



CENTRAL SOUTH ISLAND REGION

Canal Angler Values Survey

A survey of the values, preferences, opinions, and activities of Mackenzie Basin hydro canal anglers during the 2022/23 sports fishing season

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Executive summary

- The canal angler values project was a top-5 priority project identified in the Canal Management - Scoping Document and was implemented in the 2022/23 and 2023/24 Operational Work plans of the Central South Island Fish and Game Council.
- Monthly surveys of active anglers were undertaken across the canals during the 2022/23 sports fishing season, October 2022 to September 2023, accounting for a total of 332 canal anglers surveyed.
- By highlighting the most common angler activities and responses, the theoretical “most common” canal angler of the 2022/23 season can be described as one that:
 - Uses both bait and spin methods, primarily bait fishes but prefers spin fishing,
 - does not fish late at night (11pm-5am),
 - has fished the canals between 21-50 days over the past five years, and between 1 – 10 days over the past 12-months,
 - Rates the Ōhau C Canal as their favourite canal section to fish,
 - highly values the winter fishing opportunities,
 - highly values the opportunity to fish for salmon and trophy trout,
 - does not prefer to catch any individual species for sport,
 - prefers to harvest salmon,
 - supports the winter closure of the upper Tekapo canal,
 - supports the reopening of the closure subject to adequate monitoring being put in place to assess sustainability.
 - ranks the availability of salmon, the ease of access and the high-country setting as three top reasons why they fish the canals.
- Three key findings of the canal angler values project were:
 - Salmon are a higher value species to most canal anglers than trout.
 - Under the theoretical scenario of salmon farms being absent in the canals, about 66% of anglers would reduce or cease their canal fishing activity.
 - The social aspects of canal fishing ranked highly as a reason why anglers fish the canals and was similar in ranking to the presence of big fish.
- The Canal Angler Values Survey report provides a valuable reference document for the future design and prioritisation of canal management projects, regulations reviews, and licence holder and stakeholder liaison.

1. Introduction

The trout and salmon fishery of the Mackenzie Basin hydro canals (henceforth “canal fishery”) is a unique and popular sports fishery. During the 2015/16 sports fishing season the angler catch was dominated by Chinook salmon of commercial farm origin and trout of unusually large ‘trophy’ size were a common catch (Adams, 2017). During the 2015/16 season it was estimated hydro canal anglers harvested 17,070 Chinook salmon and 3,855 of their rainbow trout catch was of a trophy-size, being 10 lbs / 4.56kg or bigger. The high catch of salmon and commonality of trophy-sized trout catch was attributed to the operation of salmon farms within the canals (Adams, 2017).

The popularity of the canal fishery is driven by the availability of Chinook salmon and trophy trout (brown and rainbow) as well as accessibility for motor vehicles, the scenic high country setting near holiday destinations and permissive fishing regulations (Adams, 2017).

The canal fishery is a nationally significant fishery attracting anglers from all over New Zealand. During the 2015/16 sports fishing season 61% of canal anglers held a sports fishing licence issued by a region other than the Central South Island (Adams, 2017). The National Angling Survey (NAS) undertaken by NIWA on a 7-year cycle demonstrates that the popularity of the canal fishery has risen dramatically from the 2007/08 sports fishing season (10,869 angler days) to historically high levels in 2021/22 (117,814 angler days) (Stoffels & Unwin, 2023). During the 2021/22 season, the four canals that make up the Mackenzie hydro canal fishery; Ōhau C Canal (32,655 angler-days), Ōhau B Canal (29,257 angler-days), Pūkaki-Ōhau A Canal (26,211 angler days) and Tekapo Canal (22,526 angler-days) all ranked individually in the top-10 most fished waterways under Fish & Game NZ's jurisdiction. If the angling rates of all four canal are combined (117,814 angler-days) to consider the fishery as its own Fish & Game Region, the canals would be the fifth-ranked Fish & Game region for angler use out of thirteen regions.

