Inland Fisheries Service

RECREATIONAL FISHERIES REPORT

Fisheries Performance Assessment

Technical Report

Bradys Chain of Lakes - July 2019

Inland Fisheries Service

Inland Fisheries Service

Tasmanian Government

Contents

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1. Introduction

The Bradys Chain of Lakes (referred to as the Bradys system in this report), consists of Bradys Lake, Lake Binney and Tungatinah Lagoon. These three lakes were created during 1952-56 as water storages to run the nearby Tungatinah power station on the Nive River. Water is conveyed from Bronte Lagoon to Bradys Lake via Woodwards Canal. Lake levels fluctuate regularly and water flows in the spawning grounds are highly variable. The impacts of this on the fishery are not fully understood however, recruitment of trout is likely to be highly variable.

The Bradys Chain of Lakes in conjunction with Bronte Lagoon, provide a fishery of State significance with 8-10 percent of all anglers fishing these waters annually. All methods of fishing; bait, lure and fly are practised, with each method producing a share of trout.

Until the late 1990's, these waters sustained a satisfactory population of brown trout with rainbow trout representing a small but noteworthy population, with around one rainbow capture for every five-brown trout.

However, during the period 2000–03, marked declines in the catch rate of brown trout were apparent with catches falling as low as 0.34 fish per angler per day. This was well below what was acceptable for a popular and productive fishery. In response, the Service conducted survey in 2003 of both Bradys Lake and Lake Binney. Following the results of this survey, the Service began to increase the stocking rate for both brown and rainbow trout and took the opportunity to release adult brown trout collected from the spawning run at Liawenee, ex brood stock Atlantic salmon from commercial hatcheries, some domestic rainbow trout and brook trout. Furthermore, with the commissioning of the Service's trout hatchery at New Norfolk during 2007, the first large stocking of 20-gram fingerlings occurred. These 20-gram fingerlings failed to show in the fishery, indicating poor survival, consequently, this program was discontinued in favour of the transfer of adult brown trout (more recently from the Lake King William spawning trap)

This technical report seeks to examine the history of this fishery and the results of the 2019 in-lake survey and associated fishery data.

2. FPA Survey Methodology

2.1. *In-Lake Population Surveys*

During 7 May to 7 June 2019, 3 548 adult brown trout were collected from the River Derwent fish trap at Lake King William and individually t-bar tagged and released into the Bradys system. Of this total, 3 409 were released into Bradys Lake and 139 released into Lake Binney. In addition, 2 750 adult brown trout from the River Derwent trap were adipose fin clipped and released into Lake Binney with a further 750 adipose fin clipped and released into Tungatinah Lagoon. These trout formed the basis of a Capture Mark Recapture (CMR) population estimate, in addition to providing information about the movement of fish within the system.

A recapture survey was undertaken six weeks after the release of the tagged and fin clipped fish into the Bradys system. From 22-25 July 2019, 240 box traps were set throughout the three waters of the system. At Bradys Lake, 40 nets were set each night for three nights for a total of 120 box trap sets. At Lake Binney, 40 nets were set each night for two nights for a total of 80 box trap sets, and 40 box traps were set at Tungatinah Lagoon for one night. All sets were placed around the perimeter of the lakes, there were no deep-water sets. Most traps were set in strings of three, with a small number of two trap strings.

All trout captured were recorded as male, female or immature and were weighed and measured (fork length). Fish were released away from the trap site after processing (without being remarked). Past survey data at other waters indicated recapture rates are very low and unlikely to significantly influence the results of a population estimate or summary statistics for length and weight.

As the number of tagged and fin clipped fish captures were relatively high, i.e. 28 per cent of the total catch, only existing 'resident' brown trout *(natural recruits and previously stocked/transferred fish)* have been used to generate the results for average length, weight and condition factor; and analysis of length frequencies. Where relevant a comparison between tagged, fin clipped fish, and resident fish are made within this report.

2.2. *Annual Postal Survey*

Since 1986, the Inland Fisheries Service (IFS) has conducted a postal survey seeking information about anglers' catches. The survey comprises a form sent to ten per cent of all categories of anglers, asking set questions about their angling (catch of trout) for the past season. Information on catch per day, harvest and angling effort is collated and analysed. This provides a long-term overview of individual fishery performance in addition to characterising fishing effort.

2.3. *Analysis Methods*

Condition factor was calculated using the basic formula of $K=10^5 \times weight/length^3$. This provides a generalised result that can be used to compare other fish and fisheries. Condition factor categories assigned to each level of condition i.e. poor, fair, good or excellent, are reflective of an individual fish or population at a time within the reproductive cycle and will therefore change during this cycle e.g. high during peak spawning condition. The short comings of condition factor are acknowledged but are used for relative comparisons only.

3. Results

3.1. In-Lake Population Survey – Brown Trout

During 22-25 July 2019, the IFS conducted an in-lake survey throughout the Bradys system to:

- examine the Catch Per Unit Effort (CPUE) for brown trout and rainbow trout,
- examine length structure for brown trout,
- examine the condition of fish,
- estimate the size of the brown trout population across the system, and
- gain an insight of the movement of tagged fish released into Bradys Lake.

Unless stated, all results below are for resident brown trout (unmarked fish, i.e. fish without tags or adipose fin clips). Where relevant, some comparisons are made between resident and marked (tagged and adipose fin clipped) brown trout.

3.2. CPUE

Two hundred and forty box traps were set over three nights with 314 brown trout (that included both marked and resident fish) and 3 rainbow trout captured. This equates to a CPUE of 1.31 brown trout per trap, with most trap sets catching one or two fish. Previous surveys during 2003 and 2011, indicate the number of fish within the system was relatively low. However, no directly comparable catch effort data is available, as previous surveys utilised a range of methods such as boat-based electrofishing, fyke netting and gill netting to collect fish rather than box traps.

The split of catches between waters expressed as fish per net i.e. CPUE, was; Bradys Lake 1.0, Lake Binney 1.39 and Tungatinah Lagoon 2.08. This is likely to represent both the difference in relative abundance between waters and to a degree, the efficiency of box traps to sample smaller waters.

3.3. Weight and Length Information

Over three nights, 314 brown trout were captured, of this total, 226 were resident fish consisting of 61 per cent females, 31 per cent males with the remaining 8 per cent being smaller immature fish. All fish were weighed and measured for fork length. Table 1 shows the summary statistics for these resident fish separated by sex. On average, male fish were heavier than female fish by 70 grams.

The average weight for resident fish, including immature fish was 515 grams. The average weight for resident fish over 300 mm (the minimum size limit) was 548 grams, with 91 per cent being greater than 300 mm length (see figure 1 & 2).

Grouping	Measurement	Mean	Minimum	Maximum
All brown trout (n=226)	Length (mm)	365	142	478
	Weight (g)	515	30	1 220
	Cond Factor (k)	1.02	0.71	1.50
Male (n=70)	Length (mm)	387	277	478
	Weight (g)	590	240	1 220
	Cond Factor (k)	1.01	0.71	1.50
Female (n=138)	Length (mm)	368	280	477
	Weight (g)	520	190	930
	Cond Factor (k)	1.03	0.78	1.33
Immature (n=18)	Length (mm)	256	142	315
	Weight (g)	186	30	320
	Cond Factor (k)	1.06	0.93	1.46

table 1: Length, weight and condition factor for brown trout separated by sex or immature fish.

The growth of resident fish appears to be slow and is like the brown trout transferred from Lake King William (see figure 1). Seventy two percent of the all brown trout captured were between 300 mm - 400 mm. There were no fish over 500 mm with the maximum length being 478 mm.

