

Introduction

Over the past 22 years, five in-lake surveys have been undertaken at Tooms Lake to assess the performance of the trout fishery (2003, 2015, 2021, 2023 and 2025). The results of these surveys have shown that brown trout stocks in terms of growth, condition and abundance vary greatly. This variability relates to local climatic influences and associated lake-level changes, as well as low lake level driven turbidity events, which influence lake productivity and the recruitment of brown trout.

This report presents an overview of the results from the 2025 survey and where appropriate, includes comparative analysis with the 2022 and 2023 surveys.

The primary objectives were to evaluate catch per unit effort (CPUE), assess the populations length structure and examine fish condition. Historical catch data was also reviewed to provide additional context.

Method - 2025

Over 2-3 December 2025, brown trout were captured from Tooms Lake using a Smith-Root electrofishing boat, targeting the shoreline and the mouth of Jimmys Creek, covering 12.4 km (Figure 1). The electrofishing on-time was estimated at 18,000 seconds (~7.5 hours). All trout captured were measured for fork length (± 1 mm). *Note: The electrofishing units on-time counter was non-functional during the survey. On-time was therefore estimated at 7.5 hours, equivalent to 18,000 seconds (estimated from other survey events at an average of 2,400 seconds on-time per hour). No fish were weighed during the survey.*



Figure 1: Area electrofished during the 2-3 December 2025 survey.

In-Lake Survey Results

A total of 39 brown trout and six rainbow trout were captured. This compared to 2022 electrofishing survey where 15 brown trout and four rainbow trout were captured. The 2025 sample of brown trout comprised of 25 females, 12 males and two immature fish. Brown trout lengths ranged from 218 mm to 550 mm, with an average fork length of 441 mm. Just six rainbow trout were captured representing 13 percent of the total catch, with a length range of 331 mm to 430 mm. All rainbow trout were recorded as triploids.

Whilst weight data was not collected, the overall observed condition of brown and rainbow trout was good to excellent.

A comparative boat electrofishing survey during 2022 yielded a CPUE of 3.1 brown trout per hour (15 captures), with the present survey resulting in a CPUE of 5.2 (39 captures). This represents a 68 percent increase between surveys.

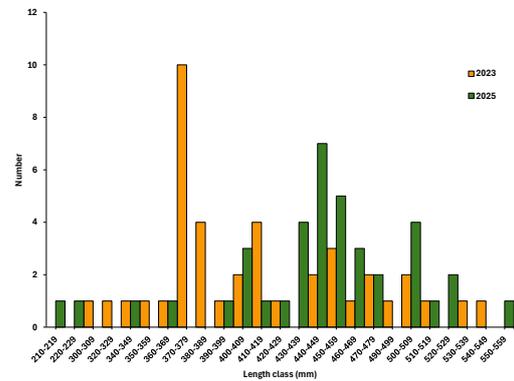


Figure 2: Number of brown trout in each 10 mm length class, Tooms Lake (2023 n=41; 2025 n=39).

During the 2025 survey, there was no evidence of any recruitment from the 2025 brown trout spawning (Figure 2). There were some smaller fish in the 210-370 mm range that possibly originated from previous low levels of natural recruitment. The fish in the 390-429 mm range are likely from the 2024 adult transfers, consisting of smaller brown trout from Arthurs Lake and Lake King William. The larger cohort 430-479 mm are likely to be from the release of 500 adult brown trout during June 2025, sourced from Yingina / Great Lake.

Stocking

Appendix 1 outlines recent stocking records for brown and rainbow trout. Rainbow trout releases have generally remained consistent with numbers largely determined by the availability of fish from commercial suppliers. In contrast, brown trout stocking has fluctuated in response to periods of predicted low lake levels and evidence of good natural recruitment observed during assessment surveys.

Angler Postal Survey 2000-2025

Since the 2000-01 season, on average 5.4 percent of all licensed anglers (1,399 anglers) fished at Tooms Lake each season. This number varied from a low of 130 during the drought period of 2008/09 to a high of 2,855 anglers during 2004/05.

The average number of days collectively fished by all anglers per season (fishing effort), was 6,049. The maximum effort occurred during 2004/05 with 14,690 days fished, while in 2008/09 this was 352 days (Figure 3).

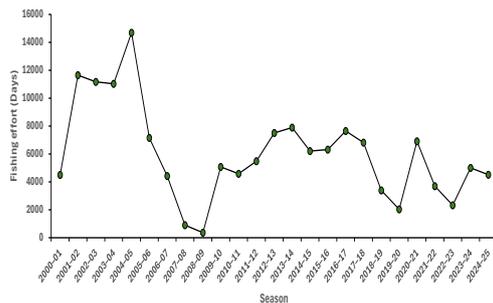


Figure 3: Total fishing effort for each season, Tooms Lake 2000-2025.

The average catch rate per day for brown trout was 0.8, with a high of 1.6 during 2006/07 and a low of 0.3 the following season 2007/08 (Figure 4). The average catch rate per day for rainbow trout was 0.6, but this varied greatly across seasons, largely influenced by individual stocking events. The most recent catch rate data shows a marked decline at 0.2 rainbow trout per day with a corresponding low harvest estimate.

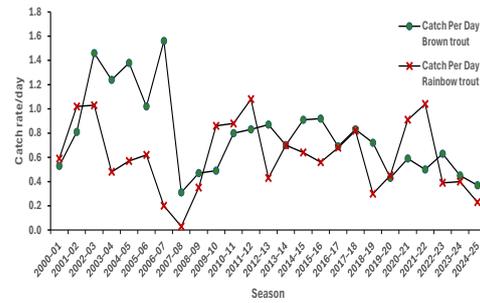


Figure 4: Daily catch per day of brown and rainbow trout, Tooms Lake 2000-2025.

