Report to Respondents of the 2020/21 Salmon Harvest Survey: August 2021

Thank you for your ongoing support!

Introduction of a Salmon Season Bag Limit for the 2021/22 Season

Since last year's report, there have been some major changes to the way salmon are managed across the CSI and North Canterbury regions. The biggest change has been the introduction of a season bag limit. For the most up to date information on the season bag and how it will be implemented, keep an eye out for the upcoming Fish & Game magazine and the weekly fishing report. If you don't receive the weekly fishing report, sign up here: https://fishandgame.org.nz/freshwater-fishing-in-new-zealand/fishing-media/newsletter/

Results of Salmon Harvest and Spawner Surveys for 2020/21

We had another fantastic response to our online salmon harvest survey sent out in May. Since then, we have also completed our follow up phone surveys. The information you have provided is critical to our understanding and management of the salmon fishery. So, thank you for your participation!

Harvest estimates obtained from this survey are combined with fish counts from the spawning grounds, where they are available, to give an estimate of total run size.

Overall, there were about 3,600 anglers who fished for salmon across the two surveyed regions, harvesting a total of 1190 salmon. Fin clips were reported for 200 fish (around 17 %), indicating hatchery origin. Most anglers (64%) fished only one river for salmon, 28 % fished two rivers and 8% of anglers fished three or more rivers - including a very small number of passionate and mobile anglers who fished up to six rivers for salmon!

Salmon anglers lined up to try their luck – Photo: Richie Cosgrove

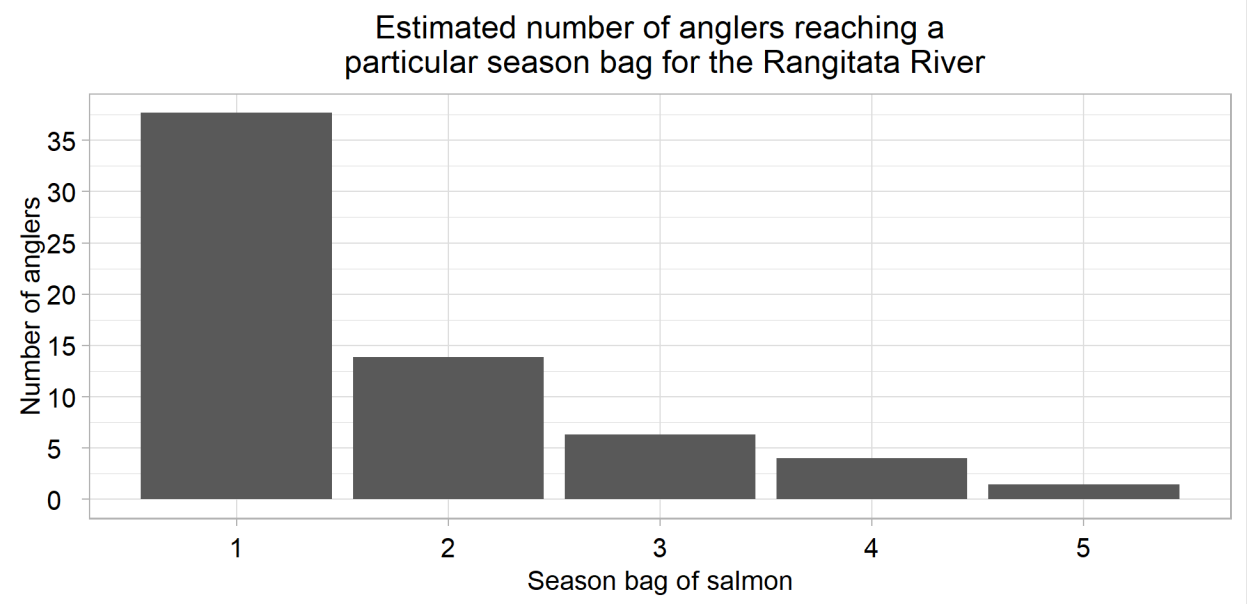
Central South Island

Waitaki - We estimate that 171 salmon were harvested in the Waitaki River this season, around double the number harvested last year. The majority of the salmon were harvested between State Highway 1 and Stonewall (Duntroon). We received no reports of fin-clipped (hatchery origin) salmon from the Waitaki this year.

The annual helicopter count of salmon redds (nests) was completed on 23 June. This flight takes about 3 hours and covers the lower Waitaki River mainstem and side braids between SH1 bridge to Waitaki Dam plus the Hakataramea River. The count was about 5% higher than last years and overall it is estimated that about 600 salmon spawned. Redds were found from SH1 upstream all the way to the Waitaki Dam. The highest concentration was in the main stem above Kurow.

Rangitata - The number of salmon harvested in the Rangitata River was very low with an estimated 108 salmon harvested. It was estimated that 13 were fin clipped, most likely from the McKinnon's Creek hatchery. Around 60% of the harvest was at the mouth and tidal reaches.

