



NORTH CANTERBURY FISH AND GAME COUNCIL

BOARD PACK

for

NORTH CANTERBURY FISH AND GAME COUNCIL MEETING

Wednesday, 16 September 2026

6:33 pm (NZST)

Held at:

NORTH CANTERBURY FISH AND GAME COUNCIL
595 JOHNS ROAD, HAREWOOD, CHRISTCHURCH

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AGENDA

NORTH CANTERBURY FISH AND GAME COUNCIL MEETING



Name:	NORTH CANTERBURY FISH AND GAME COUNCIL
Date:	Wednesday, 16 September 2026
Time:	6:33 pm to 9:02 pm (NZST)
Location:	NORTH CANTERBURY FISH AND GAME COUNCIL, 595 JOHNS ROAD, HAREWOOD, CHRISTCHURCH
Board Members:	ALAN STRONG (Chair), DAVE COLL, ANDY TANNOCK, CHRIS BRANKIN, NIAL COSTER, PHILLIP MUSSON, NICK MOODY
Attendees:	DEBBIE AMBLER
Apologies:	DAVE BARRON

1. Opening Meeting

1.1 Welcome by Chairman

6:33 pm (5 min)

ALAN STRONG

Welcome by Cr Strong to meeting.

1.2 Karakia

6:38 pm (5 min)

NICK MOODY

Whakataka te hau ki te uru
Whakataka te hau ki te tonga
Kia mākinakina ki uta
Kia mātaratara ki tai
E hī ake ana te atakura
He tio, he huka, he hau hū
Tthei mauri ora!

Translation:

Cease the winds from the west
Cease the winds from the south
Let the breeze blow over the land
Let the breeze blow over the ocean
Let the red-tipped dawn come with a sharpened air.
A touch of frost, a promise of a glorious day.

1.3 Apologies

6:43 pm (5 min)

ALAN STRONG

1.4 Interests Register

6:48 pm (5 min)

ALAN STRONG

Supporting Documents:

1.4.a	Interests Register	8
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1.5 Council Time

6:53 pm (15 min)

ALAN STRONG

For Discussion

Council discussion about future risks and issues.

Supporting Documents:

1.5.a	NITRATE ISSUE - CR COLL.pdf	9
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2. FOR DECISION

2.1 Confirm Minutes

7:08 pm (5 min)

ALAN STRONG

For Decision

Supporting Documents:

2.1.a	Minutes : North Canterbury Fish and Game Council Meeting - 22 Jul 2026	13
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2.2 Papers from NZC That Require A Decision by 9th November 2026

7:13 pm (10 min)

ALAN STRONG

Supporting Documents:

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2.2.b	2026 Memo to NZC re GBHT Board Appointments.pdf	19
2.2.c	2026 27 Annual Budget & Meeting Schedule Draft.pdf	20

2.3 HPAI Policy & Game Bird Nuisance Policy

7:23 pm (10 min)

ALAN STRONG

Supporting Documents:

2.3.a	FOR INFORMATION - NZC GB docs.pdf	22
2.3.b	HPAI Policy 2026_MJG comments.pdf	24
2.3.c	Draft Game_Bird_Nuisance_Policy_and_SOP.pdf	31

3. FOR DISCUSSION

3.1 Trout Plan Update

7:33 pm (10 min)

ALAN STRONG

Supporting Documents:

3.1.a	FOR DISCUSSION - TROUT PLAN UPDATE.pdf	35
3.1.b	TROUT MONITORING TOOLKIT - DRAFT.pdf	38

4. GENERAL BUSINESS

4.1 General Business

7:43 pm (10 min)

ALAN STRONG

For Discussion

General business from Council.

5. STANDARD REPORTS

5.1 Standard Reports

7:53 pm (15 min)

ALAN STRONG

For Noting

1. Chairmans' Report (verbal)
2. Operational Report
3. Finance Report
4. NZC Report (Verbal)
5. RMA Report
6. Health and Safety Report
7. Communications Report
8. Compliance Report
9. Updates from Sub-Committees of Council (verbal)

Supporting Documents:

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5.1.f	COMMUNICATIONS REPORT.pdf	89
5.1.g	GAME BIRD REFERENCE GROUP.pdf	93

5.2 Action List

8:08 pm (10 min)

ALAN STRONG

Supporting Documents:

5.2.a	Action List	95
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6. PUBLIC SESSION

6.1 Public Session

8:18 pm (10 min)

ALAN STRONG

7. FOR INFORMATION PAPERS

7.1 Whiskey Creek

Supporting Documents:

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7.1.b	APPENDIX A - LEGAL ADVICE ON THE ESTABLISHMENT OF HATCHERIES.pdf	99

7.2 DESIGNATED WATERS SURVEY

Supporting Documents:

7.2.a	FOR INFORMATION - 2026 DESIGNATED WATERS SURVEY.pdf	104
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7.3 Sea-Run Salmon

Supporting Documents:

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7.3.b	FOR INFORMATION - 2025-26 SEASON SEA-RUN SALMON SUMMARY.pdf	118
7.3.c	2025-26 JOINT SEA-RUN SALMON MANAGEMENT FULL REPORT.pdf	122

7.4 Game Bird

Supporting Documents:

7.4.a	FOR INFORMATION - 2026 GAME BIRD REPORT.pdf	155
7.4.b	2026 GAME BIRD REPORT.pdf	156

8. Close Meeting

8.1 Close the meeting

Next meeting: No date for the next meeting has been set.

