

Fisheries Performance Assessment – Summary Report

Little Pine Lagoon October 2024

Introduction

During the early part of the 2024-25 fishing season, anglers commented on the unusually low catch rates and a lack of tailing trout at Little Pine Lagoon. This was despite periods of good weather, favourable lake levels and some experienced anglers fishing the lagoon. In response, the IFS undertook a small-scale electrofishing survey on 30 October 2024.

The purpose of the survey was to gain information on catch per unit effort (brown trout numbers), length structure of the population and fish condition. A review of catch data was also completed.

Method

The Smith-Root electrofishing boat was used to capture brown trout from the shoreline, riverbed and inflow areas, covering approximately 7.2 km, with a shock time of 7,588 seconds (~2.2 hours electrofisher on time) (Figure 1). All brown trout were weighed and measured (fork length- ± 1 mm).



Figure 1: Area electrofished during the survey, 30 October 2024.

In-Lake Survey Results

A total of 42 brown trout (14 females, 4 males and 24 juveniles) with lengths ranging between 124 – 495 mm were captured (Figure 2). The average weight and length were, 367 g and 276 mm, respectively.

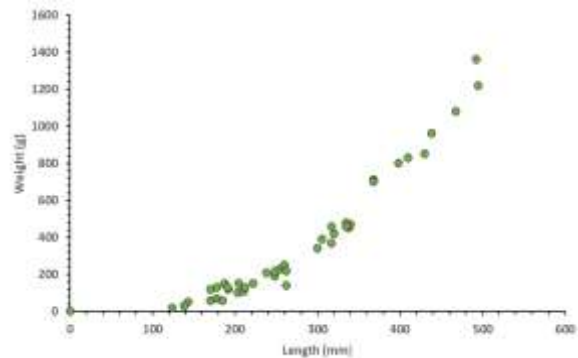


Figure 2: Length and weight for brown trout, Little Pine Lagoon 2024.

Seventeen percent of the fish were in excellent condition, 48 percent good, 31 percent fair and 4 percent poor (Figure 3).

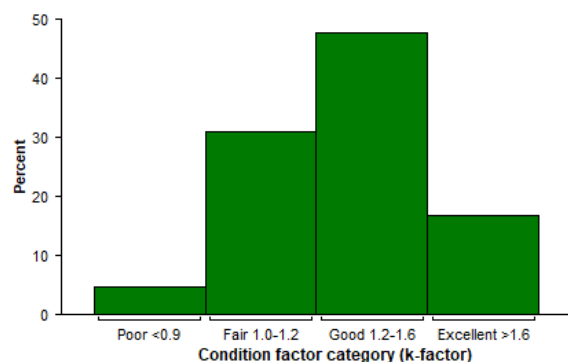


Figure 3: Condition factor category for brown trout, Little Pine Lagoon 2024.

Catch per unit effort (CPUE) from boat electrofishing was 19.9 fish per hour (42 fish captured). A comparable boat electrofishing survey completed during 2000, resulted in a CPUE of 31.2 fish per hour. Indicating a 36 percent decrease in CPUE between surveys.

From the analysis of length data, there were no signs of any significant recruitment failure, with reasonable numbers of fish in the 120 - 150 mm and 170 - 270 mm length range. However, there were significantly lower numbers of fish in the 400 – 500 mm range and no fish over 500 mm. Additionally, there were no define length cohorts within larger fish.

A comparison of length frequency data between the 2024 and a similar survey during 2000, shows the significance of the 2024 results (Figure 4).

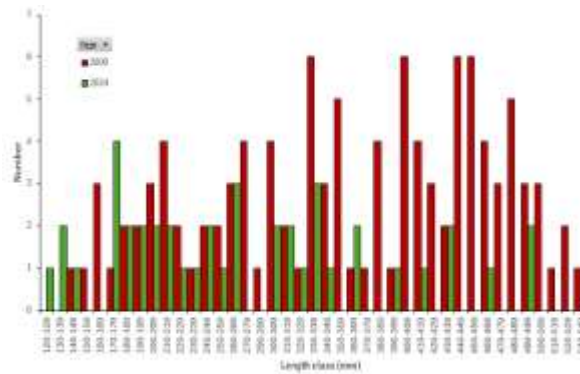


Figure 4: Number of brown trout in each length class, Little Pine Lagoon 2000 (n=110) and 2024 (n= 42).

Angler Postal Survey 2000-2025

Since the 2000-01 season, on average 9.3 percent of all licensed anglers (2,572 anglers) fished at Little Pine Lagoon each season. This number varied from a low of 1,863 to a high of 4,074 anglers.