The canal fishery of the Mackenzie Basin is an exceptional and popular fishery requiring a unique management approach by the Central South Island Fish and Game Council. Canal fishery management project options, their status and priority for implementation are set out in the Hydro Canal Fishery Management – Scoping Document (Adams & Webb 2021). The scoping document recognises management and knowledge gaps for the canal fishery including “evaluation of anglers’ canal-specific values needed to maximise angler satisfaction.”

The scoping document recommends the top 5 priority projects for consideration in subsequent Operational Work Plans (OWP), including the fourth ranked Top-5 project, “Angler Values of the Canal fishery survey”, or “angler values survey” in short. The “angler values survey” was subsequently incorporated in the 2022/23 and 2023/24 Operational Work Plans. The angler values survey sets out to proactively capture a snapshot of canal anglers’ values, preferences, opinions, and activities. The resulting report is anticipated to be a key reference document for CSIFG informing a range of future management needs including regulations reviews, project and research design, project prioritisation, and licence holder and stakeholder liaison. This report presents the survey design and results of the angler values survey and highlights key findings and considers their implications on the future of canal fishery management.

2. Survey Design and Implementation

The canal angler values survey took place during the 2022/23 sports fishing season spanning 1 October 2022 to 30 September 2023. Survey design trials were undertaken in September and October 2022 preceding the survey period.

Four CSI Fish & Game staff undertook angler surveys on the canal banks after completing licencing and regulations checks. Nineteen questions were asked. Checks and surveying took approximately 12 minutes per angler (range 5-25 minutes).

The survey was undertaken monthly to capture anglers who may have only fished at certain times of the year and targeted an average of 25 surveys per month throughout the various canal sections. The survey covered a spread of day types, being weekdays, weekends and public holidays / holiday weekends and long weekends, to capture anglers who may only fish on certain types of days.

Surveys were completed in daylight hours so results do not include anglers who may have only fished during the hours of darkness.

Only those anglers that met the following criteria were asked or were considered eligible to complete the surveyed:

- Fishing at the canals on the day of interview,
- Adult licence holders,
- Primary licence holder of family licence,
- Not their first day fishing or first trip to the canal fishery.
- Had not completed the survey prior.
- Appreciable English language comprehension.

Anglers deemed ineligible to participate in the survey included:

- Anglers that refused to participate in the survey.
- Child and Junior aged licence holders.
- The secondary adult member of a family licence.
- Those detected offending or breaching regulations.

Not all eligible anglers undertaking a compliance check were subsequently asked to complete the survey as an effort was made to survey a wide range of different individuals and groups located throughout the various canal sections on a survey date.

In addition to the survey questions, data collected included the angling method they were using at the time of interview (known as primary method) and the canal they were fishing. Angling method was recorded at the level of legal definition and therefore limited to “Fly,” “Spin” and “Bait.” For example, egg rolling with an artificial fly such as a glo-bug is legally defined as “spin” fishing, while soft baiting with scented lures is legally defined as “bait” fishing.

3. Results

3.1 Survey effort

Between one and fifteen surveys were completed per survey date. Surveys were undertaken on three to seven days per month. On average 27 surveys were completed per month and in total 332 surveys were completed for the season (Table 1). A relatively even spread of surveys were completed across the months, however survey numbers were slightly higher in December (42) and lower in October (18).

Table 1: Number of angler surveys completed by month and day type during the 2022/23 sports fishing season October 2022 to September 2023.

Month	Public Holiday / long Weekends	Weekday	Weekend	Total	% Survey Effort
October	1	17		18	5
November	5	11	9	25	8
December	11	20	11	42	13
January	11	9	10	30	9
February		10	12	22	7
March		21	11	32	10
April	10	11	8	29	9
May		21	6	27	8
June		17	10	27	8
July		15	10	25	8
August		15	14	29	9
September		16	10	26	8
Grand Total	38	183	111	332	100

3.2 Respondents

3.2.1 Participation

Thirty anglers refused to participate in the survey for a range of reasons and 332 of 362 eligible anglers (92%) that were asked to participate, obliged.

The number of otherwise eligible anglers that had appreciably poor comprehension of the English language and were not asked to participate was not recorded. Anecdotally this number was relatively low, approximately 10 anglers total for the survey period.