Next Meeting

Council Meeting at 3.30pm

and

Annual Public Meeting at 6.30pm

Wednesday 25 November 2026

595 Johns Road, Harewood, Christchurch

Interests Register

NORTH CANTERBURY FISH AND GAME COUNCIL



As of: 16 Sept 2026

Person	Organisation	Active Interests	Notice Date
ALAN STRONG	N/A	No interest recorded	20 May 2026
ANDY TANNOCK	Gamebird Habitat Trust	Chair	13 Nov 2024
CHRIS BRANKIN	Ministry of Cities, Environment, Regions and Transport	Staff member	22 Jul 2025
DAVE BARRON	Tallarook Dairies, Nectar Group	Owner of Nectar Group and Nectar Auckland. Not involved in Fish and Game service or support decisions. Nectar now offers its services free of charge to Fish & Game for service. Director/Shareholder Ashburton Trading Company, E2E Limited, OTE Consulting Limited, Director Pro-Active NZ Ltd, Ruralco NZ Limited, ATS Fuel and Trustee Barron Family Trust	22 Jul 2026
DAVE COLL	N/A	No interest recorded	13 Nov 2024
NIAL COSTER	N/A	No interest recorded	13 Nov 2024
NICK MOODY	Environment Canterbury	Councillor	22 Jul 2026
PHILLIP MUSSON	Fonterra	Shareholder Fonterra and ECAN Selwyn River Liaison Committee	13 Nov 2024
	L2 Drainage Committee	Committee Member	26 Nov 2025

Below is a transcript of the TV One news item from the 6.00 pm news on 9 August.

Words in italics are my comments.

A school campus in Canterbury has been forced to turn off its main water supply after a well on site became contaminated by nitrates, documents obtained by 1News show.

The satellite campus at Lagmhor, part of Ashburton Borough School, has been trucking in a temporary water supply from elsewhere for the last year and a half.

School officials were sent a warning of unsafe water in February 2025.

The maximum allowed value or MAV is 11.3 milligrams of Nitrate-N to a litre of water. The school supply peaked at 11.5 mg/L.

Exclusive: New impacts of Canterbury's 'nitrate emergency' revealed - Watch on TVNZ+

Nitrates are colourless, odourless and tasteless in water. If consumed at certain levels, they can lead to blue baby syndrome – conditions causing blueness of the skin due to low blood oxygen levels – in infants under six months.

The science was hotly debated, with arguments ongoing about whether they may also increase risk of colorectal cancer.

Debate was also swirling around exactly how they spread into groundwater, but farming activity was a major contributor, according to Canterbury University associate professor Tim Chambers.

He said nitrogen fertilisers were a key ingredient for plant growth.

"Livestock also eat the grass and anything they don't need, they excrete which also leeches down into the groundwater and washes away into streams," he said.

Documents reveal depth of nitrate emergency

Documents obtained from the Ministry of Education through the Official Information Act have revealed just how deep the problem goes in Canterbury.

Emails show officials at the Ministry spent months considering the best fix for the school and ultimately decided to drill down further, in search of cleaner water.

The chief advisor to the Ministry's water services team supported the move, with some caveats.

"We understand that deeper aquifers are likely to have lower Nitrate-N levels," they said in one email, before issuing a warning.

"However there is evidence of a steady increase in Nitrate-N levels at all aquifer levels."

With the original contaminated well at the school only going down 29 metres, the Ministry opted to drill a new bore around four times deeper.

A local drilling company went down to 119.5 metres in April 2026, reaching the third aquifer.

But when a test was carried out on the fresh supply, the water still carried an elevated level of Nitrate-N.

Test results obtained through the OIA show it returned a reading of 3.86mg/L, around a third of the maximum allowed value.

While it was within the legal limit, the result was alarming to Chambers.

"It's concerning that we have to go 120 metres deep to try and get access to water that would just comply with the drinking water standards," he said.

"There's a lot of people around the country, and particularly in Canterbury, that can't afford to drill a 120-metre well to try and get access to drinking water."

Staff, students' health and wellbeing the 'highest priority'

The school board stressed that the health, safety and wellbeing of students and staff had been its "highest priority" throughout the incident.

It would not be interviewed for the story but said in a statement that it had been working closely with the Ministry of Education on a fix.

"Safe potable drinking water has been provided to the Lagmhor School community throughout," it said.

The ministry said design work had been completed for a permanent treatment and storage upgrade to the school's water supply system.

Water had been brought in from elsewhere, with a tank onsite for children in the meantime.

"Tenders are being sought to complete the work, which is expected to be completed within the next few months," a spokesperson for the ministry said.

The ministry also stressed that the nitrate concentration in the new supply was below New Zealand's current Maximum Acceptable Value.

"Nitrate concentrations in water from the new bore meet the requirements of the drinking water standards."

'The sharp edge of Canterbury's nitrate emergency'

Regulator Environment Canterbury (ECan) has also found high results while testing other Canterbury wells in recent years.

ECan water and land science manager Dr Elaine Moriarty said the council had been tracking the 10-year trend through groundwater surveys.

"The latest report shows an increasing trend of nitrate concentrations in 62% of the wells we test," she said.

The scene was a depressing one for local freshwater advocate Peter Trolove.

Trolove, an angler and retired vet, argued the situation at the school campus was a "case study" that could be replicated in many other areas across the region.

"This is the sharp edge of Canterbury's nitrate emergency," he said.

"I don't think it's the New Zealand that my grandparents' father and deceased brothers fought for in the world wars, I think it stinks."

Moriarty said ECan "recognises that nitrate is an issue in the region", and had a "drinking water action plan in place".

"It has taken many decades for nitrate concentrations to get to where they are today," she said.

"Depending on the soil type, aquifer parameters, and land use improvements, it can take some time before nitrate concentrations fall or stabilise – especially in deeper groundwater."

This article is a transcript of a TV One news report on August 9 this year.

It is disappointing that the reporter contacted a "local freshwater advocate" rather than Fish and Game as a statutory organisation and advocate for freshwater. Perhaps we need to be more proactive in the advocacy space so that news reporters see us as their first point of contact for comment and feedback on issues like this.

The findings revealed in the report are what Fish and Game predicted over 20 years ago and which leads to the famous (or infamous) dirty dairying campaign. While it is cold comfort to adopt the "we told you so" attitude I think we should now be asking the question "what are you doing to correct the situation of increasing nitrate levels in freshwater"

The Ecan website addresses this in general terms. It acknowledges that "Intensive land use, including agriculture, is a leading contributor to increasing nitrate concentrations in groundwater"

*Under the heading of "**What we're doing to address the issue**" they list the following actions:*

- Supporting farmers: Canterbury farmers are making progress in reducing nutrient and other contaminant losses within their farming systems. Our [land management advisors](#) are supporting them with this work, raising awareness and encouraging best practices, including:
 -
 - nitrogen use efficiency
 - winter grazing
 - critical source area management.
- Protecting and promoting wetlands: We're focused on identifying and protecting [Canterbury's remaining wetlands](#) by providing better information and incentives for landowners to protect existing wetlands, as well as making it easier for landowners to create constructed wetland areas that can act as filters to remove nitrate and other contaminants from freshwater.
- Keeping it local: We're working with and funding communities at a catchment level to empower them to take the initiative and innovate for water quality solutions.
- Reviewing our planning framework: We're undertaking a review of our current plans to get a clearer picture of the state of our environment and to measure the effectiveness of our current policies. However, we cannot currently propose new changes to our

planning framework due to central government's changes to the resource management system.

