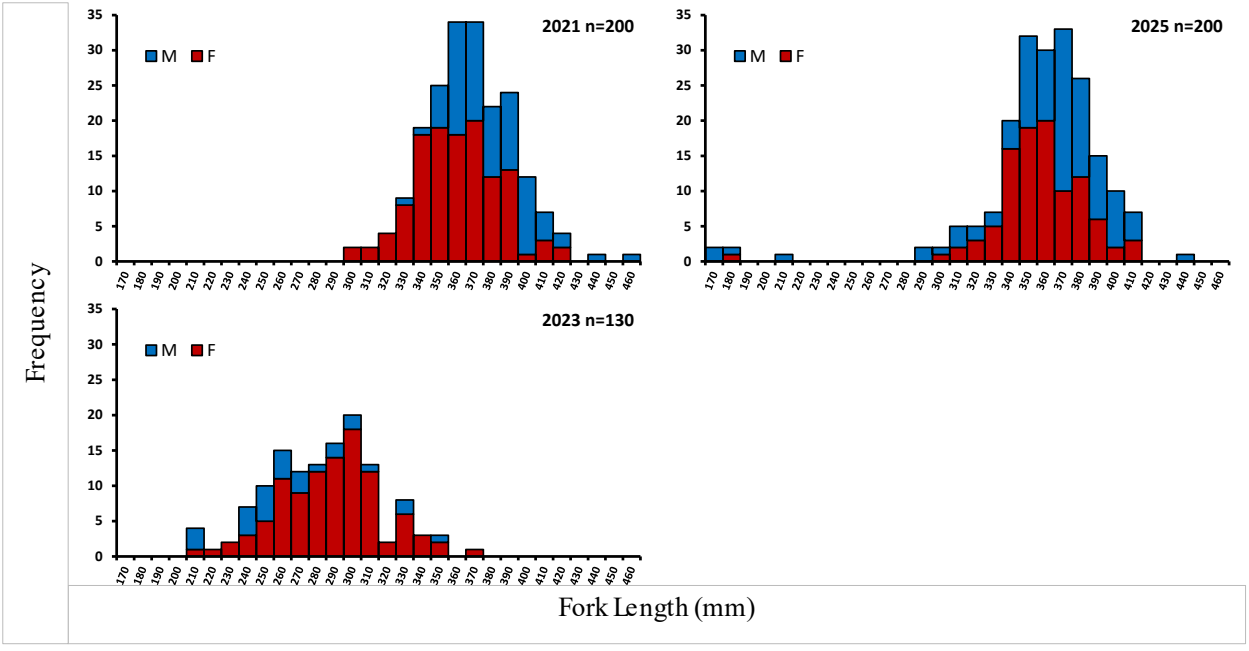
Appendix



Appendix 1. Interannual length frequency histogram of fish sampled at Liawenee Canal from 2020 to 2025.



Appendix 2. Interannual length frequency histogram of fish sampled at Tumbledown Creek from 2020 to 2025.



Appendix 3. Interannual length frequency histogram of fish sampled at Derwent River from 2020 to 2025

Trap	2025	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Liawenee Canal - Yingina / Great Lake Est. 2006	3,683	2,056	7,590	4,746	10,240	9,510	11,747	13,619	11,509	6,163	11,080	9,615
Sandbanks Creek – Yingina / Great Lake Est. 2015	2,138	1,815	1,532	1,265	2,077	1,105	1,718	1,671	2,060	3,812	9,235	-
Tumbledown Creek – Arthurs Lake Est. 2014	7,285	2,743	3,173	10,676	8,850	6,243	3,098	4,128	7,060	485	4,015	14,580
Scotch Bobs Creek – Arthurs Lake Est. 2014	0	1,074	996	2,223	3,438	1,703	798	753	728	275	1,095	2,370
Hydro Creek – Arthurs Lake Est. 2017	232	1,975	4,049	2,850	2,651	2,135	826	1,280	0	0	235	1,680
Derwent River - Lake King William Est. 2016	5,328	66	831	2,787	6,265	0	10,663	9,102	3,128	0	-	-
Total	**18,666**	**9,729**	**18,171**	**24,547**	**33,521**	**20,696**	**17,115**	**30,553**	**24,485**	**10,735**	**26,190**	**28,245**

Appendix 4. Total number of wild brown trout caught in Central Highland fish traps since 2014

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