3.2.2 Location of surveyed anglers

The location where anglers fished at the time of their survey was recorded to the level of canal unit (Table 2). The Ōhau C and Tekapo canals were equally the most common location for anglers to be surveyed, (30% of surveys, respectively). Pūkaki-Ōhau A and Ōhau B canals had notably less surveys conducted (22% & 19%, respectively).

Table 2: Location (canal) where survey was completed.

Canal	% of survey location
Ōhau C	30
Tekapo	30
Pūkaki - Ōhau A	22
Ōhau B	19
Grand Total	100

3.2.3 Angling method at survey

Angling method used at time of interview (known as primary method) was captured for all anglers checked on by staff during the survey days. Primary angling method was observed by the staff member and captured at the level of legal definition, being only three options only: “fly”, “spin” and “bait.”

The proportion of each method used between surveyed anglers (332 anglers) and all anglers checked on (932 anglers) is almost identical, being equal for spin and within 1% for fly and bait (Table 3). It is unlikely any bias exists in the survey data relating to anglers that favour a particular method being overrepresented in the data.

Table 3: Primary method of surveyed anglers compared to primary method of all anglers check on during survey days.

Method	% of surveyed anglers	% all checked on anglers
Bait	53	52
Spin	46	46
Fly	1	2
Grand Total	100	100

3.3 Survey Questions – Canal Fishing Activity

3.3.1 Canal fishing activity- night fishing

Question: Do you fish the canals between the hours of 11pm and 5am?

Most anglers surveyed (72%) reported that they do not fish the canals between the night-time hours between 11pm and 5am (Table 4). Of the 28% of anglers that did fish during the specified night-time

hours, most reported to occasionally fish these hours (21% of anglers), while a smaller proportion reported to fish the specified hours regularly (7% of anglers).

Table 4: The proportion of canal angler that fish between the hours of 11pm and 5am

	% of anglers
No	72
Yes, occasionally	21
Yes, regularly	7
Grand Total	100

Note, surveys were undertaken in daylight hours only so may not include anglers that only fish during the hours of darkness and therefore had no opportunity to be surveyed.

3.3.2 Canal fishing activity – historic

Question: what year did you first fish the canals?

Anglers reported their first year fishing the canal fishery between 1970, prior to the year the first canal was commissioned in 1977 (Tekapo), through to 2023 (Figure 1). Most anglers (87%) reported their first-time fishing the canal was between the years of 2000 and 2022. The most common year reported was 2018 (27 anglers / 8% of anglers).

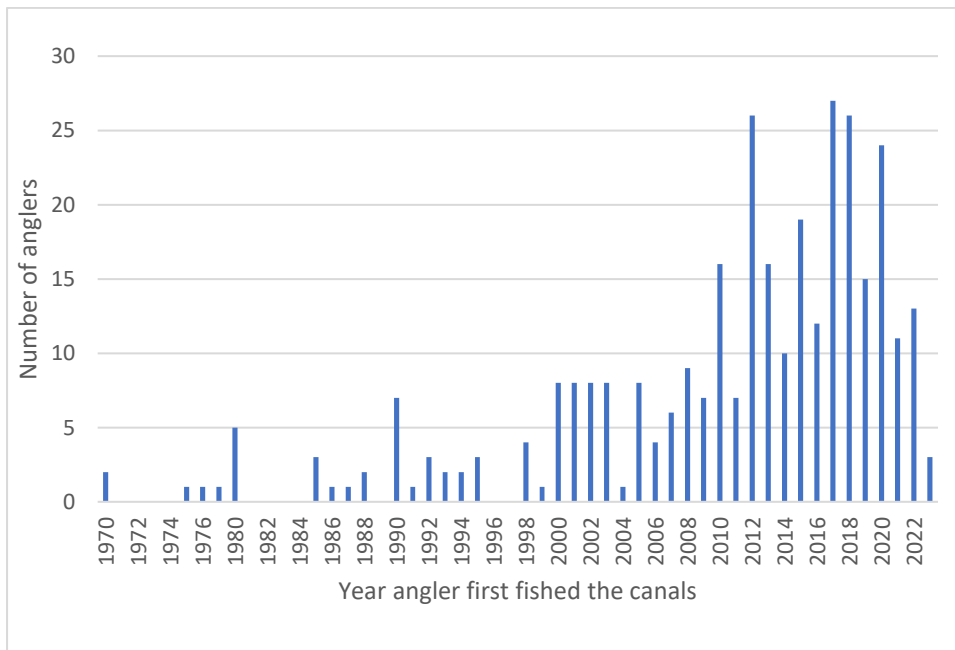


Figure 1: The year surveyed anglers reported they first fished the canals.