The estimated average seasonal harvest of brown trout (Figure 5) was 5,457, with a high of 20,293 during 2004/05 and a low of 165 during 2008/09. The estimated average seasonal harvest of rainbow trout was 4,100 fish.

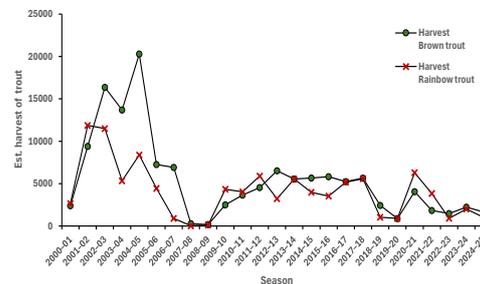


Figure 5: Estimated harvest of brown trout, Tooms Lake 2000-2025.

Creel Interview Summary 2024-25

During the 2024-25 season, 109 anglers were interviewed about their days fishing at Tooms Lake. Only those anglers fishing three or more hours were included in the analysis, resulting in 36 valid records. These anglers fished a total of 273 hours, catching 41 brown trout and 14 rainbow trout. Based on a full days fishing being equivalent to six hours, the estimated daily catch rate for brown trout was 0.9 and 0.3 for rainbow trout. Thirty percent of the sized brown trout captured were released, with all rainbow trout kept.

Angler Diary Summary 2024-25

During the 2024-25 season, there were 50 valid records entered by anglers into the Angler Diary App (including nil and multiple fish captures) for fishing at Tooms Lake. Of these records, 36 met the criteria of fishing for three or more hours. These 36 records were attributed to 26 individual trips, with an average trip being 5.8 hours. The total number of trout captured was 26, consisting of 7 brown trout and 19 rainbow trout. No brown trout were released but six

rainbow trout were returned (31%). Total fishing effort was 200 hours. Based on the assumption a full days fishing is six hours, this equates to 33.3 days. Therefore, the average daily catch of brown trout reported from the Angler Diary App was, 0.2 brown trout and 0.6 rainbow trout.

Native fish observations

Compared to the 2022 electrofishing survey, the observed abundance of the native common galaxias (*Galaxias maculatus*) (including adult and young of the year fish) appeared to be substantially less during the 2025 survey (although galaxias numbers were not quantified).

Discussion

Brown trout catchability at Tooms Lake in terms of survey CPUE and angler catch assessment has improved over the period 2023-25. This improvement is largely driven by recent years transfers of adult brown trout. Evidence of natural recruitment was limited in 2025 and therefore is unlikely to contribute meaningfully to the fishery over then next two to three seasons. The condition of trout was mostly good to excellent, indicative of slightly higher productivity.

At present, fishing effort and associated harvest of fish is below the long-term average. Moreover, the catch for both brown and rainbow trout has continued to decline.

These measures collectively show the abundance of brown trout is generally low and likely below the carrying capacity of the trout population.

The rainbow trout population is low, likely a combination of predation by cormorants and the result of a stocking of fingerlings in January 2025 that are yet to reach catchable size.

Turbidity measurements collected intermittently between 2021 and 2026 (Appendix 2) indicate water clarity remains variable. However, results from January 2026 showed a marked improvement at 7.3 NTUs. This increased clarity likely promotes macrophyte bed development, which in turn supports a steady recovery of the trout fishery.

Recommendations

Provided that environmental and longer-term climate indicators are favourable, an increase in the number of adult brown trout transfers is considered as a priority for the 2026/27 season.

There is also scope to increase the rainbow trout stocking rate at a conservative level with yearling and adults fish preferred.

Appendix 1: Stocking records for brown and rainbow trout, Tooms Lake, 2019-2025.

Date	Species	Number	Weight	Age	Source
13-May-19	Brown Trout	1100	900	Adult	Great Lake
24-Jun-22	Brown Trout	330	636	Adult	Arthurs
23-Jul-24	Brown Trout	555	463	Adult	Arthurs
26-Jul-24	Brown Trout	54	259	Yearling	King William
13-Jun-25	Brown Trout	500	795	Adult	Great Lake
29-May-19	Rainbow Trout	1500	500	Adult	Millybrook
29-Jul-20	Rainbow Trout	500	350	Adult	Millybrook
21-Jul-21	Rainbow Trout	1000	380	Adult	Millybrook
7-Jun-22	Rainbow Trout	800	400	Adult	Millybrook
15-May-23	Rainbow Trout	1000	485	Adult	Millybrook
13-Jun-24	Rainbow Trout	1000	360	Adult	Millybrook
22-Jan-25	Rainbow Trout	3800	50	Fingerling	Cressy
20-Jun-25	Rainbow Trout	200	540	Adult	Millybrook
25-Jun-25	Rainbow Trout	300	540	Adult	Millybrook

Appendix 2: , Turbidity records for Tooms Lake, 2021-2025.

Date	Tooms Lake Boat Ramp (NTU)
28/04/2021	18.3 unfiltered
28/04/2021	17.7 filtered
3/11/2021	23.3
22/04/2022	14.0
9/06/2022	13.8 at dam
7/08/2022	13.3
1/01/2023	17.7
9/03/2023	12
22/11/2023	13.9
9/3/2024	9.3
3/1/2026	7.3

Template name: Short form report

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Reviewed by: Ryan Wilkinson

Approved by: Ryan Wilkinson

Version number: Final

Date: 3 March 2026

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