The average number of days collectively fished by all anglers per season (fishing effort), was 8,430. The maximum effort occurred during 2020/21 with 13,678 days fished, while in 2005/06 this was 5,422 days (Figure 4).

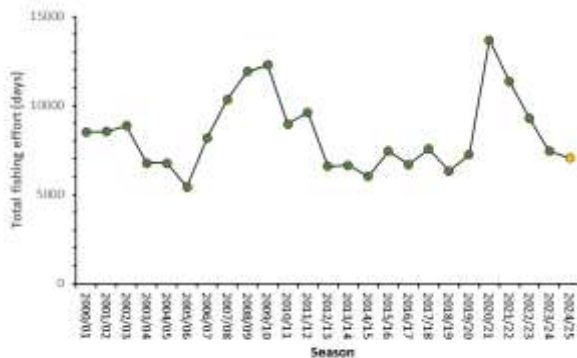


Figure 4: Total fishing effort for each season 2000-2025 (2024/25 generated from digital returns).

The average catch rate per day for brown trout was 1.3, with a high of 2.0 during 2023-24 and a low of 0.5 during 2024/25 (Figure 5).

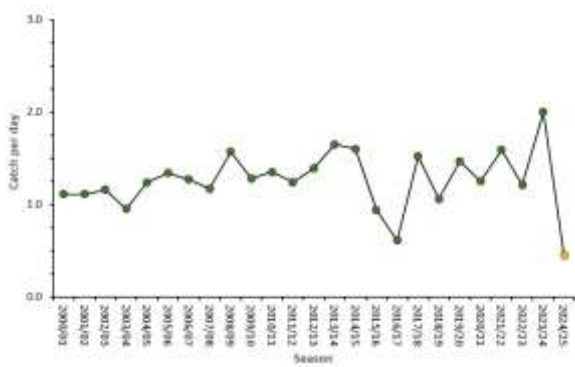


Figure 5: Catch per day of brown trout, Little Pine Lagoon 2000–2025 (2024/25 generated from digital returns).

The estimated average seasonal harvest of brown trout was 10,398, with a high of 18,719 during 2008/09 and a low of 3,474 during 2024/25 (Figure 6).

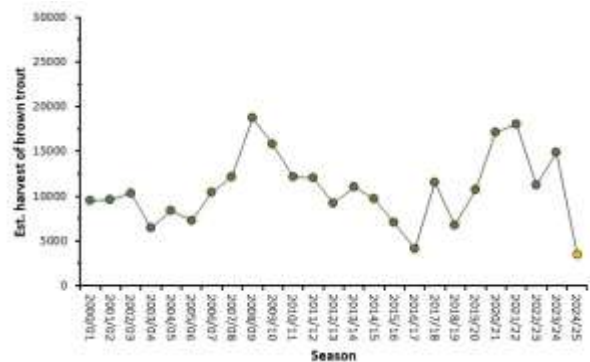


Figure 6: Estimated harvest of brown trout, Little Pine Lagoon 2000-2025 (2024/25 generated from digital returns).

Creel Interview Summary 2024-25

During the 2024-25 season, 17 anglers were interviewed regarding their days fishing at Little Pine Lagoon. Only those anglers fishing three or more hours were included in the analysis, resulting in eight valid records. These anglers fished a total of 53 hours, catching 5 brown trout. Based on a full days fishing being equivalent to six hours, the daily catch rate for brown trout was 0.56.

Angler Diary Summary 2024-25

During the 2024-25 season, there were 32 valid records entered by anglers into the Angler Diary App (including both nil and multiple fish captures) for fishing at Little Pine Lagoon. Of these records, 23 met the criteria of fishing for three or more hours. These 23 records were attributed to 20 individual trips, with an average trip being four hours. The total number of

brown trout captured was eight, with three of these released (37%). Total fishing effort was 92.5 hours. Based on the assumption a full days fishing is six hours, this is equal to 15.4 days. The average daily catch of brown trout reported from the Angler Diary, for anglers fishing three or more hours is, 0.51 brown trout per day.

Discussion

During 2024/25 the influence of cormorant predation was significant, with decreased numbers of brown trout, (especially larger fish) and a presumed change in trout foraging behaviour. This resulted in a marked decrease in the daily catch rate reported by anglers and a corresponding low harvest of trout.

The survey results showed there are still reasonable numbers of smaller fish that will sustain the fishery over the next 2-3 years and contribute to future natural recruitment. No specific fishery management actions are needed. The IFS will continue to monitor catch rates over the coming seasons.

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