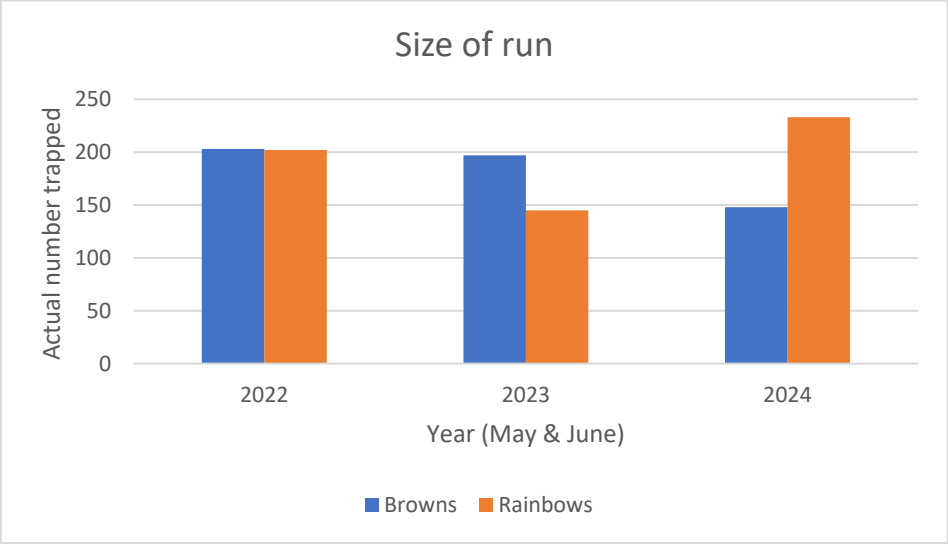
Appendix 2 - Technical Report July 2024

Waipa fish trap

For the period May & June, the Waipa fish trap site recorded a total of 307mm of rainfall which is down in comparison to years 2022 and 2023 for the same period which saw 567mm and 441mm of rain, respectively.

The run of brown trout dropped slightly this year from around 200 fish during years 2022 and 2023 to approximately 150 this year. In comparison, the number of rainbows trapped dropped between 2022 and 2023 by about 50 fish before increasing to 233 rainbows again in 2024 (Fig.1).

Figure 1. *Actual numbers of browns and rainbows trapped at Waipa during May & June between years 2022 and 2024.*



Rainbows trapped during May and June this year were on average 29mm longer and 200g heavier than those trapped during the same period last year. So far this season, these rainbows are only 19mm shorter and 100g lighter than those trapped during the exceptional year of 2022 (Fig.2).

Figure 2. *Average length and weight of rainbows trapped at Waipa during May & June between years 2022 & 2024.*