3.3.3 Canal fishing activity – last 5 years

Question: How many days have you fished at the canal fishery over the past five years?

Anglers fished a broad range of total days over the past five years (2018 to 2023). The highest days-fished activity category reported was “21-50” days (28% of anglers) (Table 5).

Table 5. Total number of days surveyed anglers fished over the past five years.

Days fished category	% of anglers
0-10	17
11-20	21
21-50	28
51-100	18
Greater than 100	15
Less than 12 months activity	1
Grand Total	100

3.3.4 Canal fishing activity – last 12 months / 1 year

Question: how many days have you fished at the canal fishery in the last 12 months / 1 year?

Surveyed anglers reported fishing between 1 and 250 days averaging approximately 16.2 days for their preceding 12 month of canal fishing activity. Most anglers (63%) had fished between one and ten days (Table 6).

Table 6: Total number of days surveyed anglers fished over the past 12months / 1 year.

Days fished category	% of anglers
1-10	63
11-20	21
21-50	12
51-100	3
Greater than 100	2
Grand Total	100

3.4 Survey Questions- Angler Values, Opinions, and Preferences

3.4.1 Temporal Values – favourite canal fishing month

Question: What is your favourite month to fish at the canals?

There was no stand-out favourite month reported. Most anglers (57%) responded that they did not have a favourite month to fish the canals (Table 7). In many cases this group of anglers said they preferred 2-monthly periods such as “January and February once the holiday makers have gone”, or traditional seasons such as “spring” or “winter”. Of the 41% of anglers who did identify a preferred single month, January, February, June, July, and November, were equally the highest ranked months (5% of anglers, respectively) while August was the least favourite month reported (1% of anglers).

Table 7: Favourite month for canal anglers to fish at the canal fishery.

Month	% of anglers
No preference	57
January	5
February	5
March	2
April	3
May	4
June	5
July	5
August	1
September	2
October	4
November	5
December	2
Not enough fishing activity to decide	2
Grand Total	100

3.4.2 Temporal Values – Winter season fishing

Question: how do you value the May to September winter fishing opportunities at the canal fishery?

Most anglers (57%) reported to ‘highly value’ the winter fishing opportunities. Just over one-quarter of the anglers (27%) reported that they ‘value’ the winter fishing opportunities (Table 8). A notable proportion of anglers (16%) reported to place no value on the winter fishing opportunities as they don’t fish during that period and don’t intend to in the future.

Table 8. The value anglers place on the May to September winter fishing opportunities at the canal fishery.

Value	% of anglers
Highly Value	57
Value	27
No value	16
Grand Total	100

3.4.3 Temporal Values – Upper Tekapo Canal Closure

Question: Do you support the precautionary 3-month closure of the Upper Tekapo Canal during Winter?

Eighty percent of anglers (239 of 266) were aware of the existing three-month closure of the Upper Tekapo Canal during winter (Table 9). Of these anglers the vast majority (90%) reported they supported the closure. Conversely, 3% of aware anglers (8 of 266) did not support the closure and wished for the fishing season to remain open year-round, as it was up to the 2019/20 season. An appreciable proportion (7%) of aware anglers (19 of 266), were unsure of their support or otherwise of the closure.

Table 9: Awareness and support of the three-month winter closure of the upper Tekapo Canal.

Support category	Anglers	% of anglers
Yes	239	90
I'm unsure	19	7
No - I think it should remain open year-round.	8	3
Aware Total	266	100
I'm not aware of the closure	66 / 20%	
Grand Total	332	

3.4.4 Temporal Values – Upper Tekapo Canal Reopening

Question: Would you support the reopening of the three-month winter fishing period at the upper Tekapo Canal if adequate annual monitoring was put in place to assess its sustainability?