- Improving resource consents: We're strengthening new resource consent conditions and clarifying our expectations on how consent holders can demonstrate compliance with these conditions. We're sharing examples of these typical conditions that consent applicants can propose, which can be tailored so they are appropriate for the local environment where the proposed activity will take place.
- Improving compliance work: We're prioritising compliance monitoring for the highest-risk activities, as well as activities in community drinking water protection zones and other areas with especially sensitive environments or already degraded water quality.
- Taking compliance action: We're ensuring we take appropriate compliance action when the right thing isn't done – from education and on-farm support through to enforcement when needed.

This to me is an extremely soft approach using words like “supporting”, “education”, “promoting” and “encouraging” rather than setting limits and restricting or prohibiting some activities. To do any less than this is akin to “fiddling while Rome burns” and allowing increasing nitrate levels in freshwater to continue increasing.

They have acknowledged that it will take a long time for nitrate levels in rivers and streams to reduce (5-10 years which to me seems optimistic) so anything less than positive actions taken immediately is just allowing the situation to get worse.

My recommendation is for the North Canterbury Fish and Game Council to write to Ecan formally asking what definitive steps are being taken to address the issue of nitrate levels and for the NZ Council to make a similar approach to the Ministry for the Environment after researching recent annual State of the Environment Reports.

MINUTES (in Review)

NORTH CANTERBURY FISH AND GAME COUNCIL MEETING



Name:	NORTH CANTERBURY FISH AND GAME COUNCIL
Date:	Wednesday, 22 July 2026
Time:	6:36 pm to 8:36 pm (NZST)
Location:	NORTH CANTERBURY FISH AND GAME COUNCIL, 595 JOHNS ROAD, HAREWOOD, CHRISTCHURCH
Board Members:	ALAN STRONG (Chair), ANDY TANNOCK, CHRIS BRANKIN, DAVE BARRON, NIAL COSTER, PHILLIP MUSSON, NICK MOODY
Attendees:	DEBBIE AMBLER, Lyndon Slater
Apologies:	DAVE COLL
Guests/Notes:	Cr Barron attended via video link. Public - L Banks

1. Opening Meeting

1.1 Welcome by Chairman

1.2 Karakia

1.3 Apologies

Accepted as noted.

1.4 Interests Register

Amendments made to Councillors Interests -

1. Chris Brankin - name change for Ministry of the Environment - Ministry of Cities, Environment, Regions and Transport
2. Dave Barron - additions other than Owner of Nectar Group and Nectar Auckland
3. Nick Moody - deletion of Labour Candidate for the Selwyn District

1.5 Council Time

1. The need to reinstate the 'Councillor Only' time prior to a Council meeting was discussed.
2. That a Councillor-to-Councillor meeting with ECan be hosted at the NCFG office with a suitable date to be arranged. Cr Strong stated that NCFG need to be clear and reasonable on what was wanted from this meeting, with agenda topics being guided by staff and what they want to see for the future. Councillors to provide Agenda items to Cr Strong as soon as possible.



NCFG / ECan Councillor to Councillor Meeting

That NCFG host a Councillor-to-Councillor meeting with ECan as soon as possible, with NCFG councillors providing Cr Strong agenda topics.

Due Date: 23 Sept 2026
Owner: ALAN STRONG

1. **Financial Update** - Cr Strong explained the that the phasing of how income is received during the year impacts on the end of year cashflow, thus affecting our ability to pay levy payments on time. This has been an issue for a number of years. Cr Strong, Cr Coll and staff met with NZC outlining this situation. NZC to present a paper to their upcoming Council meeting outlining an agreement reached to fix this situation.
2. **HPAI Bird Flu** - Ministry for Primary Industries have indicated that more bird sampling would need to be undertaken on a more regular basis to monitor the spread of the bird flu.
3. **Council Papers** - Discussion on content of Staff Reports was undertaken with Council. Cr Strong stated the need for Councillors to continue to challenge themselves and to read the Board Pack prior to attending each meeting.



Staff Reports' Content

That all Councillors review staff reports then 'copy to all councillors' in their reply to Cr Strong, to assist in developing what content they want to see and get from these Reports.

Due Date: 16 Sept 2026
Owner: ALAN STRONG

2. FOR DECISION

2.1 Confirm Minutes

NORTH CANTERBURY FISH AND GAME COUNCIL MEETING 20 May 2026, the minutes were confirmed with the following changes:

Correction of spelling of Pastoral in 1.5 Council Time - 1

Correction in 4.1 General Business - 2 Health and Safety Committee 'Rep' becomes 'Chair'.

2.2 Muruwai Maimai Fund



Muruwai Maimai Fund

Approve the 2025/26 Muruwai Maimai fund payment of \$868.68 from budgeted income and/or a combination of Reserves as required.

Decision Date: 22 Jul 2026
Mover: ANDY TANNOCK
Seconder: NIALL COSTER
Outcome: Approved

2.3 Te Waihora Mai Mai Fund



Te Waihora Maimai Fund

Approve the 2025/26 Te Waihora Maimai fund payment of \$13,082.36 from budgeted income and/or a combination of Reserves as required.

Decision Date: 22 Jul 2026
Mover: ANDY TANNOCK
Seconder: CHRIS BRANKIN
Outcome: Approved

3. GENERAL BUSINESS

3.1 General Business

- **Life at Sea Chinook Salmon Report** - Operations Manager to follow up with Cawthron Institute to get an update and completion date for this Report. Once received to send to Councillors.
- **Access Issues List** - Cr Strong to send to Councillors after this meeting.
- **General Notes** -
- Good to see events like the Women's Fly-Fishing initiative and assisting a youth group in the Hurunui happening.
- Cr Strong thanked Cr Musson for speaking to the Canterbury Fly Fishing Club which was well received.
- Ngai Tahu and Federated Farmers representatives to the NCFG Council was discussed. Requires follow-up.
- Fish screens had been moved up on ECan's priority list and required input from NCFG.