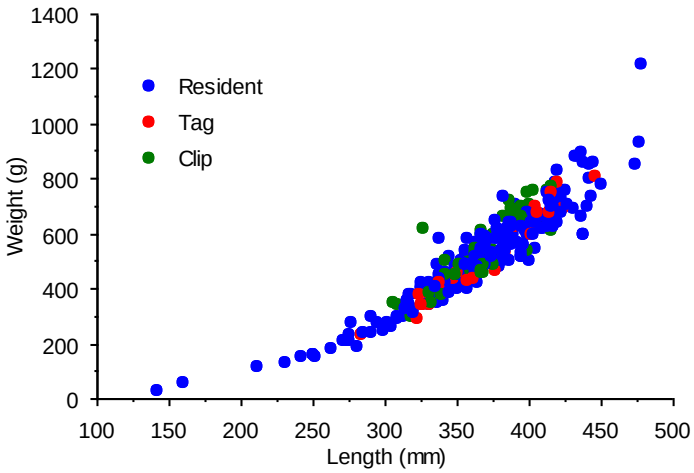
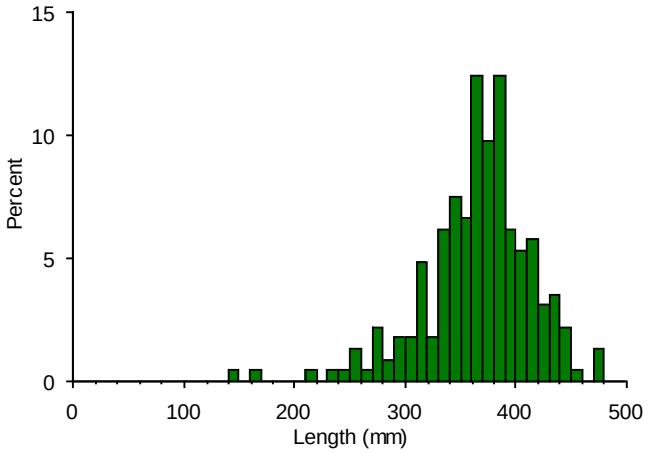


figure 1: Length/weight regression for all brown trout captured July 2019, seperated by tag/clipped/resident fish. (log-n regression Y = -9.885 + 2.727 * X; R2 = 0.947)

Figure 2 shows the length frequency for resident fish captured during the survey. There is a significant group of fish in the 360-400 mm range and a second grouping in the 320-360 mm range. It is not possible to differentiate these as year groups because the growth of fish is relatively slow, furthermore; the Bradys system has been supplemented with significant numbers of adult brown trout transferred from several different localities since 2013. There is, however, signs of recruitment of juvenile fish with 9 percent of all resident fish less than 300 mm. When separating this data by individual waters (see figure 3), it is apparent that Bradys Lake contained most juveniles, with 15 percent of the fish being under 300 mm. In comparison, Lake Binney had 3 percent and Tungatinah Lagoon no fish under 300 mm.



From (>=)	To (<)	Count	Percent
0	100	0	0
100	200	2	1
200	300	18	8
300	400	157	69
400	500	49	22
500	600	0	0
	Total	226	100

figure 2: Length frequency for resident brown trout 2019 and associated summary table

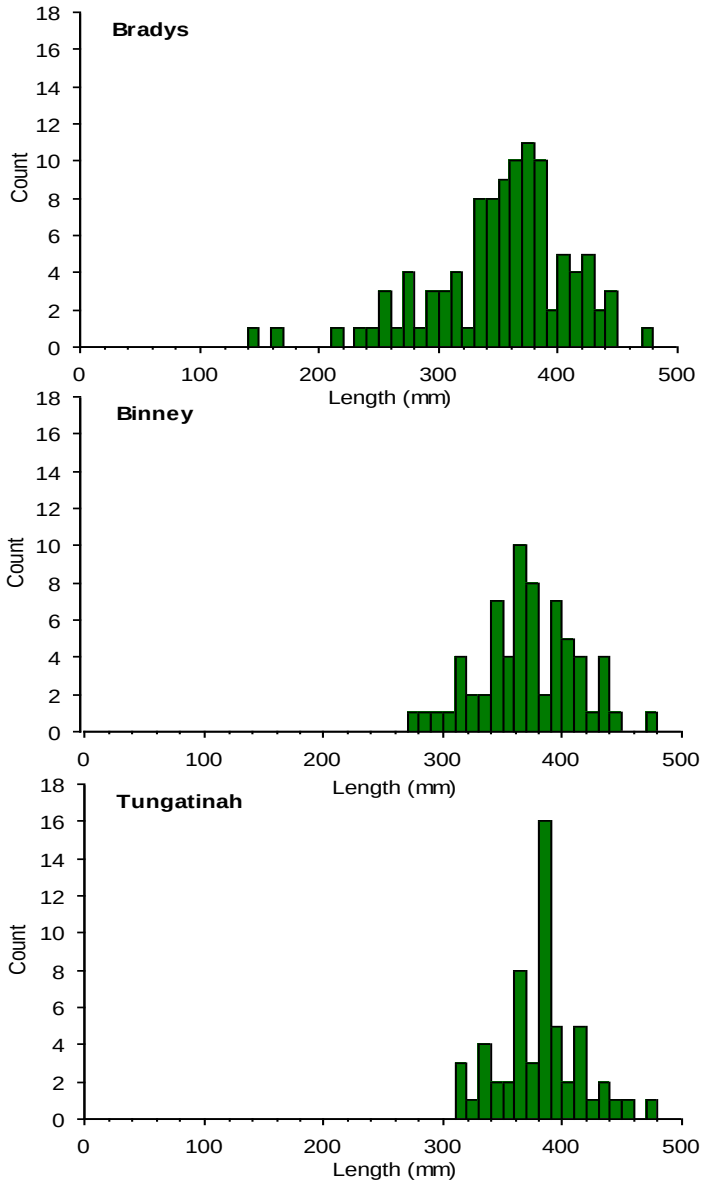


figure 3: Length frequency for resident brown trout 2019 separated by individual waters.

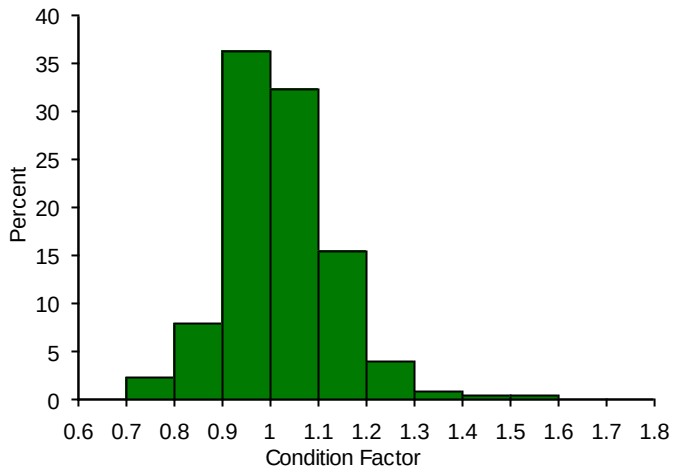


figure 4: Condition factor categories for resident brown trout 2019.

Overall, the condition of resident brown trout was at the lower end of expectation, with an average k-factor of 1.02. Just eight percent of these fish were classified as good to excellent, (see figure 4). While this result is disappointing, it is similar to the transferred adult brown trout from Lake King William and relates to slow growth (see figure 1) and fish being in post spawning condition.

3.4. Population Estimate

Of the 3 409 tagged brown trout released into Bradys Lake and the fin clipped brown trout released into Lake Binney (2 750) and Tungatinah Lagoon (750); a combined total of 88 tagged and fin clipped fish were recaptured across all three waters (see table 2). However, as a significant number of tagged fish had dispersed downstream from Bradys Lake into Lake Binney and Tungatinah Lagoon, it was not feasible to use tagged fish to separately estimate the Bradys Lake trout population. It was possible though to use tagged and fin clipped fish combined, to obtain an overall population estimate for the entire system of 25 149 brown trout (see table 3). Additionally, as upstream dispersal of fin clipped fish was negligible from Lake Binney and/or Tungatinah Lagoon into Bradys Lake, it was feasible to use all fin clipped fish to estimate the population size for Lake Binney and Tungatinah Lagoon as a combined unit of 13 580 brown trout (see figure 4).

As a consequence of these results, it is possible to make an assumption about the size of the brown trout population within Bradys Lake, by subtracting the estimate for Lake Binney and Tungatinah Lagoon combined, from the overall total population estimate (tables 3 & 4), providing an estimate of 11 569 brown trout.

Marked Status	Bradys Lake	Lake Binney	Tungatinah Lagoon	Totals All Waters
Resident (non marked)	103 (85.8%)	66 (59.5%)	57 (68.7%)	226 (72.0%)
Tagged	16 (13.3%)	9 (8.1%)	12 (14.5%)	37 (11.8%)
Clipped	1 (> 0.9%)	36 (32.4%)	14 (16.9%)	51 (16.2%)
Totals	120	111	83	314

table 2: Total captures of resident, tagged and fin-clipped brown trout for each water and combined results.

Parameter	Result
Total all tagged & fin clipped fish released (M)	7 048
Total recaptures (C)	314
Total marked recaptures (R)	88
Population estimate: MC/R = N	25 149
Standard error	2 260
Lower and Upper 95% CI limits	20 719 – 29 578
Estimate bias level: MC/4N =	22 (>4 acceptable bias)

table 3: Petersen CMR population estimate for the whole Bradys system using all tagged and fin-clipped recaptures.