Of those anglers aware of the closure, just over half (53% of aware anglers), reported they would support the reopening of the upper Tekapo canal in winter if adequate monitoring was put in place to assess its sustainability (Table 10). Conversely, about two in five anglers (38% of aware anglers) would not support a reopening, despite adequate monitoring. A small but notable proportion of anglers (9% of aware anglers) reported to be unsure about their support or otherwise for a reopening.

Table 10: Awareness and support for reopening of the three-month winter closure of the upper Tekapo Canal subject to adequate annual monitoring to assess its sustainability.

	Anglers	% of anglers
Yes	141	53
No	101	38
I'm unsure	24	9
Aware Total	266	100
Not aware of the closure	66 / 20%	
Grand Total	332	

3.4.5 Spatial Values – Favourite canal section

Question: What is your favourite section of canal to fish?

The most common response given (27% of anglers) was they did not have a favourite canal section (Table 11). Of canal sections identified as a favourite, the Ōhau C canal was the preferred section for just over one-quarter of anglers (26%). The lower Tekapo Canal, including the 'fishbowl' and salmon farms, was identified by about one in five anglers (19%) as their favourite canal section. The Pūkaki - Ōhau A junction - Dam Area canal section was the lowest ranked favourite section (3% of anglers). Combining favourite sections to compare complete canal units reveals that the Ōhau C and Tekapo canals were equal favourites with just over one-quarter of anglers' favourite canal sections each. The Pūkaki-Ōhau A Canal contained a notable proportion of anglers' favourite canal sections (13% of anglers), while the Ōhau B was the least favourite with a small proportion (8%) of anglers reporting it as their favourite section.

Table 11: Anglers favourite canal section.

Canal	Canal section	% of anglers
	No favourite section	27
Ōhau C	All	26
Tekapo	Lower Tekapo	19
Tekapo	Upper Tekapo	7
Pūkaki -Ōhau A	Pūkaki Canal	5
Pūkaki -Ōhau A	Ōhau A Canal	5
Pūkaki -Ōhau A	Pūkaki -Ōhau A junction - Dam Area	3
Ōhau B Canal	All	8
	Grand Total	100

3.4.6 Angling Method – all used.

Question: What methods do you use at the canal fishery?

Most anglers (59%) reported to use both bait and spin methods (Table 12). Nearly one in five anglers (19%) use all methods. Few anglers (1%), use either bait and fly or fly only methods. Cumulatively, spin is the most common method used (93% of anglers use spin), followed by bait (85% of anglers use bait), and fly (25% of anglers use fly).

Table 12: Angling methods used at the canal fishery.

Method(s) used	% of anglers
Bait and Spin	59
All methods	19
Spin only	11
Bait only	6
Spin and Fly	4
Bait and Fly	1
Fly only	1
Grand Total	100

3.4.7 Angling Method – preference

Question: What is your single most preferred method to use at the canal fishery?

Spin method was the most preferred single method reported (46% of anglers), followed by bait (39% of anglers) and fly (4% of anglers) (Table 13). A notable proportion of anglers (11%) reported to not have a preference as to which single methods they preferred to use.

Table 13: Single most preferred angling method of canal anglers.

Preferred Method	% of anglers
Spin	46
Bait	39
Fly	4
I don't have a preference	11
Grand Total	100

3.4.8 Sports fish – preferred harvest species

Question: What sports fish do you prefer to keep at the canal fishery?

Most anglers (73%) preferred to keep / harvest salmon, highlighting the value anglers have for canal salmon as a food resource (Table 13). The second most reported response by anglers (14% of anglers) was that they had no preference. A notable number of anglers (10%) preferred to harvest Rainbow trout while very few anglers (<1%) preferred to harvest brown trout. A small proportion of anglers (2%) reported to release all fish caught at the canal fishery.

Table 13: Anglers harvest preference at the canal fishery.