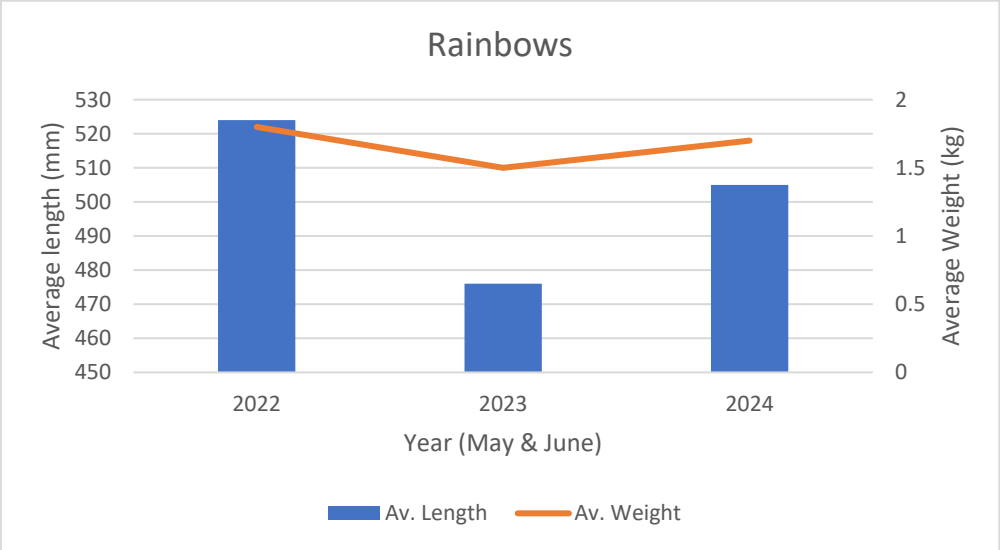
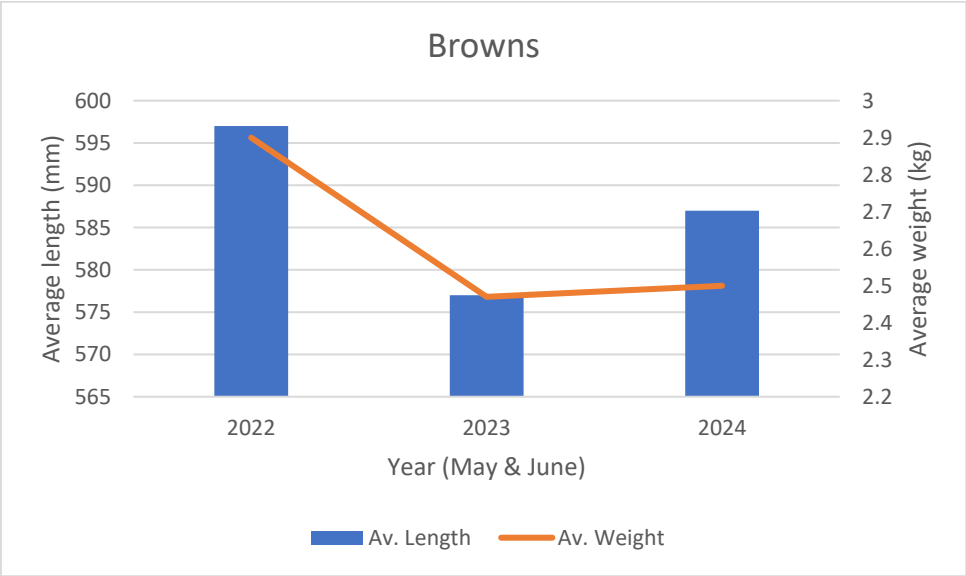


Figure 3. *Average lengths and weights of brown trout trapped during May & June at the Waipa trap between years 2022 and 2024.*



The average length of browns trapped this year averaged 587mm which is up by 10mm on last season but down by 10mm on the good fish trapped during 2022. This year's browns have averaged 2.5kg which is up slightly on last year but 400g lighter than those trapped in 2022 (Fig.3).

Angler Surveys

A total of 211 anglers were interviewed on the Tongariro River during May and June this year and these anglers had an average catch rate of 0.38 fish per hour (1 legal sized fish every 2 hours & 38 minutes). Tongariro anglers reported keeping a quarter of their total recorded catch while returning 70% that was of a legal size. It is encouraging to see the average catch and release percentage drop to 67.4% so far this season. A total of 28 rainbows were measured and weighed by staff over the last couple of months and these fish averaged 511mm and 1.6kg with an average condition factor of 41.6. The heaviest fish weighed was a jack measuring 560 and weighing 2.1kg (4.6lbs) caught in the lower river. So far this season, Tongariro anglers have rated the fish that they are catching at 7.3/10, their catch rate at 5.6/10 and their enjoyment at 9.1/10. Upstream nymphing was the preferred method used by 65% of anglers followed by sinking lines (25%), spey (5%) and euro nymphing (5%).