Chinook Salmon -Life at Sea

To follow up with R Holmes from Cawthron Institute as to a status update on this Report.

Due Date: 16 Sept 2026
Owner: ALAN STRONG



Ngai Tahu & Federated Farmer Reps to Council

Cr Strong to follow up with D Brown (Ngai Tahu) and J Burrows (Federated Farmers) as to status of representatives to Council.

Due Date: 16 Sept 2026
Owner: ALAN STRONG

4. STANDARD REPORTS

4.1 Standard Reports

- **Chairmans Report** - Cr Strong stated in the two-month period he continued to having meetings with NZC regarding financial matters, and on collaborations with ECan. Continues to assist Cr Barron with his transition to Chairman. Continues to with Regional and NZC Chairs on F&G organisational structure and assisted M Garrick with management issues Southland F&G.
- **Operational Progress Report** -
- Would like to see monitoring costs included in the final Salmon Report in September. Investigate what constitutes salmon income.
- Currently dissuasions with Central Plains Water are underway and waiting on their CEO to get back to NCFG.
- **RMA Report** -
- Question asked if NCFG is involved in Plan Change 8 - Water take / use for healthy minimum flows.
- Staff are receiving assistance from NZC on NCFG submission for Plan Change 8 and will submit at the appropriate time.

- **Health and Safety -**

- Discussion on the need for national health and safety Standard Operating Procedures was had.



Health and Safety Standard Operating Procedures (SOP's)

That NCFG Council write to NZC to ask whether a set of generic SOP's could be purchased or provided for common activities such as vehicle use, off road work and power tools.

Decision Date: 22 Jul 2026
Mover: PHILLIP MUSSON
Seconder: CHRIS BRANKIN
Outcome: Approved



Health and Safety Operating Procedures

That NCFG Council write to NZC to ask whether a set of generic SOP's could be purchased or provided for common activities such as vehicle use, off road work and power tools.

Due Date: 25 Nov 2026
Owner: DEBBIE AMBLER

4.2 Action List

Due Date	Action Title	Owner(s)
22 Jul 2025	Climate Change Status: On Hold	CHRIS BRANKIN
26 Nov 2025	MOU with NZC Status: In Progress	CHRIS BRANKIN, DAVE BARRON

5. PUBLIC SESSION

5.1 Public Session

L Banks was invited to speak to staff after he asked what was happening with the salmon.

Cr Strong stated that staff were currently operating off the Adaptive Management Plan in relation to rule setting, that returning salmon numbers had increased, there was currently a report being undertaken on climate change and what the effects of this were for salmon at sea, and a restoration project to restore habitats in the headwaters of the Rakaia had been completed. That the coming el nino weather pattern would be hard on returning salmon.

6. Move into Public Excluded Meeting

6.1 Move into Public Excluded Meeting



Move into Public Excluded Meeting

That the Council meeting move into a Public Excluded meeting.

Decision Date: 22 Jul 2026
Mover: CHRIS BRANKIN
Seconder: NIALL COSTER
Outcome: Approved

L Slater and D Ambler left the meeting at this time.

7. Close Meeting

7.1 Close the meeting

Next meeting: No date for the next meeting has been set.

New Actions raised in this meeting

Item	Action Title	Owner(s)
1.5	NCFG / ECan Councillor to Councillor Meeting Due Date: 23 Sept 2026	ALAN STRONG
1.5	Staff Reports' Content Due Date: 16 Sept 2026	ALAN STRONG
3.1	Chinook Salmon -Life at Sea Due Date: 16 Sept 2026	ALAN STRONG
3.1	Ngai Tahu & Federated Farmer Reps to Council Due Date: 16 Sept 2026	ALAN STRONG
4.1	Health and Safety Operating Procedures Due Date: 25 Nov 2026	DEBBIE AMBLER

Next Meeting

Wednesday 16th September 2026

6.30 pm

595 Johns Road, Harewood, Christchurch

Signature: _____

Date: _____

GBHT F&G Nominees

North Canterbury Fish and Game Council Meeting – 16th September

Prepared By: Matthew Garrick

1. Kōrero taunaki - Summary of Considerations

a) Kaupapa - Purpose

Provide names of potential nominees to the Game Bird Habitat Trust Board

b) Ngā taunaki - Staff Recommendations

Renominate two of the current F&G nominated Trustee's

- 1) Mark Sutton
- 2) Andy Garrick

2. Takenga mai – Background

The New Zealand Game Bird Habitat Trust Board is appointed on a three-year term by the Minister of Hunting & Fishing (or Conservation). The current Board appointments are expiring in April 2027 (see attached memo for more information regarding the Board).

Suitable candidates need to be nominated to be considered by the NZ Council at its meeting in March 2027.

3. Whai whakaaro ki ngā whakataunga - Considerations For Decision-Making

There are limited people with extensive experience related to wetland development and protection, who are also strong advocates of the mission of Fish and Game and supporters of game bird hunting values.

Both of the suggested nominees are long standing Board members and fit the above description well.

4. Strategic implications

It is important for continuity and institutional knowledge within the Board for there to be some carry over current standing F&G nominees.

AGENDA ITEM:

NEW ZEALAND GAME BIRD HABITAT TRUST BOARD

Prepared by: Robert Sowman, Habitat Trust Board Administrator

The New Zealand Game Bird Trust Board is appointed on a three-year term by the Minister of Hunting & Fishing (or Conservation). The current Board's appointments expire in April 2027.

The purpose of this memo is to commence the process for appointing a new Board.

Therefore, it is recommended that the New Zealand Fish and Game Council invite Fish and Game Councils in November 2026 to nominate suitable candidates to be considered by the NZ Council at its meeting in March 2027.