Parameter	Result
Total fin clipped fish released (M)	3 500
Total recaptures (C)	194
Total marked recaptures (R)	50
Population estimate: MC/R = N	13 580
Standard error	1 643
Lower and Upper 95% CI limits	10 360 – 16 800
Estimate bias level: MC/4N =	12.5 (>4 acceptable bias)

table 4: Petersen CMR population estimate for Lake Binney and Tungatinah Lagoon combined, using only fin-clipped recaptures.

3.5. Angler Postal Survey

The long-term average fishing effort per season, 1986-2019 for Bradys Lake was 6 120 days (see figure 5). For the period of 1986-2003, fishing effort was generally below average. However, during the 2004-05 fishing season, the IFS began stocking the system with adult brown trout sourced from the spawning run at yingina / Great Lake. This action along with the periodic release of larger rainbow trout and Atlantic salmon, and the stocking of brown trout fingerlings, saw the total fishing effort almost double from around 5 000 days to 10 000 days during 2005–2011. Post 2010-11, fishing effort returned to around the long-term average. The fishing effort for Lake Binney and Tungatinah Lagoon is comparatively less, reflecting the smaller size of each water. The fishing effort at Lake Binney has apart from 1996 -97, fluctuated around the long term average (see figure 6), while at Tungatinah Lagoon there was a peak in effort for the 2004-05 season with a decline in effort during 2012–18, with a return to the long term average for the 2018-19 season (see figure 7).

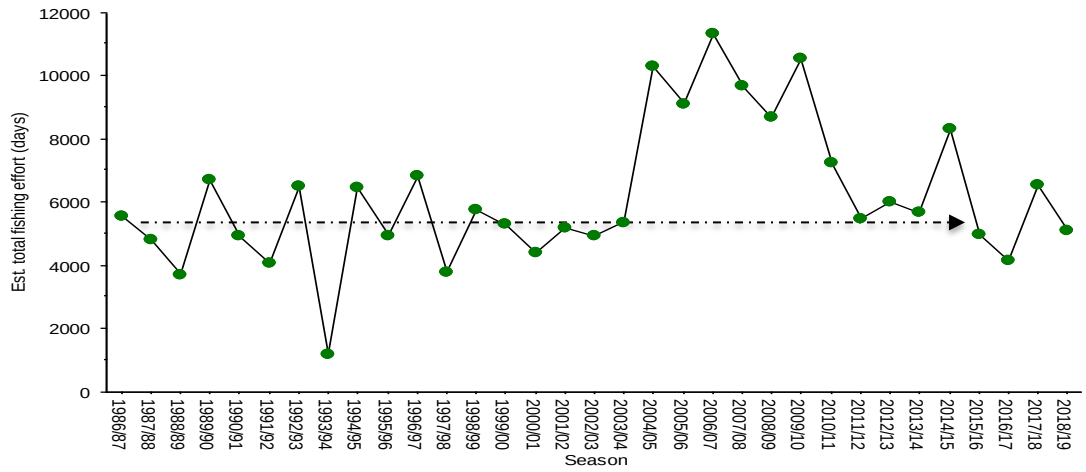


figure 5: Estimated total fishing effort, total days fishing for Bradys Lake 1986 – 2019 (dotted line indicates long-term average).

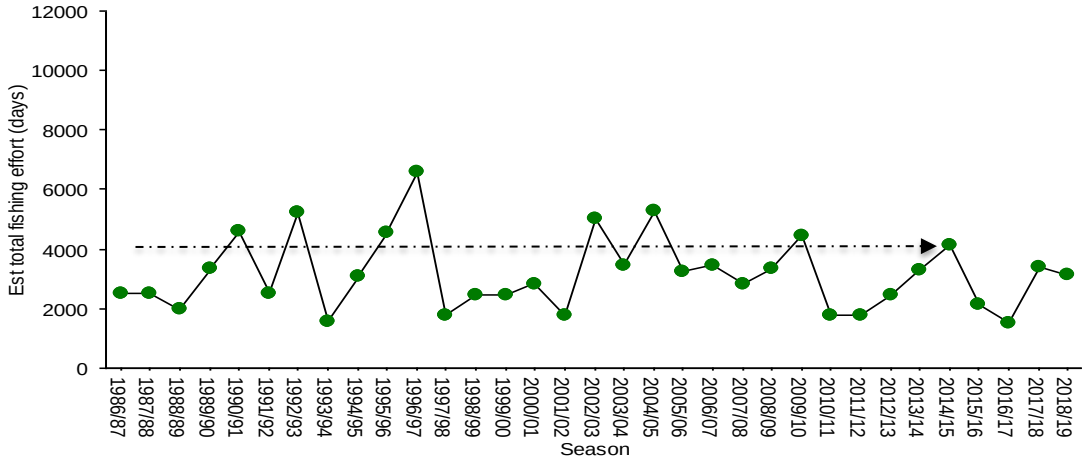


figure 6: Estimated total fishing effort, total days fishing for Lake Binney 1986 – 2019 (dotted line indicates long-term average).

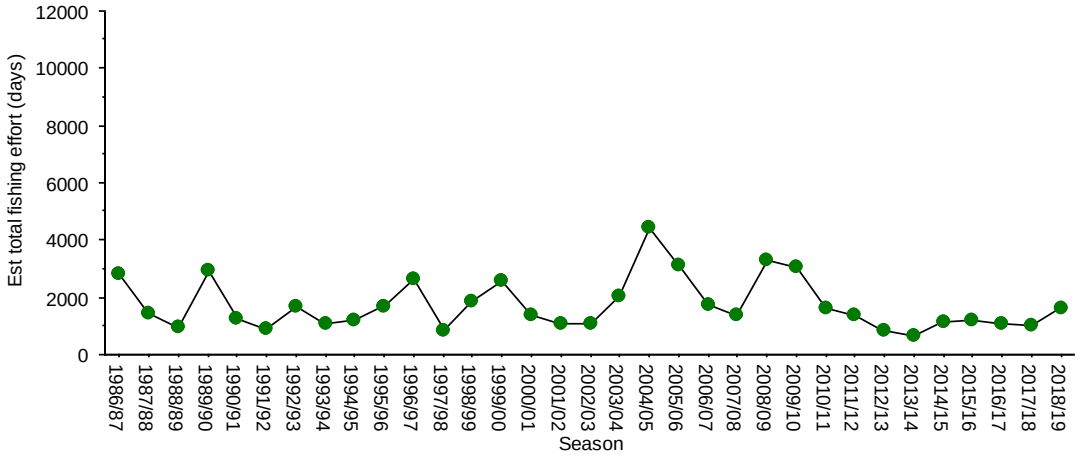


figure 7: Estimated total fishing effort, total days fishing for Tungatinah Lagoon, 1986–2019 (dotted line indicates long-term average).

In terms of how many days on average anglers fished at Bradys Lake per season, there was a period 2002–11 when anglers consistently fish this water for longer (see figure 8). This situation normally reflects more intense fishing effort generated by a fewer anglers. However, in this case, total angling effort was driven by both increased numbers of anglers and anglers fishing for multiple days per trip.

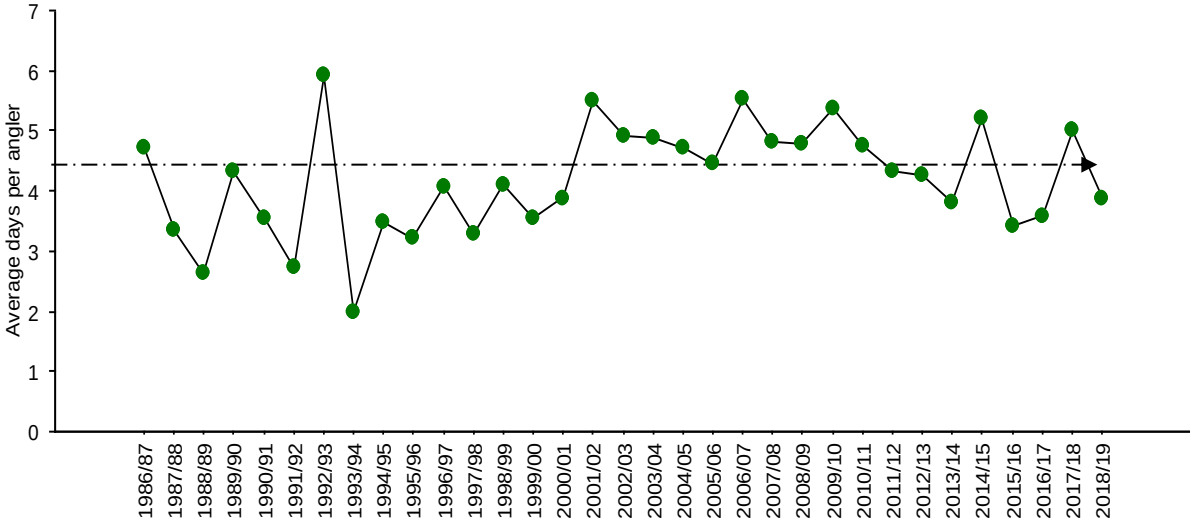


Figure 8: Average number of days fished per angler for each season 1986 – 2019 for Bradys Lake (dotted line indicates long-term average).