Just over 50 surveys were conducted at the Hinemaiaia River during the last two months. Anglers reported releasing a lot of trout with the average catch and release estimated at 93%. The 4 rainbows kept by anglers and measured and weighed by staff averaged 523mm and 2kg with an average condition factor of 50. Some very well-conditioned rainbows have featured so far amongst the early run. Overall, anglers reported keeping less than 6% of their legal sized catch this season. Euro nymphing accounts for 31% of anglers interviewed this season with upstream nymphers accounting for 64%. Hinemaiaia anglers rated the fish that they were catching at 7.4/10, their catch rate at 5.8/10 and their angling enjoyment at 9.2/10.

Only 24 surveys were completed at the Tauranga Taupo River during May and June this year. Anglers also reported returning a lot of their catch that was legal sized with the average catch and release percentage at 96%. Upstream nymphing was the preferred method by TT anglers on 62% followed by wet lining (25%) and euro nymphing (13%). TT anglers rate the fish that they were catching at 7/10, their catch rate at 5/10 and their angling enjoyment at 9.2/10.

Overall, there are some quality trout around this year which ties in well with the results of the recent lake productivity study. There are reasonable numbers of trout in the rivers now, but anglers need to keep moving to find fish and seek out less busy waters! The next couple of months should see fish numbers build especially when we get a decent rain event after this current cold and settled dry spell.

Te Whaiau fish trap

This season saw some major changes to the operation of the Te Whaiau Stream fish trap. Historically, this site was monitored 24 hours a day by DOC staff and during more recent years by a local security company overnight. The original trap was completely redesigned to incorporate sliding metal screens and a lifting lockable metal roof (Photo 1). These modifications allow for easy cleaning and makes the trap more secure to unwanted interference. It also allows DOC staff to focus on other work including additional compliance checks in the area rather than having to "babysit" the trap all day. It will also have the benefit of increasing the trapping period should we want to extend it either side of the current 8-week (June & July) period. Current results below are summarised for the period of June only.

Photo 1. *Modified Te Whaiau fish trap with sliding screens and lifting lid.*

Table 1. *Average length, weight and condition factor of browns and rainbows trapped at the Te Whaiau Stream during June 2024.*

	Number	Average length (mm)	Average weight (kg)	Average condition factor
BF	70	612	2.9	44.5
BM	8	615	2.7	41.1
Brown Total	**78**	**613**	**2.9**	**44.2**
RF	94	614	3.0	46.1
RM	75	627	3.0	44.3
Rainbow Total	**169**	**620**	**3.0**	**45.3**

Photo 2. *Ranger Peter Wilton with a 5.55kg (12.2lb) rainbow hen trapped this season.*

Table 2. *Average length, weight and condition factor of browns and rainbows trapped at the Te Whaiau Stream during June 2023.*

	Number	Average length (mm)	Average weight (kg)	Average condition factor
BF	25	610	2.9	45.7
BM	13	633	3.1	43.7
Brown Total	**38**	**618**	**3.0**	**45**
RF	52	628	3.2	45.1
RM	35	620	2.9	43.5
Rainbow Total	**87**	**625**	**3.1**	**44.5**

Table 3. *Average length, weight and condition factor of browns and rainbows trapped at the Te Whaiau Stream during June 2022.*

	Number	Average length (mm)	Average weight (kg)	Average condition factor
BF	20	598	2.7	44.2
BM	25	618	3.0	45.4
Brown Total	**45**	**609**	**2.9**	**44.9**
RF	112	623	3.0	45.1
RM	68	613	2.8	44.6
Rainbow Total	**180**	**619**	**2.9**	**44.9**

Figure 4. *Average lengths and weights of brown trout trapped during June in the Te Whaiau Stream between 2022 and 2024.*