A six-person membership of the Habitat Trust Board is set out in *section 44F of the Wildlife Act 1953*. It provides for appointments by the Minister of Conservation (*current appointments shown in italics*):

- a) a chairperson (*Andy Tannock*)
- b) 3 persons appointed after consultation with the New Zealand Fish and Game Council (*Andy Garrick, Chantal Whitby, Mark Sutton*)
- c) 1 person appointed after consultation with the Director-General (*Erin Garrick*)
- d) 1 person appointed after consultation with the Board of Ducks Unlimited New Zealand Incorporated (*Neil Candy*).

In proposing nominations, a Fish and Game Council can submit names from within or outside its region – either previous or new nominees. Without ruling out Fish & Game staff, it is noted that these people already play an important role within the Habitat Trust grant allocation process as initiators, referees and advisers to projects.

On receiving names of suitable candidates, the New Zealand Council needs then to consider this feedback and make its selection of three people to best reflect a diverse set of nominees with some continuity to the Board's current structure and processes. It may also endorse a name for Chairperson.

Recommendations

It is recommended Fish & Game Councils be invited to:

- a) **include names of eligible candidates by 28 February 2027 for selection by the New Zealand Fish and Game Council, and**
- b) **to provide the names of three nominees to recommend to the Minister of Conservation by April 2027.**

2026-27 Annual Budget & Meeting Schedule

Month	Date		Meeting/Activity	General Topic/Meeting	Location
Dec-2026		Friday 5 & Sunday 6 Dec	NZ Council Meeting (Held over 2 days) (2025/26 Strategy)		Wellington
		Friday 25 Dec	Christmas Day		
		Saturday 26 Dec	Boxing Day		
Jan-2027	Second week in Jan	Friday 1 Jan	New Year's Day		
		Saturday 2 Jan	New Year's Day Observed		
	Third week Last week of Jan		Variance Reports & Reserves Schedules sent to CFO ZBB to be into Leech and Co Draft Hunters notice to be sent to Regions Info to ABCorp and Quantity of cards approved Game Bird licence		online
		Tuesday 19 Jan	Webinar - Topic TBC		
		Saturday 23 Jan	Variance Reports & Reserves Updates Distrubuted		
		Saturday 30 Jan	Licence Working Party Licence Sales Forecast		online
		Saturday 30 Jan	Regulation Details Due for Hunters Notice (from all Regional Councils)		
Feb-2027	Always				
	First Week of Feb	Tuesday 2 Feb	World Wetland Day/Release Game Bird Habitat Stamp Annotate changes to previous Game licence fees and form notice (DOC task)		
		Wednesday 3 Feb	Draft Hunters Notice Submission to DOC for comment		
		Friday 5 Feb	Variance reports Final Circulation back from Managers		
		Saturday 6 Feb	Waitangi Day		
	Second week in Feb	Tuesday 9 Feb	Online meeting to approve Game bird Regulations		Online 7pm-8:30pm
		Tuesday 9 Feb	Hunters Regulation Guide Content Due to NZC Office from Regions Consolidated regional budgets BACK to Regions		
		Wednesday 17 Feb	Hunters Notice & Submission to MOC (MFHF) & Gazette Office Hunters Notice sent to Graphic Press for Layout Check Webinar - Topic TBC		Online 12pm
	Third Week Third Tuesday				
	Last week	Friday 19 Feb/or the following week	Publish Hunters Notice in NZ Gazette		
Mar-2027	First week	Friday 5 Mar	NZ Council Meeting (Day 1 of 2)		Wellington
		Friday 5 Mar	Governors Forum - Regional Chairs		
		Saturday 6 Mar	Governors Forum - Regional Chairs & NZC (Day 2 of 2)		
	Second Wednesday Second Thursday in Mar Second Friday		Regional Budgets confirmed to Leech and Co Game Magazine Released		
		Thursday 11 Mar	Game Bird Hunting Licences on Sale (2nd Thursday)		
		Friday 12 Mar	Staff Development Grant Applications Close		
		Friday 26 Mar	Good Friday		
		Monday 29 Mar	Easter Monday		
Apr-27	Always a Sunday	Sunday 4 Apr	Mark-up/Pegging Day		
		Friday 9 Apr	NZ Council Budget meeting	Budget and Consultation meeting	Wellington
		Friday 16 April	Licence Fee Consultation doc distributed to Regions		
		Monday 26 Apr	Anzac Day		
May-2027	First Saturday	Saturday 1 May	Game Bird Season Opening Draft Anglers Notice circulated to Regions		
	Second Week Last Friday		Licence Working Party Meeting Regional responses to Licence Fee proposals, Anglers Notice & SFLFFN DW/sea run salmon Due to NZC Office	Licence Sales reforecast - Main fishing season has ended in April . Distribute LEQ targets to Regions so Feedback can be included in June NZC Meeting	
Jun-2027	First week	Tuesday 1 June	King's Birthday		
			Angler regulation guides to be updated by Regions		
		Friday 18 June	NZ Council Meeting		Wellington
		Saturday 19 June	(Consider Licence Fee and Budget feedback, Anglers Notice & SFLFFN)		
	Last Saturday	Thursday 24 June	Licence fee, SFLFFN submission to MOC		
		Friday 25 June	Matariki		
		Saturday 26 June	GBHT Grant Applications Close		
Jul-2027	First Week		Anglers Notice submission to MOC (MFHF) Confirm Licence production numbers to ABCorp Send Angler Reg Guide to Graphic press for layout		
	Second Friday	Friday 9 July	GBHT Grant Applications Distributed to Board		
		Saturday 17 July	Anglers Notice Published in NZ Gazette		
		Wednesday 28 July	GBHT Board Meeting (11am)		Online
Aug-2027	First week		Election Public Notice Nominations Open Nominations Close		
		Sunday 22 Aug	GBHT Field Trip		Hamilton
		Monday 23 Aug	GBHT Board Meeting		Hamilton
		Wednesday 25 Aug	Fishing Magazine Released		
	Third Wednesday	Friday 27 Aug	NZ Council Meeting	Final budgets for Approval	Wellington