The daily catch rate for brown trout at Bradys Lake generally remained at or above the long-term average 0.6 fish per day for the period 1986–2000 (see figure 9). During 2001-12 the daily catch rate fluctuated at or below the long-term average, with a return to above average catch rates for 2017–19. In general, the annual harvest (see figure 10) is low compared to other popular fisheries. The annual harvest is not strongly linked to the daily catch rate but mostly reflects fluctuation in angling effort. This is most strongly displayed during 2004–09, with high fishing effort driving higher harvest levels, while daily catch rates for brown trout where at or below the long-term average.

This situation typically results in depletion of the population. The seasons following this time saw a decline catch rate and a marked fall in fishing effort and consequently harvest. This circumstance has been arrested with significant stocking of adult brown trout and a return to higher daily catch rates.

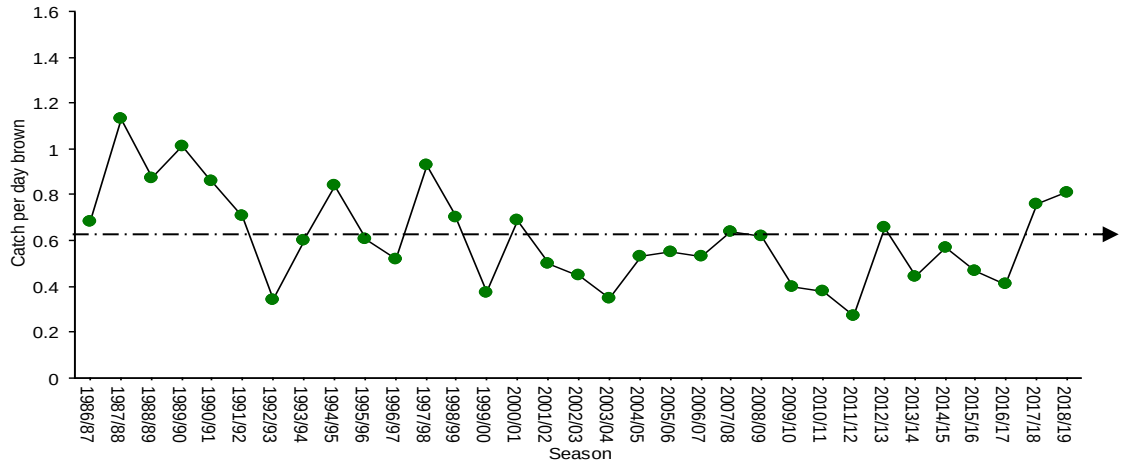


Figure 9: Daily catch rate for brown trout 1986 – 2019, Bradys Lake (dotted line indicates long-term average).

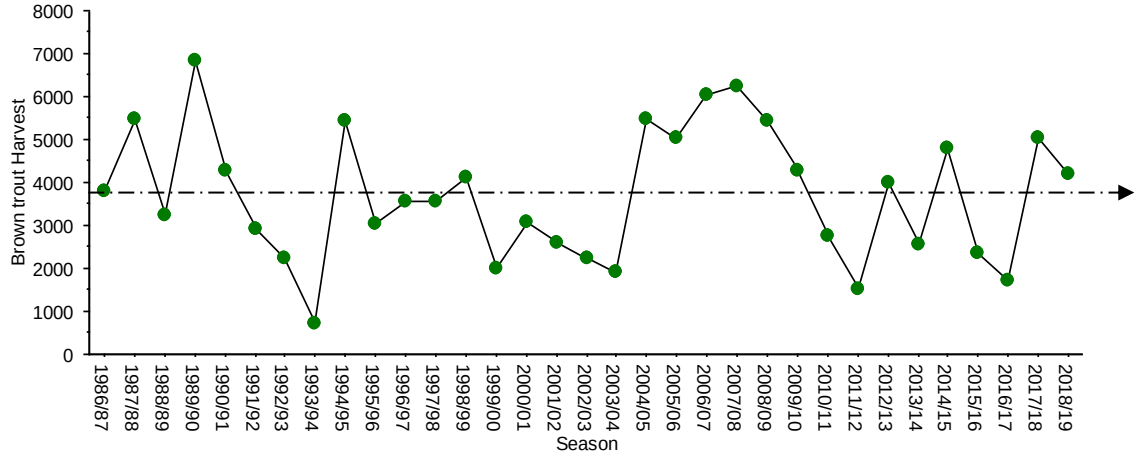


Figure 10: Estimated harvest of brown trout 1986 – 2019, Bradys Lake (dotted line indicates long-term average).

The long-term daily catch rate for Lake Binney (0.8) (see figure 11) is marginally higher than Bradys Lake (0.6) (see figure 9) and Tungatinah Lagoon (0.6) (see figure 12). For Lake Binney, the daily catch rate has for large periods been low, with punctuated peaks in the late 1980's, 2000 and 2016-18. The harvest of brown trout has mostly followed the pattern in fishing effort. Interestingly, the period 2003–06 that saw high harvest of brown trout in both Bradys Lake and Tungatinah Lagoon did not show within the Lake Binney results.

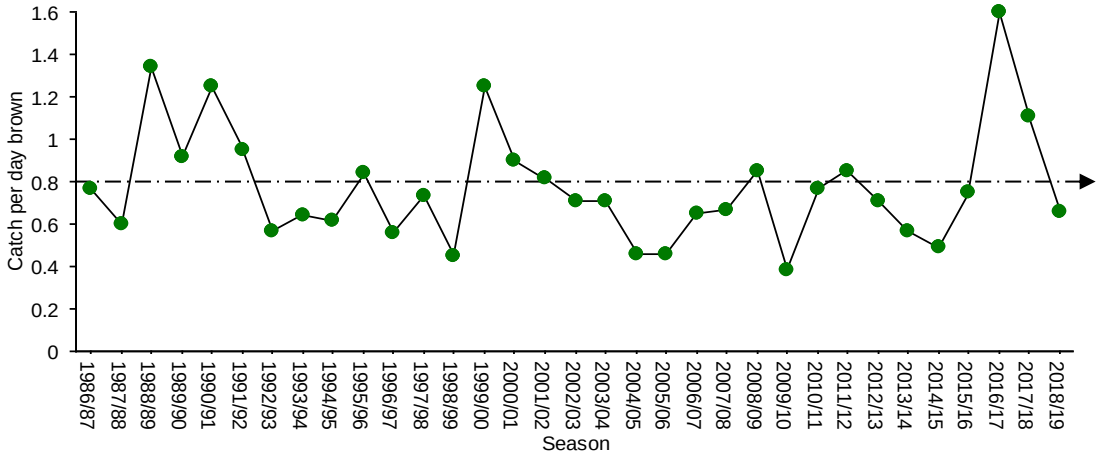


Figure 11: Daily catch rate for brown trout 1986 – 2019, Lake Binney (dotted line indicates long-term average).

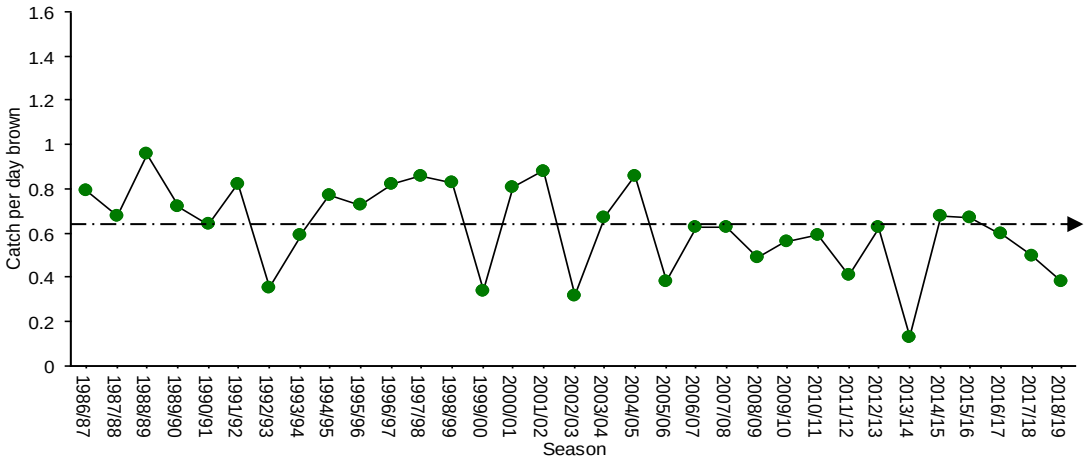


Figure 12: Daily catch rate for brown trout 1986 – 2019, Tungatinah Lagoon (dotted line indicates long-term average).