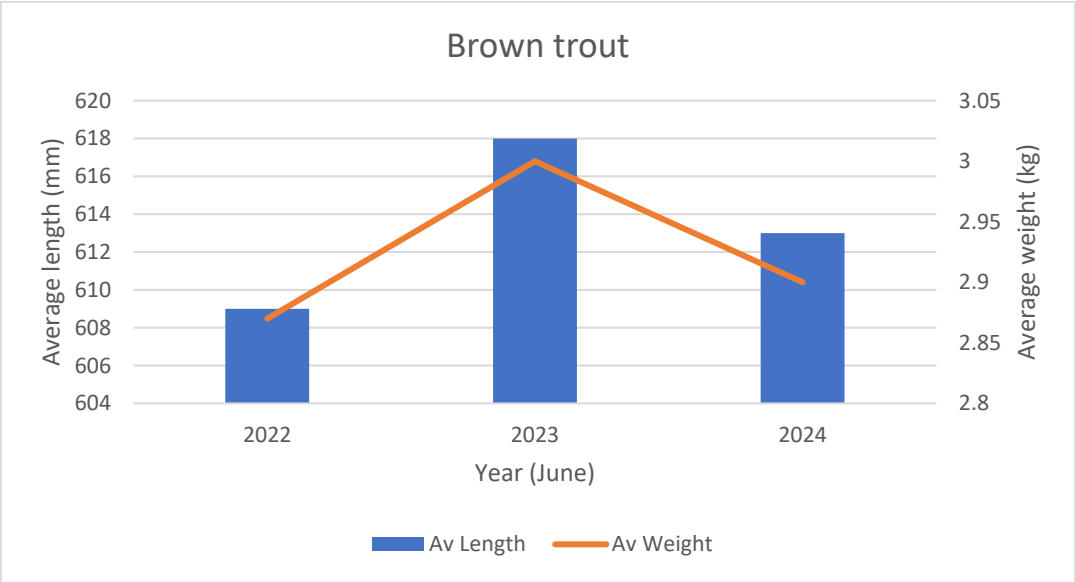


Figure 5. *Average lengths and weights of rainbow trout trapped during June in the Te Whaiau Stream from 2022-2024.*

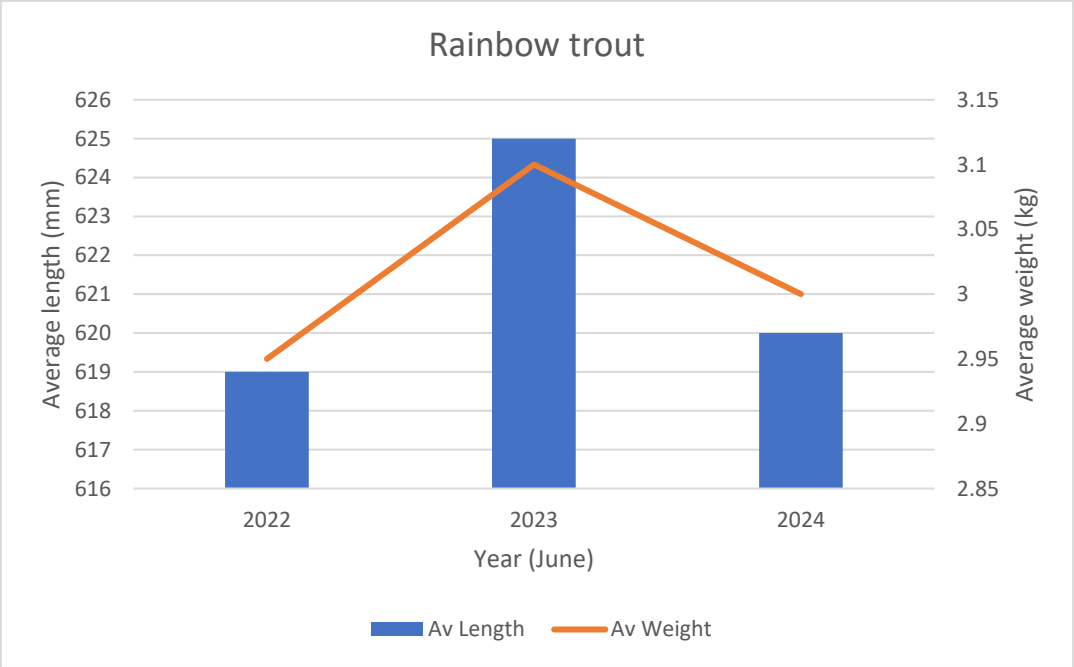


Figure 6. *Actual numbers of browns and rainbows trapped at Te Whaiau during June between years 2022 and 2024.*