Harvest preference	% of anglers
Chinook salmon	73
No preference	14
Rainbow trout	10
Brown trout	<1
Never kept a fish from the canals	<1
Catch and release only at canals	2
	100

3.4.9 Sports fish – preferred sporting species

Question: What sports fish do you prefer to catch at the canal fishery?

This question is related to the sporting values or other intrinsic values anglers personally place on the sports fish species targeted at the canals. The most common response (39% of anglers) was that they did not have a preference what species they caught (Table 14). With reference to individual species, Chinook salmon was the most preferred sporting or intrinsically valued species (31% of anglers), followed by rainbow trout (24% of anglers) and brown trout (6% of anglers).

Table 14: Angles preference for the sporting or intrinsic value of species targeted at the canal fishery.

Species preference	% of anglers
No preference	39
Chinook salmon	31
rainbow trout	24
brown trout	6
Never caught a fish from the canals	<1
	100

3.4.10 Sports fish – salmon and trophy trout value

Question: How do you value the opportunity to fish for salmon at the canal fishery?

Question: How do you value the opportunity to fish for trophy-size trout of 10lb/4.5 kg and bigger at the canal fishery?

These questions were asked separately but are presented together for comparison. Most anglers reported to highly value salmon (79% of anglers) and trophy trout (56% of anglers) fishing opportunities (Table 15). The opportunity to fish for salmon was highly valued by a significantly greater proportion (+23%) of anglers than the opportunity to fish for trophy trout. Very few anglers (4%) placed

no value on the opportunity to fish for salmon while one-in-four anglers (25%) said they place no value on the opportunity to fish for trophy-size trout.

Table 15: Anglers value ranking for the opportunity to fish for salmon and trophy-size trout 10lbs / 4.5kg or bigger at the canal fishery.

Value	Salmon	Trophy trout
	% of anglers	% of anglers
Highly value	79	56
Value	17	19
I don't value it	4	25
Grand Total	100	100

3.4.11 Sports fish – salmon and trophy trout related fishing activity.

Question: would you still fish the canals if there were no salmon to catch?

Question: would you still fish the canals if there were no trophy trout to catch?

These questions were asked separately but are presented together for comparison. Most anglers said they would not change their canal fishing activity if either salmon (55% of anglers) or trophy trout (81% of anglers) were absent from the canal fishery (Table 16).

A greater proportion of anglers (45%) said they would fish less or cease fishing if salmon were absent from the fishery when compared to 19% if trophy trout were absent from the fishery.

A greater proportion of anglers (16%) said they would cease fishing the canals if salmon were absent compared to if trophy trout were absent (5%).

Table 16: Angler's reported response in fishing activity to the questions, 1 – "would you still fish the canals if there were no salmon to catch?" and 2 - "would you still fish the canals if there were no trophy trout to catch?"

Angling activity response	No salmon	No trophy trout
	% of anglers	% of anglers
Yes, it would make no difference to my canal fishing activity.	55	81
Yes, but not as often as I currently do.	29	14
No, I would stop fishing the canal fishery as a result	16	5
	100	100

3.4.12 Sports fish – fishing activity dependant on salmon farming

Question: Would you still fish the canals if it was a trout-only fishery and it was rare to catch a trout bigger than 6-pounds/2.7kg?

This question imagines the canal fishery if salmon farming ceases, or as it was prior to 1992 when salmon farming started. Based on personal experience of CSIFG staff with the pre-salmon farming fishery, the question considers that without salmon farms operating in the canals (or salmon stocking), no Chinook salmon populations would exist in the canals, and that for the remaining wild trout population, it would be rare to catch a large trout, 6 lbs / 2.7kg or bigger.

Under this scenario about one-third of anglers (34%) said they would fish the canals less often while about another third (32%) said they would stop fishing the canals including a small proportion (2%) that would stop fishing altogether and cease buying sports fishing licences under a scenario that

imagines the absence of salmon farming at the canals (Table 17). Conversely, the remaining third (34%) said they would still fish the canals at their current activity levels.

Table 17: Angler’s response in fishing activity to the question “Would you still fish the canals if it was a trout-only fishery and it was rare to catch a trout bigger than 6-pounds/2.7kg?”