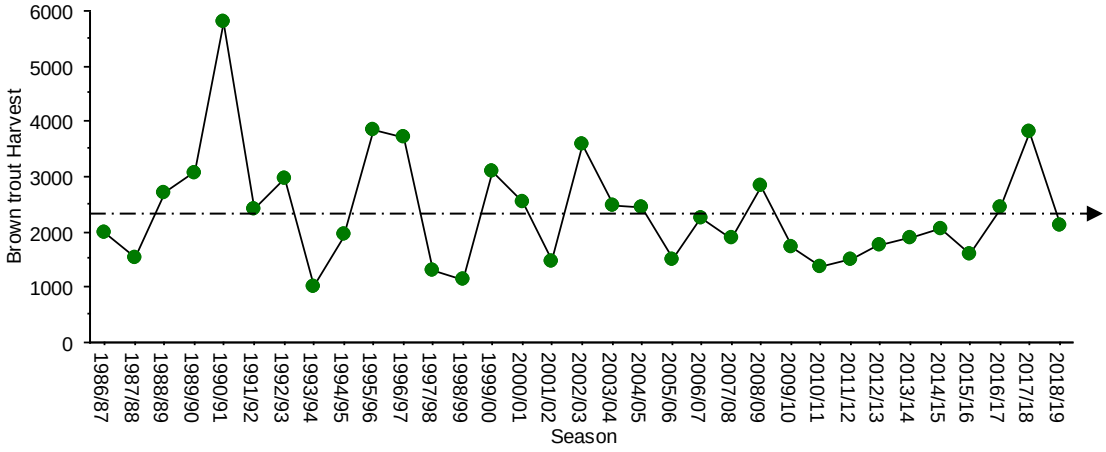


Figure 13: Estimated harvest of brown trout 1986 – 2019, Lake Binney (dotted line indicates long-term average).

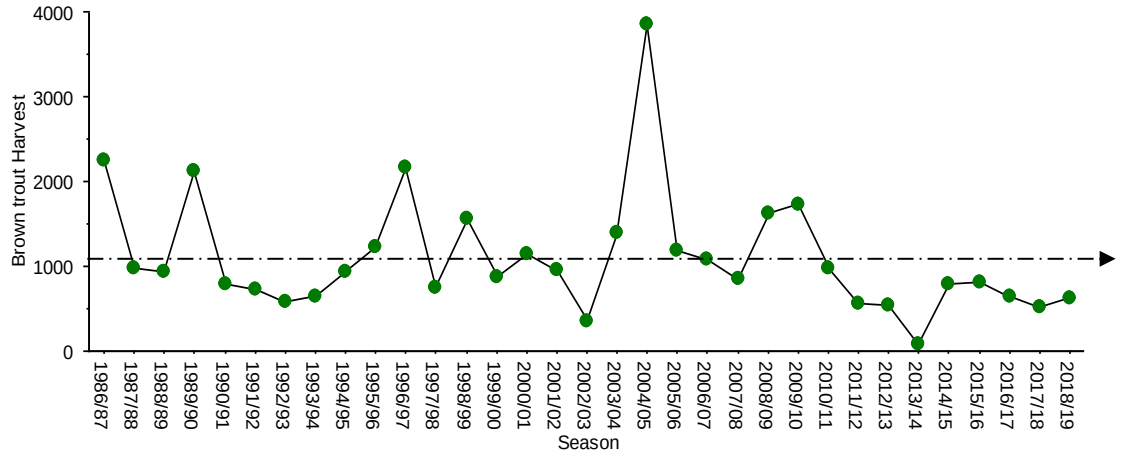


Figure 14: Estimated harvest of brown trout 1986–2019, Tungatinah Lagoon (dotted line indicates long-term average).

3.6. Rainbow trout

Just three rainbow trout were captured during the entire survey measuring 352, 355 & 377 mm length and weighing 500, 610 & 640 grams respectively; representing less than one percent of the total catch of all trout (CPUE 0.01). The catch rate for rainbow trout from the APS for Bradys Lake during 2018-19 was 0.26 fish per day with an estimated harvest of 1,337. The long term catch rate (1986 – 2019) was 0.14 fish per day with an estimated harvest of 932.

4. Stocking

Prior to 2003, there was no stocking of the Bradys system. Natural recruitment had maintained the trout population since impoundment of the system. However, during the late 1990's and early 2000's, falling catch rates of brown trout were apparent (see figure 9). This situation initiated a stocking program utilising wild strain brown trout fry, fingerlings and adult transfers collected from various sources (see appendix B). Also, during the period 2004 - 2010, Atlantic salmon, brook trout and larger domestic rainbow trout were released to generate interest and supplement the daily catch rate. This was done at a time when extreme drought was impacting other waters and resulted in a shift of angling effort to the Bradys system. While these circumstances resulted in increased participation, with an almost doubling of angling effort (see figure 5), it also resulted in an increased harvest of brown trout and likely further depleted the population.

Since 2010, there has been a commitment to stock only wild brown trout and where feasible, wild stock rainbow trout. The use of brown trout fingerlings became the main source of restock and in the seven-year period 2008 – 14, over 750 000 (mostly fingerlings) were released into the system. This stocking strategy failed to produce any notable increase in the catch rate and consequently, it was discontinued in favour of the more reliable strategy of translocating adult brown trout collected from the spawning runs at yingina / Great Lake, Arthurs Lake and later, Lake King William. This strategy has now been adopted as the primary method of restock, however it is difficult to draw any link between stocking events and a sustained increase in the daily catch rate, as recorded from the APS (see appendix A).

5. Discussion

The CPUE results from the survey indicate the Bradys system (Bradys Chain of Lakes) in general, contains a moderately low number of brown trout. This is supported by the population estimate for the whole system and the relatively moderate daily catch rate as reported by anglers. Early evidence from the return of tagged fish by anglers during the period August – December 2019 (82 tagged fish), suggest a ratio of one tagged fish to every three to five resident fish, indicative of a moderately low population size.

The combined population estimate for the lower two lakes of Lake Binney and Tungatinah Lagoon using only fin clipped fish, provides a realistic estimate and allows for an assumption to be made of the population size for Brady Lake. This implied estimate is realistic when considering the comparable CPUE for each water and the overall total population estimate for the whole system, using both tagged and fin clipped trout combined.

The average weight of resident fish over 300 mm was around 548 grams, this is less than the target weight as set in the *Tasmanian Inland Recreational Fishery Management Plan 2018-28* (TIRFMP) at 750 grams. The condition of fish was fair to good and in-part reflects the slow growth of fish and the fact that fish were still in post spawning condition at the time of sampling.

The size structure for resident fish provides evidence of limited natural recruitment, with 9 percent of fish being less than 300 mm. A significant finding from the analysis of length data for each water highlighted the importance of Bradys Lake as a potential nursey area for young fish, with very few young fish apparent in Lake Binney and none in Tungatinah Lagoon. The reasons for this are likely to reflect the dispersal of juvenile fish from Bronte Lagoon and Dee Lagoon (to a lesser extent) and increasing predation pressure by redfin perch, which is limiting downstream dispersal of juvenile trout from Bradys Lake into Lake Binney and Tungatinah Lagoon.

A comparison of the length and weight data for resident fish and the 2019 transfers from Lake King William, indicates similar growth rates throughout the Bradys system.

Analysis of the movement of tagged and fin clipped fish provided evidence of downstream movement of fish from Bradys Lake into both Lake Binney and Tungatinah Lagoon. Returns of tags from anglers in the period August – December also indicates a significant movement of fish from Bradys Lake to Lake Binney and to a lesser degree Tungatinah Lagoon. Movement upstream into Bradys Lake is thought to be minimal, with only one fin clipped fish captured over the three nights of trapping within Bradys Lake.