The table below shows the estimated number of anglers who reached a particular salmon bag for the season. It shows that in a poor salmon run year, like last year, most successful anglers only keep one or two salmon, with a smaller number of anglers keeping three or more.



Salmon spawning on the Rangitata is measured in two ways. The first is based on multiple counts of salmon from a helicopter in the key spawning streams. After drawing a smooth curve through the points, we measure the "area under this curve" and divide that by the average number of days a salmon stays on the spawning grounds. This gives us an accurate estimate of the total number of spawners. For the second method, we walk the length of the streams at the end of the spawning season counting redds (salmon nests). This method serves to maintain the historic data set going back to pre-Fish & Game days, allowing us to monitor the size and sex of the dead spawned-out fish, record if any are fin clipped and to assess the condition of the spawning grounds.

The total Deep Creek-Deep Stream 2021 spawning population of 369 salmon was the lowest ever recorded since the surveys began and was six fish fewer than recorded in 2019. Since 2017 there have been only minor fluctuations in the numbers of salmon spawning in Deep Creek and Deep Stream. This period represents an unprecedented low point in the Rangitata salmon spawning population.

Opihi – The run was very low this year, with an estimate of only 18 salmon caught in the catchment, and all but two at the mouth and tidal reaches. Five of the 18 salmon were fin clipped, likely to be strays from a McKinnon's Hatchery Rangitata release. Unfortunately, the vast majority of Opihi Catchment spawning is in flood vulnerable waterways and is likely to have been adversely affected by the May floods.

Hamish Stevens with an unlucky salmon caught while trout fishing.

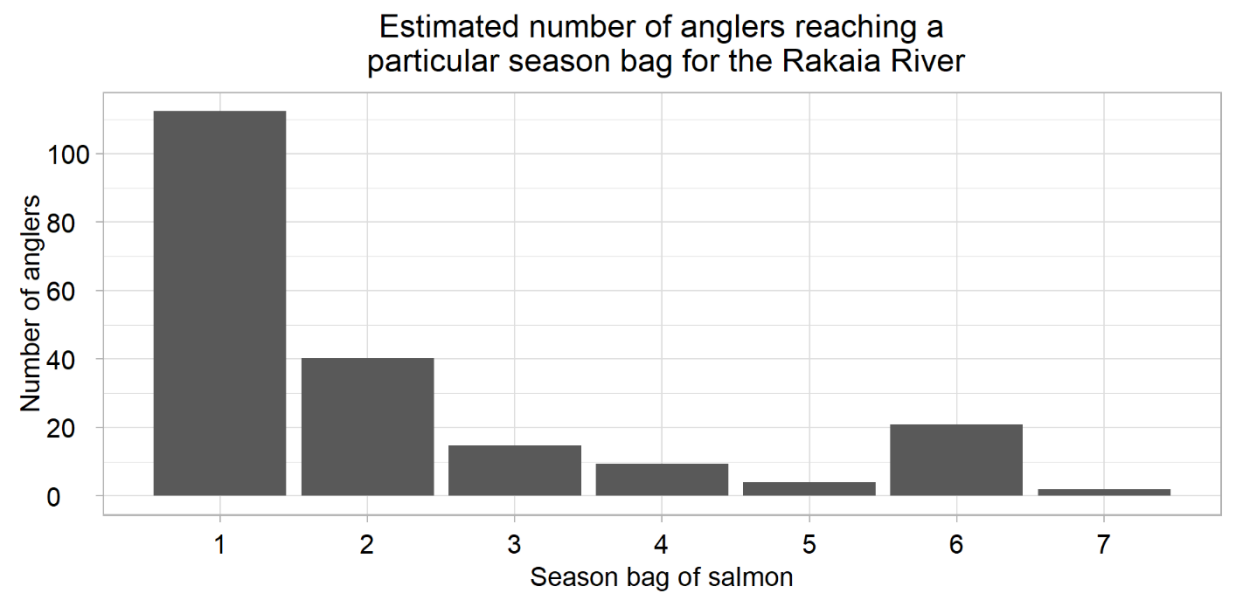
Orari - We estimate that five salmon were caught at the Orari this season. There were around 95 anglers who fished the Orari this season. None of the salmon harvested were reported to be of hatchery origin. We were unable to complete spawning surveys of Orari tributaries before the floods. The Orari spawning grounds are mostly spring fed however they do experience flooding in large rain events. The floods earlier this year are likely to have diminished the success of this year's spawning.

Ashburton - We estimate that around 55 anglers fished the Ashburton for salmon this season. The survey did not identify anyone who caught a salmon in the river suggesting that harvest was very low. Spawning surveys were conducted on Bowyers Stream, one of the key spawning reaches for the Ashburton. Only two redds (salmon nests) were found and unfortunately the May floods will have inundated almost all spawning in the Ashburton Catchment.