Month	Date		Meeting/Activity	General Topic/Meeting	Location
Sept-2027	Always 1st Sept Wednesday	Saturday 28 Aug		Last Meeting with current NZC	
		Tuesday 31 Aug	Fish & Game End of Financial Year		
		Wednesday 1 Sept	Fishing licences go on Sale Start of new financial year Electoral Roll Closes		
Oct-2027	Second Friday Third Saturday Last Saturday	Thursday 1 Oct	Sports Fishing Opening Election Day Official Declaration on election result	Results declared following Saturday.	
		Monday 25 Oct	Labour Day		
		Saturday 30 Oct	Ministerial Post Election Governance Hui	All regional councillors to attend	Wellington
Nov-2027	first week		High Country Sports Fishing Opening (CSI & NC 1st Sat Nov) All Regional council must have held their first meeting	Otago and Southland 1st Nov NC and CSI 1st Saturday Within 3 weeks of Election results confirmed	
		Friday 3 Dec Saturday 4 Dec	NZ Council Meeting (2027/28 Strategy)	First Meeting with new NZC	Wellington Wellington

KEY

	Public Holiday
	NZ Council Meeting
	GBHT Board Meeting
	Governors Forum (Regional Chairs & NZC)

NZC Game Bird Policies

North Canterbury Fish and Game Council Meeting - 16 September 2026

Prepared By: M. Garrick

1. Kōrero taunaki - Summary of Considerations

a) Purpose:

To provide Council with advice regarding NZC game bird documents out for consultation.

2. Whakarāpopoto - Executive Summary

NZC is seeking regional feedback on two game bird policies;

- 1) Game Bird Nuisance Policy
- 2) HPAI Policy 2026

Staff have reviewed the documents and provided feedback (attached). In short, the game bird nuisance policy is fit for purpose, whereas there are opportunities to improve the lens of the HPAI policy.

3. Takena mai – Background

NZC has a statutory responsibility to provide a coordination role for Regional Fish and Game Councils. This includes the production of relevant policy documents.

The Game Bird Nuisance policy has been developed through engagement with regional staff across the country, and has been drafted to provide the framework for responding to game bird nuisance complaints.

The Highly Pathogenic Avian Influenza (HPAI) Policy has been developed in response to growing concerns surrounding the arrival of the H5N1 strain in New Zealand and the associated risk to F&G.

4. Kōrerorero – Discussion

Game Bird Nuisance Policy: North Canterbury staff have been involved throughout the development of this policy and have no concerns with the current drafting.

HPAI Policy: The key issue with the current drafting of the HPAI policy is that it needs to separate out operational details and focus on governance, principles, and accountabilities. This can be achieved through the policies endorsement of the National HPAI Preparedness and Response Plan, which is the appropriate place for operational information.

Additionally, there are a number of details that need to be clearly defined so to provide separation of roles and decision-making between NZC and Regional Councils.

5. Ngā mahinga e whai ake nei - Next Actions

Consider staff feedback and draft a response to NZC by November 9th.



High Pathogenicity Avian Influenza (HPAI) Policy

Section	Operational
Contact/Owner	NZC HR
Last Review	New Policy
Next Review	Before each game bird season [DATE] and/or after any material change in official guidance
Approval	NZC
Effective Date	Aug 2026

PURPOSE

1. This policy sets out the governance framework and Fish & Game New Zealand's accountabilities and minimum requirements for preparing for and responding to high pathogenicity avian influenza H5N1 ("HPAI H5N1" or "bird flu").
2. The policy recognises Fish & Game NZ's statutory role in managing game bird hunting, its direct relationship with licence holders, and its duty to protect employees, volunteers, game bird hunters, as well as maintaining organisational credibility.

Support our values:

- Trust
- Inclusion
- Connection
- Service

3. This policy applies to all Fish & Game NZ governance bodies, employees, contractors and volunteers when undertaking Fish & Game NZ functions or representing Fish & Game NZ in relation to HPAI H5N1.

POLICY

Policy statement

4. Fish & Game NZ will take a science-based, precautionary approach to HPAI H5N1. The organisation will support the national biosecurity response, follow official advice, maintain communications with staff and licence holders, and continue its core functions where it is safe to do so.

5. Fish & Game NZ's role is to support, amplify and align with official advice while managing the impacts for game bird hunting, staff safety, regional operations & continuity, and licence holder communications.
6. Every Fish & Game Regional Council is responsible for translating national guidance into local arrangements and actions. Where this policy, a regional plan, or any subordinate document conflict, MPI guidance takes precedence, followed by this policy. Regions should not adopt local positions that depart from MPI or national Fish & Game policy or guidance.

Scope

7. This policy covers preparedness, response, communications, health and safety, stakeholder engagement, regional operations and post-event review. It does not replace legal requirements, including employment obligations, especially around Health and Safety. Fish & Game NZ does not lead national disease control, biosecurity, or public health advice — those responsibilities sit with the relevant statutory agencies.

Guiding principles

8. **Lead agency alignment:** Fish & Game NZ will align with Biosecurity NZ / MPI as the national biosecurity lead, DOC on threatened species and public conservation land, and health agencies on human health advice.

Safety first: Staff, volunteers, licence holders, contractors and the public are not to be placed at unnecessary risk.

Science-led decisions: Organisational positions are to be based on evidence, official advice and documented risk assessments — not speculation or public pressure.

Calm and consistent communication: Messages will be factual, measured, practical and coordinated, avoiding unnecessary alarm.

Regional readiness: Regions are encouraged to prepare for HPAI H5N1 scenarios, including local detections, reporting surges, requests for assistance and possible changes to game bird hunting regulations.

One organisation, one voice: Public statements and media responses are to be coordinated through the Fish and Game NZ CEO.

Risk Phases

9. Both national and regional preparedness activity is scaled to the risk phase in effect (as directed by MPI). Fish & Game NZ can apply a risk phase regionally, i.e. Phase 3 will apply to the region where H5N1 is present, rather than a blanket application across all Fish & Game NZ regions. The Phases, including regional detections, will be based on MPI advice. NZ CEO/COO will advise the region if their phase changes.

- **Phase 1 — Alert and watch:** H5N1 is overseas. Focus is quiet, steady preparedness.
- **Phase 2 — Heightened risk:** H5N1 is closer to New Zealand (e.g. Ross Sea/Antarctica or Australia). Focus is raising readiness without raising alarm.
- **Phase 3 — Confirmed incursion:** H5N1 is present in New Zealand. Focus is a fast, calm, coordinated response.
- **Phase 4 — Established:** H5N1 is established in the wild bird population. Focus is sustained, business-as-usual management.