Rainbow trout captures were negligible with only three fish captured from 240 box traps. The APS results for 2018-19 season indicted a higher level of abundance with a catch rate of 0.26 fish per day, which was just below the target level of 0.3 as set in the TIRFMP. The long-term average catch rate from the APS is however very low at 0.14 fish per day. The average weight for rainbow trout was 570 grams (from only three fish), with the target weight being 750 grams.

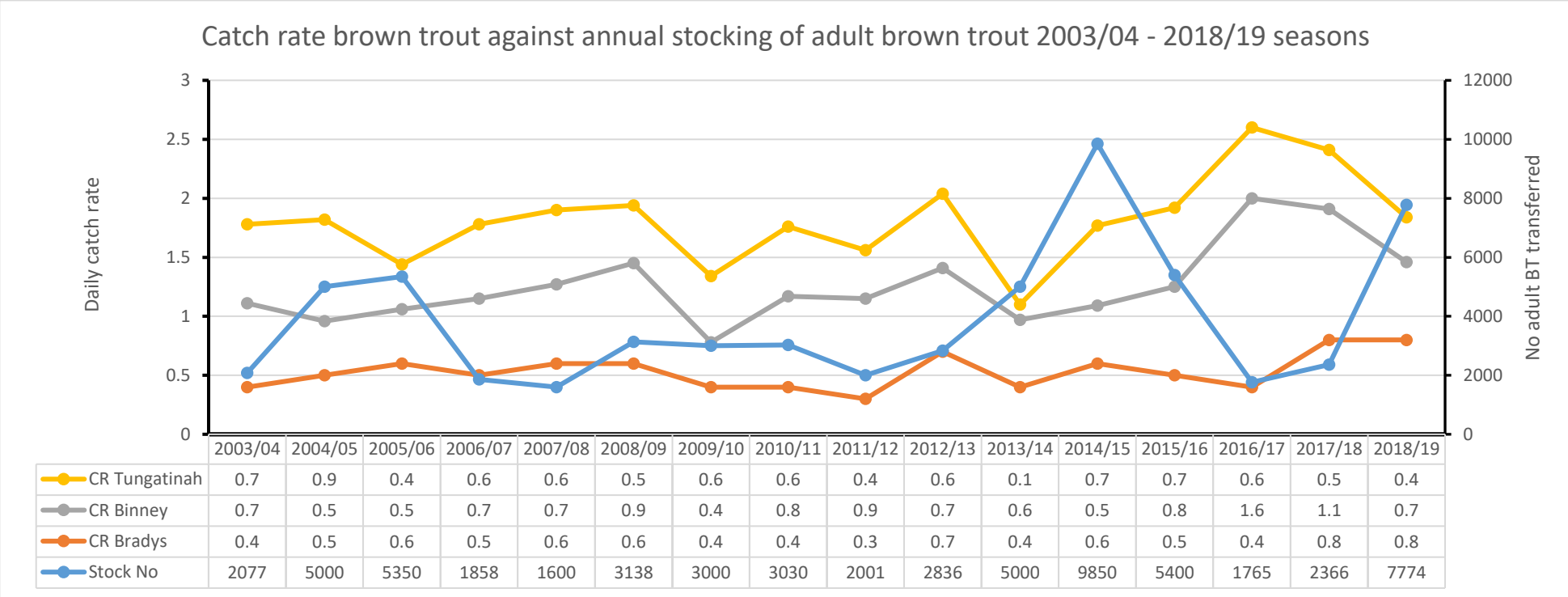
The targets set in the TIRFMP for the brown trout fishery are a catch rate of 0.8 fish per day and an average weight of 750 grams. The catch rate from the APS results for 2018-19 season for Bradys Lake was 0.8 fish per day that meets this criterion, however the average weight was 546 grams. It is unlikely in the medium term this 750-gram target can be achieved while using fish from Lake King William. Nonetheless, it is apparent these transferred fish offer the best option for restock and acceptance of a lower target around 550 grams is realistic and largely acceptable.

At present the fishery within the Bradys system (Bradys Chain of Lakes) is performing substantially better compared to the period 2000–16. Catch rates for brown trout are above the long-term average. This level could be improved however, with consistent transfers of significant numbers of adult brown trout.

6. Recommendations

- The Bradys system of lakes continues to be stocked with adult brown trout, preferably collected from Lake King William, with a target number of 7,000 fish per annum (to be stocked into Bradys Lake).
- The target weight for brown trout as set in the TIRFMP be revised down to 550 grams +/- 0.1 g.
- Monitoring of future angling effort and harvest is achieved by angler feedback, creel census and assessment via the annual postal survey (or similar).
- Monitoring of the brown trout population is in accordance with the schedule as outlined in the Tasmanian Inland Recreational Fishery Management Plan 2018-28 i.e. 2 times in ten years. However, as the system has been stocked with significant numbers of tagged brown trout, it will be essential to conduct a follow up survey during 2021 to assess fish survival and growth to inform future fisheries management.
- Bag and size limits for each water remain unchanged (5 fish per day and 300 mm minimum length).
- The results of this survey suggest sampling effort and the timing of the survey are acceptable.

7. Appendix



	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
CR Tungatinah	0.7	0.9	0.4	0.6	0.6	0.5	0.6	0.6	0.4	0.6	0.1	0.7	0.7	0.6	0.5	0.4
CR Binney	0.7	0.5	0.5	0.7	0.7	0.9	0.4	0.8	0.9	0.7	0.6	0.5	0.8	1.6	1.1	0.7
CR Bradys	0.4	0.5	0.6	0.5	0.6	0.6	0.4	0.4	0.3	0.7	0.4	0.6	0.5	0.4	0.8	0.8
Stock No	2077	5000	5350	1858	1600	3138	3000	3030	2001	2836	5000	9850	5400	1765	2366	7774

Appendix A: Daily catch rate for brown trout compared with the annual transfer of adult brown trout into the Bradys system 2003 – 2019.

Water	Date	Species	Age	Number	Source	Type	Weight (g)
Bradys Lake	7/04/2003	brown trout	Adult	190	Laughing Jack salvage	Wild	600.0
Bradys Lake	9/05/2003	brook trout	Yearling	1 000	Petuna	Domestic	375.0
Bradys Lake	27/05/2003	brown trout	Adult	887	Liawenee	Wild	1 000.0
Bradys Lake	28/05/2003	brook trout	Yearling	2 000	Petuna	Domestic	400.0
Bradys Lake	10/11/2003	brown trout	Fry	50 000	Salmon Ponds	Wild	
Bradys Lake	23/04/2004	brook trout	Yearling	6 450	Petuna	Domestic	310.0
Bradys Lake	27/04/2004	brown trout	Adult	5 000	Liawenee	Wild	1 100.0
Bradys Lake	18/11/2004	brook trout	Adult	60	Petuna	Domestic	1 500.0
Bradys Lake	18/11/2004	rainbow trout	Yearling	4 800	Springfield	Domestic	150.0
Bradys Lake	18/11/2004	rainbow trout	Adult	40	Petuna	Domestic	3 000.0
Bradys Lake	18/01/2005	rainbow trout	Fingerling	400	Petuna	Domestic	25.0
Bradys Lake	27/01/2005	brown trout	Fingerling	15 000	Saltas	Wild	8.4
Bradys Lake	23/02/2005	Atlantic salmon	Adult	720	Saltas	Domestic	3 000.0
Bradys Lake	29/04/2005	brook trout	Yearling	7 000	Petuna	Domestic	350.0
Bradys Lake	25/05/2005	brown trout	Adult	5 000	Liawenee	Wild	1 000.0
Bradys Lake	7/06/2005	Atlantic salmon	Adult	150	Saltas	Domestic	7 000.0
Bradys Lake	7/07/2005	brown trout	Adult	100	Crescent	Wild	3 500.0
Bradys Lake	14/07/2005	brook trout	Yearling	3 000	Petuna	Domestic	220.0
Bradys Lake	23/08/2005	rainbow trout	Yearling	4 500	Tassal	Domestic	200.0
Bradys Lake	6/12/2005	rainbow trout	Fingerling	20 000	Petuna	Domestic	20.0
Bradys Lake	15/12/2005	Atlantic salmon	Adult	120	Saltas	Domestic	2 700.0
Bradys Lake	21/12/2005	brown trout	Adult	250	Salmon Ponds	Wild	600.0
Bradys Lake	21/12/2005	brown trout	Yearling	2 500	Salmon Ponds	Wild	55.0
Bradys Lake	9/02/2006	rainbow trout	Fingerling	16 000	Petuna	Domestic	25.0
Bradys Lake	28/03/2006	brook trout	Mixed	1 700	Petuna	Domestic	350.0
Bradys Lake	6/04/2006	brown trout	Fingerling	3 000	Salmon Ponds	Wild	15.0
Bradys Lake	7/04/2006	Atlantic salmon	Adult	200	Saltas	Domestic	4 000.0
Bradys Lake	27/04/2006	brook trout	Yearling	1 700	Petuna	Domestic	350.0
Bradys Lake	15/05/2006	brown trout	Adult	58	Crescent	Wild	3 000.0
Bradys Lake	15/05/2006	rainbow trout	Adult	35	Crescent	Domestic	3 000.0
Bradys Lake	23/05/2006	brown trout	Adult	1 800	Liawenee	Wild	1 250.0
Bradys Lake	11/09/2006	brown trout	Fingerling	15 000	Salmon Ponds	Wild	20.0
Bradys Lake	27/11/2006	brown trout	Fingerling	400	Salmon Ponds	Wild	25.0
Bradys Lake	8/12/2006	brook trout	Fingerling	10 000	Petuna	Domestic	25.0
Bradys Lake	12/12/2006	Atlantic salmon	Adult	120	Saltas	Domestic	4 500.0
Bradys Lake	12/12/2006	Atlantic salmon	Yearling	200	Saltas	Domestic	250.0
Bradys Lake	15/12/2006	rainbow trout	Fingerling	6 500	Petuna	Domestic	25.0
Bradys Lake	20/12/2006	rainbow trout	Fry	10 000	Salmon Ponds	Wild	0.5
Bradys Lake	21/12/2006	rainbow trout	Fingerling	30 000	Petuna	Domestic	25.0
Bradys Lake	8/01/2007	Atlantic salmon	Adult	170	Saltas	Domestic	2 500.0
Bradys Lake	27/02/2007	brown trout	Adult	105	Laughing Jack salvage	Wild	350.0
Bradys Lake	26/04/2007	brown trout	Yearling	200	Laughing Jack salvage	Wild	200.0