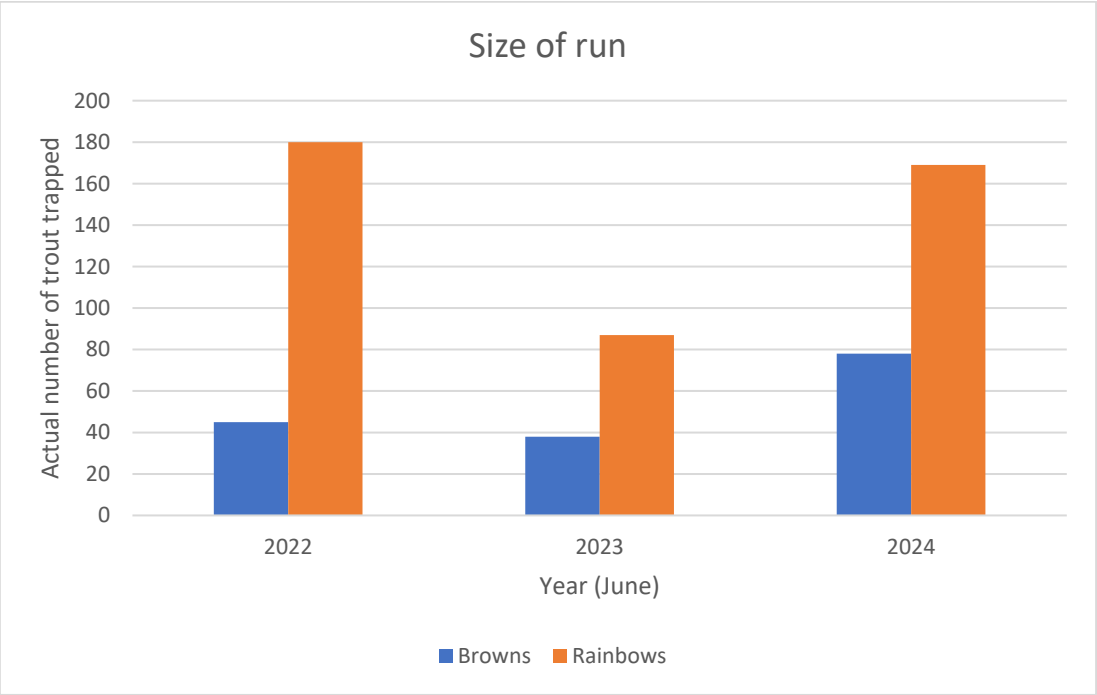


Table 4. *Actual number of trout trapped weighing 4kg (8.8lbs) or more during the month of June between 2022-2024 and the percentage of the trapped monthly June run in parenthesis.*

Year	Rainbow Females	Rainbow Males	Rainbow Total	Brown Females	Brown Males	Brown Total
June 2022	6	3	**9 (5%)**	1	2	**3 (6.7%)**
June 2023	6	4	**10 (11.5%)**	3	1	**4 (10.5%)**
June 2024	7	2	**9 (5.3%)**	4	0	**4 (5.1%)**

The rainbows trapped during June 2024 were on average 5mm shorter and 100g lighter than the same period last year and 1mm longer and 100g heavier than those trapped in June 2022 (Fig.5). The total run of rainbows trapped this season for June is almost twice that of June 2023 and at this early stage it is not yet known whether the secure trap is the cause of more fish being trapped or whether the run is simply slightly larger this year (Fig.6). The slight drop in average size could indicate a slightly larger population but this should become clearer by the end of July.

The browns trapped this year during June were also 5mm shorter on average and 100g lighter than the same period last year but 4mm longer and a similar average weight to those trapped during June 2022 (Fig.4). Similarly, this slight drop in average size could be due to a slight increase in the size of the brown trout population.