Commented [MG1]: I find this section confusing - and feel it introduces F&G politics. It should be clear that 1) MPI are lead agency for disease biosecurity advice; 2) NZC provides organisational coordination; 3) Regional Councils are responsible for regional operational and regulatory decisions in line with official advice and national policy.

Commented [MG2]: This needs clarifying. Business as usual under a new normal I suspect will not look the same as historical "business-as-usual"

MINIMUM ORGANISATIONAL REQUIREMENTS

Preparedness

10. Fish & Game NZ must maintain a current national HPAI H5N1 Preparation and Response Plan, communications toolkit, crisis response structure, regional contact list and staff guidance. Each region should understand its local role in relation to regional council preparedness, potential disposal arrangements, Personal Protective Equipment (PPE) supply and use, staff training, licence holder messaging, public enquiries and requests for operational assistance.

Reporting and surveillance support

11. Fish & Game NZ will encourage all licence holders, staff and the public to report three or more sick or dead wild birds in a group to the Biosecurity New Zealand exotic pest and disease hotline on **0800 80 99 66**, or any updated official reporting channel. Staff must not handle or move suspected HPAI birds unless directed through official arrangements and supported by appropriate PPE, training and approvals.

Health, safety and biosecurity

12. Fish & Game NZ will apply a precautionary approach to staff safety. PPE requirements, hygiene practices, cleaning and disinfection, bird handling, dog-related precautions and fieldwork decisions should follow the current response plan and official health and safety guidance. Where official risk information is unavailable or unclear, managers should escalate for advice and adopt the lower risk option until clarification is received. NZC will assist regions to source PPE and organise training through the Health & Safety Representative Committee.

Communications

13. All HPAI H5N1 communications must be coordinated through NZC, factual and consistent with the Crisis Communications Plan and Toolkit. Fish & Game NZ will amplify official advice, explain what it means for game bird hunters and staff, and avoid creating competing technical information. Human health content must be checked against health agency guidance before release. Media enquiries should be referred through the NZC CEO.

Game bird hunting, access and regulatory decisions

14. Fish & Game NZ will maintain lawful and sustainable game bird hunting where it is safe and responsible to do so. Any proposed change to game bird hunting access, local restrictions, bag limits, season length or broader regulatory settings must be based on official advice, documented risk considerations, regional input and following the required statutory process.

Dead bird collection and disposal

15. Fish & Game NZ will not undertake dead bird collection, transport or disposal unless the activity is authorised, risk-assessed, resourced and aligned with MPI, regional council and landowner requirements. Any such activity must have clear approval, trained personnel, appropriate PPE, safe decontamination arrangements, a lawful disposal pathway and a documented record of the event.

Regional preparedness plans

16. At a minimum, every regional preparedness plan should include:
- A copy of, and alignment with, the Fish & Game HPAI H5N1 Preparation and Response

Commented [MG3]: Unclear to me what this means. I am not aware of any changes to hunting regulations in NA related to concerns around safety relating to HPAI.

Commented [MG4]: This is confusing with later sections (i.e., botulism clean-up)

Commented [MG5]: By who?

Commented [MG6]: Unclear to me what requirements are being referenced

Commented [MG7]: From who and for what?

Commented [MG8]: What does this mean?

Commented [MG9]: This appears potentially duplicative of the national Preparation and Response Plan. Rather than requiring regions to reproduce this information, could the policy require each region to maintain a local implementation plan identifying only the regional-specific arrangements, responsibilities and contacts?

Plan including the HPAI H5N1 Crisis Communications Plan and the HPAI H5N1 Communications Toolkit.

- A documented strategy for acquiring the PPE recommended in the NZAIHSGW¹, noting where the regional/unitary council will provide PPE or staff training.
- Evidence that staff have been trained in the use of the recommended PPE, including fit testing of masks.
- Current contacts for the region's Regional/unitary Council, DOC and mana whenua/iwi partners, and an understanding of the council's own preparedness and clean-up plan, including Fish & Game NZ's role.
- Scenario planning for foreseeable local situations, such as members of the public bringing sick or dead birds to a Fish & Game office, or requests from the public to collect dead birds.
- A record of current MPI guidance on culling or disturbing wild birds in response to H5N1.
- A ready-to-use plan for altering game regulations or closing areas if necessary, using the Regulation Amendment Cover Template.

PPE requirements and operational procedures

17. PPE levels are based on MPI's assessment of the likelihood of H5N1 being present around an operation. Where MPI is unable to provide an assessment, staff should assume the likelihood is high and use the higher PPE level.

- **Level 1 PPE (gloves and footwear):** Handling apparently healthy, sick or dying birds where H5N1 has not been detected in the area, and MPI assesses the likelihood as low.
- **Level 2 PPE (Level 1 plus disposable fit-tested P2/N95 respirator, eyewear and fluid-resistant coveralls):** Handling apparently healthy birds where H5N1 has not been detected in the area but MPI assesses the likelihood as high.
- **Level 3 PPE (full hazmat):** contact with dead birds where H5N1 has not been detected but the likelihood is high, or where H5N1 has been detected.

18. In addition to PPE levels, staff should:

- Maintain heightened awareness of disease risk when working with wildlife.
- Maintain good biosecurity and hygiene practice, including scrubbing and disinfecting equipment, boots and clothing between sites, and cleaning hands and equipment between handling each bird.
- Not handle sick birds while unwell or immunocompromised.

Banding

19. Banding will be paused in regions experiencing Phase 3, until MPI advises Fish & Game it is safe to resume, because aggregating birds for banding can spread H5N1. Once H5N1 is established in New Zealand and MPI advises it is safe to do so, duck banding will resume with a heightened level of biosecurity and hygiene.

Botulism response

20. Standard botulism collection operations may continue during Phase 3, provided the PPE prescribed in the NZAIHSGW is followed based on the likelihood of H5N1 being in the area (Level 2 if likelihood is low and H5N1 is not detected locally; Level 3 if likelihood is high or

Commented [MG10]: This whole section is operational in nature (and seen elsewhere in the document), and shifts this away from being a policy document. These things are also subject to change, which makes the "policy" document end up out of date when they do. The national office has a separate preparation and response plan, which defines operational requirements. The policy should be more focussed on the key principles and accountabilities, and endorsement of the national response plan.