Bradys Lake	1/06/2007	brown trout	Adult	1 000	Liawenee	Wild	1 137.0
Bradys Lake	6/06/2007	brown trout	Adult	600	Liawenee	Wild	1 137.0
Bradys Lake	20/06/2007	brook trout	Yearling	6 000	Petuna	Domestic	350.0
Bradys Lake	29/06/2007	Atlantic salmon	Adult	40	Tassal	Domestic	8 000.0
Bradys Lake	11/10/2007	rainbow trout	Adult	510	Springfield	Domestic	3 800.0
Bradys Lake	14/12/2007	Atlantic salmon	Adult	108	Saltas	Domestic	3 500.0
Bradys Lake	23/01/2008	rainbow trout	Fingerling	22 000	Petuna	Domestic	25.0
Bradys Lake	28/03/2008	brown trout	Adult	12	Tarraleah Canal	Wild	750.0
Bradys Lake	30/04/2008	brown trout	Adult	76	Laughing Jack salvage	Wild	600.0
Bradys Lake	8/05/2008	brown trout	Adult	1 300	Liawenee	Wild	1 200.0
Bradys Lake	22/05/2008	brown trout	Adult	1 000	Liawenee	Wild	1 200.0
Bradys Lake	22/05/2008	brown trout	Adult	750	Liawenee	Wild	1 200.0
Bradys Lake	28/05/2008	Atlantic salmon	Adult	850	Saltas	Domestic	1 500.0
Bradys Lake	29/05/2008	brown trout	Fingerling	20 000	New Norfolk	Wild	20.0
Bradys Lake	28/11/2008	Atlantic salmon	Adult	80	Saltas	Domestic	3 000.0
Bradys Lake	28/11/2008	rainbow trout	Adult	100	Salmon Ponds	Domestic	4 000.0
Bradys Lake	11/03/2009	brook trout	Fingerling	16 500	Mountain Stream	Domestic	30.0
Bradys Lake	23/04/2009	brown trout	Fingerling	30 000	New Norfolk	Wild	25.0
Bradys Lake	25/05/2009	brown trout	Adult	3 000	Liawenee	Wild	1 200.0
Bradys Lake	22/06/2009	Atlantic salmon	Adult	600	Saltas	Domestic	2 500.0
Bradys Lake	22/10/2009	Atlantic salmon	Adult	300	Petuna	Domestic	2 500.0
Bradys Lake	22/10/2009	rainbow trout	Adult	50	Petuna	Domestic	3 500.0
Bradys Lake	17/12/2009	Atlantic salmon	Adult	550	Saltas	Domestic	4 000.0
Bradys Lake	1/02/2010	brown trout	Fingerling	30 000	New Norfolk	Wild	20.0
Bradys Lake	16/03/2010	Atlantic salmon	Adult	288	Tassal	Domestic	2 500.0
Bradys Lake	20/04/2010	brown trout	Adult	2 100	Liawenee	Wild	1 000.0
Bradys Lake	3/05/2010	brown trout	Adult	900	Liawenee	Wild	1 000.0
Bradys Lake	3/07/2010	brown trout	Adult	30	Liawenee	Wild	800.0
Bradys Lake	3/07/2010	rainbow trout	Adult	80	Liawenee	Wild	1 000.0
Bradys Lake	23/07/2010	rainbow trout	Fingerling	10 000	New Norfolk	Wild	20.0
Bradys Lake	3/08/2010	rainbow trout	Fingerling	20 000	New Norfolk	Wild	20.0
Bradys Lake	10/09/2010	Atlantic salmon	Adult	370	Petuna	Domestic	2 000.0
Bradys Lake	5/01/2011	brown trout	Fingerling	15 000	New Norfolk	Wild	20.0
Bradys Lake	28/01/2011	brown trout	Fingerling	8 000	New Norfolk	Wild	20.0
Bradys Lake	1/04/2011	rainbow trout	Adult	300	Salmon Ponds	Wild	450.0
Bradys Lake	11/05/2011	brown trout	Adult	106	Laughing Jack salvage	Wild	600.0
Bradys Lake	30/06/2011	brown trout	Adult	450	Hydro Creek	Wild	700.0
Bradys Lake	4/07/2011	brown trout	Adult	360	Hydro Creek	Wild	700.0
Bradys Lake	20/07/2011	brown trout	Adult	450	Liawenee	Wild	1 000.0
Bradys Lake	20/07/2011	rainbow trout	Fingerling	23 000	New Norfolk	Wild	25.0
Bradys Lake	20/07/2011	rainbow trout	Fingerling	10 000	New Norfolk	Wild	20.0
Bradys Lake	26/07/2011	brown trout	Adult	460	Hydro Creek	Wild	800.0