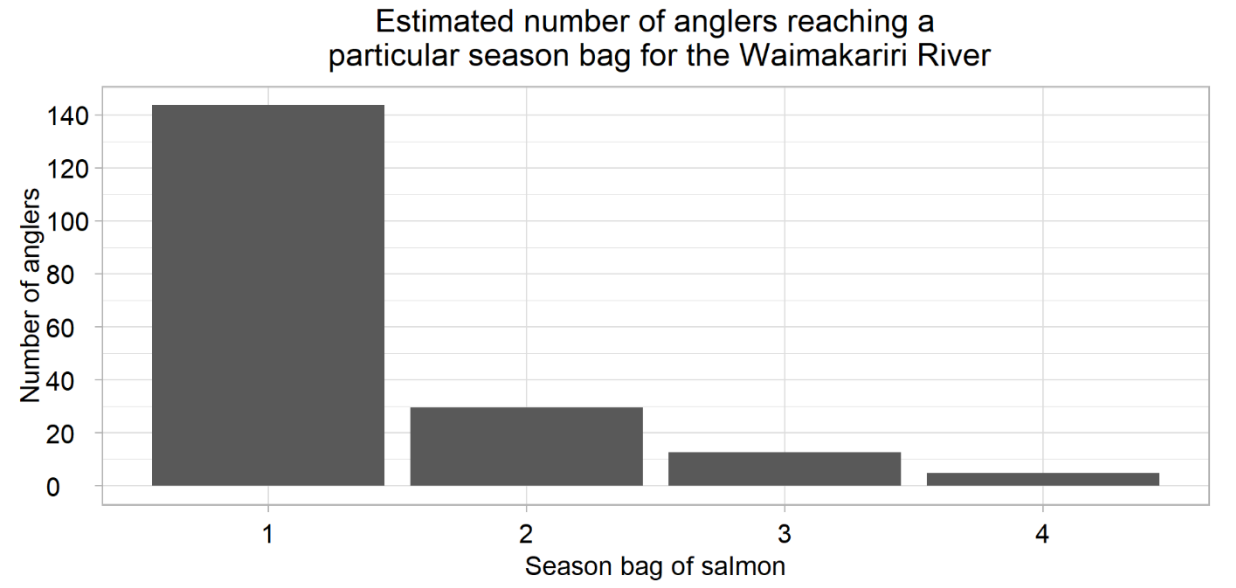
North Canterbury

Angler harvest surveys showed estimated salmon catches in each North Canterbury river as follows: Rakaia 434, Waimakariri 303, Waiau 19 and Hurunui 89, with an additional 5 caught at the Tentburn salmon farm outflow into the ocean. This totals an estimated 850 salmon for the North Canterbury Region, one of the poorest seasons on record. Similarly, spawning surveys showed low numbers of spawners.

Rakaia - Of the estimated 434 salmon harvested from the Rakaia, it is estimated that 86 salmon were fin clipped, most likely from the Montrose hatchery. The table below shows the estimated number of anglers who reached a particular salmon bag for the season. It shows that in a poor salmon run year, like last year, most successful anglers only keep one or two salmon, with a smaller number of anglers keeping three or more.



Waimakariri - Of the estimated 303 salmon harvested from the Waimakariri, it is estimated that 68 salmon were fin clipped, most likely from the Silverstream hatchery. The table below shows the estimated number of anglers who reached a particular salmon bag for the season. It again shows that in a poor salmon run year, like last year, most successful anglers only keep one salmon, with a smaller number of anglers keeping two or more.



Repeat spawner counts from a helicopter were carried out on key spawning streams in the Rakaia and Waimakariri headwater spawning streams. The Rakaia had an estimated 711 salmon spawn in the headwaters and the Waimakariri 316.

The Hurunui and Waiau rivers were not as comprehensively surveyed this season, however the key spawning areas were visited a few times throughout the spawning season to collect tissue samples for salmon DNA analysis for the Winnemem Wintu research project. Very few salmon were seen.

Summary of Email & Phone Survey Respondents

	Total anglers ± 95 CI			Succesful anglers ± 95 CI			Salmon caught ± 95 CI			Finclips caught ± 95 CI		
Hurunui	499	±	139	64	±	55	89	±	84	20	±	37
Kaiapoi	302	±	99	30	±	37	42	±	38	13	±	5
Rakaia	1,207	±	183	204	±	63	434	±	229	86	±	80
Tentburn	5	±	2	3	±	-	5	±	-	-	±	-
Waiau	214	±	92	11	±	2	19	±	6	3	±	3
Waimakariri	1,883	±	233	191	±	67	261	±	69	55	±	8

Thanks again for contributing to the ongoing management of the salmon fishery.

The team at CSI and North Canterbury Fish & Game

30 August 2021