Angling activity response	% of anglers
Yes, it would make no difference to my canals fishing activity.	34
Yes, but not as often as I currently do.	34
No, I would fish elsewhere instead.	30
No, I would stop fishing.	2
Grand Total	100

The expected reduction in canal angling activity (34% of anglers) and avoidance of the fishery (32% of anglers) predicted could significantly reduce licence sales in the Central South Island Region and likely cause some decrease in licence sales nationally, especially in neighbouring Fish & Game regions, North Canterbury, and Otago. During the 2015/16 season, 39% of canal anglers held Central South Island Region licences, 23% held North Canterbury Region Licences, 17% held Otago Region Licences (Adams 2017).

The reduction in annual angler use of the canal fishery under a scenario without salmon farming can be estimated. For the 2021/22 season the NAS indicated total angler days on the canal fishery of 117,814 days. The 2022/23 values survey estimated an average of 16.2 days per angler (s3.3.4) spent fishing on the canals in the previous 12 months. The 16.2 days is likely to be an overestimate of angler effort due to first day and first trip anglers not being interviewed (s2).

Combining total season effort, 117,814 days with an average angler effort of 16.2 days indicates 7,272 individual anglers may have fished the canals in the 2021/22 season. Of these anglers it is estimated about 2,500 would fish the canals less often than they currently do, and about 2,300 would no longer fish the canals if salmon farming ceased to exist.

3.4.13 Reasons why anglers fish the canals.

Question: What are three top reasons why you fish the canals?

Anglers were asked to provide three top reasons why they fish the canal fishery and were encouraged to be specific to the canal fishery. Nine-hundred and forty-one reasons were provide; three reasons were provided by 85% of anglers. Some anglers did not / could not provide three reasons: two reasons were provided by 13% anglers and one reason was provided by 2% of anglers. Reasons provided were varied but often themed similarly so were subjectively categorised by the interviewer or during data analysis to enable quantification and comparison.

The availability of salmon was the most reported reason (17%) why anglers fished the canals and related to the harvesting, sporting, and intrinsic values place on Chinook salmon (Table 18). Ease of access was the second most reported reason (16%) and related mainly to the ‘park-and-cast style roadside vehicle access, but also the ease of walking access when compared to difficult access found on natural waterways. High-country setting was the third most reported reason (13%), and although the setting is similar at nearby fisheries, such as lakes Pūkaki and Benmore, anglers made specific

mention of the views of Mount Cook found at the canal system. Rounding out the distinct top-5 reason, being those exceeding 10% of reasons, were “big fish” (11%), being the unusually large average size of canal trout and salmon, and the social values (11%). The social reasons are unique to the canals in that people find it easy to socialise while fishing with friends and family members, including kids, but also with likeminded and friendly anglers they have never met before. For many the canals are a central location that is ideal for friends that live in all corners of New Zealand to meet for a catch up and fish together.

Table 18: Reasons why anglers fish the canal fishery.

Reason	% of reasons reported
Salmon available	17
Ease of access	16
High-country setting	13
Big fish	11
Social values including family, kids, friends, and other anglers	11
Variety and uniqueness of canal fishery including: fishing spots, challenges, methods, fish species and fish condition	6
High chance of catching / high fish population / good catch rate	6
Fishing option within my chosen holiday destination	5
Caravan park-ups, campgrounds, freedom camping nearby	4
Great fish to eat	4
My local fishing spot	2
Winter fishing opportunities	2
Reliable weather / waterway conditions	2
Relaxing style of fishing - including static bait	1
Handy fishing while in transit through area	1
Other	1
	100

4. Discussion

The canal angler values survey has provided a 2022/23 sports fishing season snapshot of many canal fishery angler activities, values, opinions, and preferences. This information provides a valuable reference document for the future design and prioritisation of canal fishery management projects, regulations reviews, and licence holder and stakeholder liaison.