Bradys Lake	11/08/2011	brown trout	Adult	175	Liawenee	Wild	1 000.0
Bradys Lake	6/09/2011	rainbow trout	Adult	1 200	Springfield	Domestic	2 000.0
Bradys Lake	10/01/2012	brown trout	Fingerling	8 500	New Norfolk	Wild	20.0
Bradys Lake	1/02/2012	brown trout	Fingerling	21 500	New Norfolk	Wild	20.0
Bradys Lake	20/03/2012	brown trout	Fingerling	15 000	New Norfolk	Wild	25.0
Bradys Lake	11/05/2012	brown trout	Adult	300	Liawenee	Wild	1 000.0
Bradys Lake	15/05/2012	brown trout	Adult	120	Liawenee	Wild	1 000.0
Bradys Lake	23/05/2012	brown trout	Adult	1 500	Liawenee	Wild	1 000.0
Bradys Lake	31/05/2012	brown trout	Adult	300	Liawenee	Wild	1 000.0
Bradys Lake	14/06/2012	brown trout	Adult	300	Liawenee	Wild	1 000.0
Bradys Lake	3/07/2012	brown trout	Adult	236	Liawenee	Wild	1 000.0
Bradys Lake	12/07/2012	brown trout	Adult	80	Liawenee	Wild	1 000.0
Bradys Lake	15/11/2012	brown trout	Fry	85 000	IFS New Norfolk	Wild	6.0
Bradys Lake	5/12/2012	brown trout	Fry	20 000	IFS New Norfolk	Wild	3.0
Bradys Lake	1/05/2013	brown trout	Adult	1 200	Liawenee	Wild	900.0
Bradys Lake	10/05/2013	brown trout	Adult	1 200	Liawenee	Wild	900.0
Bradys Lake	30/05/2013	brown trout	Adult	1 200	Liawenee	Wild	700.0
Bradys Lake	4/06/2013	brown trout	Adult	1 200	Liawenee	Wild	700.0
Bradys Lake	14/06/2013	brown trout	Adult	200	Liawenee	Wild	700.0
Bradys Lake	9/10/2013	brown trout	Fry	100 000	IFS New Norfolk	Wild	1.8
Bradys Lake	28/11/2013	brown trout	Fry	25 000	IFS New Norfolk	Wild	3.5
Bradys Lake	17/12/2013	brown trout	Fry	15 000	IFS New Norfolk	Wild	5.0
Bradys Lake	17/12/2013	brown trout	Fry	12 500	IFS New Norfolk	Wild	5.0
Bradys Lake	20/12/2013	brown trout	Fry	15 240	IFS New Norfolk	Wild	3.6
Bradys Lake	7/05/2014	brown trout	Adult	450	Liawenee	Wild	750.0
Bradys Lake	8/05/2014	brown trout	Adult	900	Liawenee	Wild	750.0
Bradys Lake	22/05/2014	brown trout	Adult	4 000	Liawenee	Wild	750.0
Bradys Lake	27/05/2014	brown trout	Adult	600	Liawenee	Wild	750.0
Bradys Lake	4/06/2014	brown trout	Adult	550	Scotch Bobs Creek	Wild	520.0
Bradys Lake	4/06/2014	brown trout	Adult	200	Hydro Creek	Wild	360.0
Bradys Lake	5/06/2014	brown trout	Adult	350	Liawenee	Wild	750.0
Bradys Lake	10/06/2014	brown trout	Adult	590	Tumbledown Creek	Wild	600.0
Bradys Lake	10/06/2014	brown trout	Adult	160	Scotch Bobs Creek	Wild	520.0
Bradys Lake	11/06/2014	brown trout	Adult	130	Scotch Bobs Creek	Wild	520.0
Bradys Lake	11/06/2014	brown trout	Adult	120	Liawenee	Wild	750.0
Bradys Lake	30/06/2014	brown trout	Adult	1 200	Tumbledown Creek	Wild	600.0
Bradys Lake	30/06/2014	brown trout	Adult	600	Hydro Creek	Wild	360.0
Bradys Lake	15/10/2014	brown trout	Fry	60 000	IFS New Norfolk	Wild	2.5
Bradys Lake	15/11/2014	brown trout	Fry	15 000	IFS New Norfolk	Wild	5.0
Bradys Lake	16/11/2014	brown trout	Fry	15 000	IFS New Norfolk	Wild	5.0
Bradys Lake	27/11/2014	brown trout	Fry	50 000	IFS New Norfolk	Wild	3.0
Bradys Lake	27/11/2014	brown trout	Fry	100 000	IFS New Norfolk	Wild	5.0

Bradys Lake	19/12/2014	brown trout	Fry	22 000	IFS New Norfolk	Wild	4.5
Bradys Lake	15/04/2015	brown trout	Adult	2 000	Liawenee	Wild	900.0
Bradys Lake	22/04/2015	brown trout	Adult	1 000	Liawenee	Wild	900.0
Bradys Lake	28/04/2015	brown trout	Adult	250	Liawenee	Wild	900.0
Bradys Lake	29/04/2015	brown trout	Adult	650	Liawenee	Wild	900.0
Bradys Lake	4/05/2015	brown trout	Adult	1 500	Liawenee	Wild	900.0
Bradys Lake	1/04/2016	brown trout	Adult	60	Liawenee	Wild	1 200.0
Bradys Lake	11/04/2016	brown trout	Adult	287	Liawenee	Wild	1 200.0
Bradys Lake	29/04/2016	brown trout	Adult	465	Liawenee	Wild	1 000.0
Bradys Lake	5/05/2016	brown trout	Adult	500	Liawenee	Wild	1 000.0
Bradys Lake	26/05/2016	brown trout	Adult	320	Liawenee	Wild	1 000.0
Bradys Lake	31/05/2016	brown trout	Adult	133	Liawenee	Wild	1 000.0
Bradys Lake	21/06/2017	brown trout	Adult	205	King William trap	Wild	500.0
Bradys Lake	27/06/2017	brown trout	Adult	436	King William trap	Wild	500.0
Bradys Lake	12/07/2017	brown trout	Adult	300	King William trap	Wild	370.0
Bradys Lake	18/07/2017	brown trout	Adult	80	Scotch Bobs Creek	Wild	790.0
Bradys Lake	18/07/2017	brown trout	Adult	220	Tumbledown Creek	Wild	745.0
Bradys Lake	25/07/2017	brown trout	Adult	280	King William trap	Wild	370.0
Bradys Lake	29/07/2017	brown trout	Adult	260	King William trap	Wild	370.0
Bradys Lake	4/08/2017	brown trout	Adult	275	King William trap	Wild	370.0
Bradys Lake	16/08/2017	brown trout	Adult	310	King William trap	Wild	370.0
Bradys Lake	25/04/2018	brown trout	Adult	170	King William trap	Wild	465.0
Bradys Lake	26/04/2018	brown trout	Adult	1 150	Liawenee	Wild	950.0
Bradys Lake	26/04/2018	brown trout	Adult	64	King William trap	Wild	465.0
Bradys Lake	2/05/2018	brown trout	Adult	30	King William trap	Wild	465.0
Bradys Lake	9/05/2018	brown trout	Adult	205	King William trap	Wild	465.0
Bradys Lake	11/05/2018	brown trout	Adult	105	King William trap	Wild	465.0
Bradys Lake	11/05/2018	brown trout	Adult	120	Liawenee	Wild	950.0
Bradys Lake	13/05/2018	brown trout	Adult	150	King William trap	Wild	465.0
Bradys Lake	13/05/2018	brown trout	Adult	151	Liawenee	Wild	950.0
Bradys Lake	16/05/2018	brown trout	Adult	261	King William trap	Wild	465.0
Bradys Lake	18/05/2018	brown trout	Adult	251	King William trap	Wild	465.0
Bradys Lake	24/05/2018	brown trout	Adult	318	King William trap	Wild	465.0
Bradys Lake	31/05/2018	brown trout	Adult	500	King William trap	Wild	420.0
Bradys Lake	5/06/2018	brown trout	Adult	586	King William trap	Wild	420.0
Bradys Lake	15/06/2018	brown trout	Adult	2 013	King William trap	Wild	420.0
Bradys Lake	19/06/2018	brown trout	Adult	561	King William trap	Wild	465.0
Bradys Lake	29/06/2018	brown trout	Adult	471	King William trap	Wild	465.0
Bradys Lake	7/07/2018	brown trout	Adult	210	King William trap	Wild	465.0
Bradys Lake	9/07/2018	brown trout	Adult	230	King William trap	Wild	465.0
Bradys Lake	10/07/2018	brown trout	Adult	149	King William trap	Wild	465.0
Bradys Lake	11/07/2018	brown trout	Adult	79	King William trap	Wild	465.0

Bradys Lake	7/05/2019	brown trout	Adult	250	King William trap	Wild	500.0
Bradys Lake	14/05/2019	brown trout	Adult	750	King William trap	Wild	500.0
Bradys Lake	16/05/2019	brown trout	Adult	309	King William trap	Wild	500.0
Bradys Lake	7/06/2019	brown trout	Adult	2 100	King William trap	Wild	500.0
Lake Binney	22/5/2003	brown trout	Adult	500	Liawenee	Wild	1 000.0
Lake Binney	28/1/2011	brown trout	Fingerling	7 000	New Norfolk	Wild	18.0
Lake Binney	22/5/2018	brown trout	Adult	936	King William trap	Wild	465.0
Lake Binney	31/5/2018	brown trout	Adult	500	King William trap	Wild	420.0
Lake Binney	2/7/2018	brown trout	Adult	244	King William trap	Wild	465.0
Lake Binney	4/7/2018	brown trout	Adult	232	King William trap	Wild	465.0
Lake Binney	6/7/2018	brown trout	Adult	336	King William trap	Wild	465.0
Lake Binney	28/4/2019	brown trout	Adult	139	King William trap	Wild	500.0
Lake Binney	16/5/2019	brown trout	Adult	250	King William trap	Wild	500.0
Lake Binney	21/5/2019	brown trout	Adult	1 978	King William trap	Wild	500.0
Lake Binney	7/6/2019	brown trout	Adult	250	King William trap	Wild	500.0
Lake Binney	12/6/2019	brown trout	Adult	272	King William trap	Wild	500.0
Tungatinah	23/5/2003	brown trout	Adult	500	Liawenee	Wild	1 000.0
Tungatinah	12/6/2019	brown trout	Adult	750	King William trap	Wild	500.0

Appendix B: Stocking/Transfer of trout and Atlantic salmon 2003-2019 for the Bradys system