4.1 The most common canal angler in 2022/23

By highlighting the most common angler activities and responses, the theoretical “most common” canal angler of the 2022/23 season can be described as one that:

- Uses both bait and spin methods, primarily bait fishes but prefers spin fishing,
- does not fish late at night (11pm-5am),

- has fished the canals between 21-50 days over the past five years, and between 1 – 10 days over the past 12-months,
- Rates the Ōhau C Canal as their favourite canal section to fish,
- highly values the winter fishing opportunities,
- highly values the opportunity to fish for salmon and trophy trout,
- does not prefer to catch any individual species for sport,
- prefers to harvest salmon,
- supports the winter closure of the upper Tekapo canal,
- supports the reopening of the winter closure subject to adequate monitoring being put in place to assess sustainability.
- ranks the availability of salmon, the ease of access and the high-country setting as three top reasons why they fish the canals.

4.2 Key Findings and management considerations

Key finding 1: Salmon are a higher value canal fishery species to most anglers than trout.

Background:

CSIFG staff have generally considered, prior to the canal angler values survey, that the salmon component of the fishery and the trophy trout fishery component were equal drivers of canal angler participation and satisfaction.

Justification of key finding:

- more anglers preferred to catch salmon than rainbow or brown trout,
- more anglers preferred to harvest salmon than rainbow or brown trout,
- the availability of salmon at the fishery was the most common reason why anglers fished the canal fishery.
- More anglers reported to 'highly value' the opportunity to fish for salmon when compared to trophy trout.
- Significantly fewer anglers reported to place no value on the opportunity to fish for salmon compared to trophy trout.
- More anglers would reduce and cease their canal fishing activity under the theoretical absence of salmon from the canal fishery than from the theoretical absence of trophy trout from the canal fishery.

Management considerations:

1. When considering projects and actions that aim to increase the sports fish population of the canal fishery, projects that aim to increase the numbers of Chinook salmon, as opposed to trout, are more likely to support the values and harvest goal of most canal anglers.
2. Projects that aim to increase the catch of salmon are likely to provide benefit to more anglers than those that aim to increase the catch of trophy-size trout.
3. Where possible, Fish & Game should recognise that salmon catch is the top driver of why anglers fish the canals.
4. Compliance efforts that ensure anglers do not exceed the daily bag limit of salmon may aid to significantly increase the number of satisfied canal anglers, if as a result more anglers catch salmon.

Key finding 2: Under the theoretical scenario of salmon farms being absent from the canals, about two out of three anglers would reduce their canal fishing activity or cease fishing the canal fishery.

Background:

The productivity the canal fishery, dependant on salmon farming, is a significant driver of angling participation and licence sales in the Central South Island Region and likely to be a contributor of licence sales nationally, especially in neighbouring Fish & Game regions, North Canterbury and Otago.

Justification of key finding:

- About two-thirds of anglers said their canal fishing activity would either reduce or cease if the canal fishery was a trout-only fishery and it was rare to catch trout bigger than 6 lbs / 2.7kg – a scenario based on history that represents a canal fishery without salmon farms.

Management considerations:

1. CSIFG projects that research the benefits of salmon farming to the canal fishery may aid to support the long-term maintenance of salmon farming and therefore a productive canal fishery.
2. CSIFG should consider prioritising projects and actions that would enhance or mimic the current benefits of salmon farming to the productivity of the fishery.
3. Modelling of the licence sales impacts that the loss of salmon farms at the canal fishery could cause may assist project design, prioritisation, and funding both regionally and nationally.

Key finding 3: The social nature of the canal fishing is a highly ranked reason why anglers fish the canal fishery.

Background:

The social nature of the fishery has not previously been reported by CSIFG as a key driver for the immense popularity of the canal fishery, while the other top-5 reasons are commonly referenced.

Justification:

- The social nature of fishing at the canals ranked in the top-5 reasons why anglers fish the canals.

Management considerations:

1. CSIFG should consider designing projects that incorporate the social values and benefits of canal fishing.
2. The social values of canal fishing should be highlighted in angler and public communications and marketing.

5. References

Adams, R. (2017) Sports fish and angler use dynamics of the Mackenzie Basin hydro canal fishery during the 2015-2016 sports fishing season. Internal report for the Central South Island Fish and Game Council.

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