Commented [MG11]: I believe this advice is counter to current banding proposals which DOC have developed with F&G and MPI. Phase 3 is defined earlier in this document as H5N1 being detected in country, so the whole country is already in phase 3. If this is not the case it should be clarified.

¹ New Zealand Avian Influenza Health and Safety Guidance for Workers

unknown).

21. When conducting botulism clean ups during Phase 3 regions must:

- Inform the relevant Regional or District Council.
- Inform MPI via the hotline (0800 80 99 66).
- Follow MPI's advice on whether birds should be tested for H5N1.
- Record the event, location, number of deaths and response.
- Update the national Fish & Game NZ database.

Commented [MG12]: What national database?

Culling and dispersing wild birds

22. Fish & Game Regions are encouraged to assist poultry farmers to minimise contact between wild birds and farmed birds. Permits to cull or disturb should be evaluated on a case-by-case basis. Any report of unauthorised disturbance or culling of birds must be investigated through the usual process.

Dead bird clean-up

23. Disposal of H5N1-affected birds may occur only via an MPI-approved method or facility, or a legally declared disposal site; currently, MPI must approve all dead bird collections. Regional/unitary councils are responsible for organising local clean-up; however, Fish & Game regions should prepare for the possibility of being asked to assist in a local clean-up by securing PPE and arranging for training staff in advance. Any removal of H5N1-killed animals requires MPI approval, Regional Council approval, a legal disposal site and Level 3 PPE.

Reporting

24. Where three or more sick or dead wild birds in a group are observed, it should be reported to the Biosecurity New Zealand exotic pest and disease hotline on **0800 80 99 66** (without touching or moving the birds). Staff should redirect members of the public to the hotline rather than accepting birds in person.

Crisis Response Team

25. The Chief Executive, or delegate, may activate the HPAI H5N1 crisis response team when a detection has operational implications for Fish & Game NZ, when official advice materially changes, when media or public interest escalates, or when regional managers require national coordination. Activation may be national or regional, depending on the event.

DISCUSSION

Regulatory change process

26. Where a region considers a change to the game bird Hunters Notice is required (for example, to bag limits, season length, or area closures), the Fish & Game Regional Council must pass a resolution and submit it to the Minister through the NZC (using the Regulation Amendment Cover Template). NZC cannot itself propose amendments — they must originate from a region with a supporting council decision. Regions are encouraged to draft potential amendments in advance, so they are ready if an urgent council meeting is required.

Communications

27. All external communications relating to H5N1 must follow the Fish & Game NZ HPAI H5N1

Crisis Communications Plan and draw on the pre-approved scenarios in the Communications Toolkit. Any local media enquiry referring specifically to a Fish & Game region should be notified to the Fish & Game Principal Communications Advisor, consistent with the no-surprises principle.

Commented [MG13]: Please clarify the workflow. Is the expectation that the enquiry is referred to the NZC CEO, or notified to the Principal Communications Advisor, and who is responsible for responding? Currently is conflicting within other parts of the document.

ACCOUNTABILITIES

Roles and accountabilities

28. The NZC is accountable for this policy and for ensuring national consistency across HPAI H5N1 preparedness and response. The Chief Executive is accountable for activation of national response arrangements, liaison with lead agencies and escalation to governance where required.
29. Regional Fish & Game councils are accountable for local preparedness and for maintaining relationships with regional and unitary authorities, mana whenua, regional DOC offices and other local stakeholders. Regional managers should ensure staff are aware of reporting pathways, PPE expectations, local response arrangements, communications escalation and the limits of Fish & Game NZ's functional role. Changes to the game bird Hunters Notice must follow the legislative process set out above.

Table 1: Roles and Responsibilities Table 2 under this policy

Role	Responsibility under this policy
NZC Chief Executive	Primary point of contact for MPI and DOC. Activates national response arrangements and alerts the Crisis Response Team, Regional Managers, NZC Chair and Regional Chairs on confirmation of an outbreak. Accountable to governance for the overall response.
Crisis Response Team	Chief Executive, Chief Operating Officer, Principal Communications Advisor, Science Advisor and representatives from any impacted regions. Owns emergency communications and situational decisions during activation.
Regional Managers / Councils	Hold and maintain a current regional preparedness plan (Section 16). Lead local intelligence gathering, staff and stakeholder liaison, and regionally targeted communications. Nominate a delegate if multiple regions are impacted at once.
Regional Health & Safety Representatives	Confirm PPE ⁴ stock and staff training are current for the region. Escalate gaps to NZC.
All staff, contractors, volunteers	Follow current PPE levels and biosecurity procedures. Report sick or dead birds through the correct channel (Section 24). No person is to independently issue public advice, interpret human health risk, collect suspected HPAI carcasses, or approve disposal activity.

Commented [MG14]: What does "situational decisions" mean? Needs to be clarified given the clear distinction earlier in the document around roles/responsibilities of regional councils/NZC

RECORDS, REVIEW AND CONTINUOUS IMPROVEMENT

30. The Fish & Game HPAI H5N1 Plan is intended to be a living document that will be updated in consultation with regions. As H5N1 spreads and becomes endemic, the Fish & Game HPAI H5N1 Plan will evolve; approval of this policy endorses the plan and the process in place to improve the document as needed.
31. Fish & Game NZ will keep records of HPAI-related decisions, official advice relied on, communications issued, operational assistance provided, PPE or training decisions, regional incidents and any changes to game bird hunting arrangements. Records must be

sufficient to support accountability, organisational learning and future review. This policy must be reviewed before each game bird season and/or after any material change in official guidance.

DRAFT

National Policy – Game Birds Causing Damage or Nuisance

Purpose

This policy establishes a consistent, lawful, and proportionate framework for responding to damage or nuisance caused by game birds while supporting sustainable game bird populations and public hunting opportunities.

Scope

This policy applies to all Fish & Game regions, all game bird species managed under the Wildlife Act 1953, and all settings (farms, airports, wastewater facilities, public areas, and private land).

Statutory Authority

All authorities and decisions must comply with the Wildlife Act 1953, associated delegations, and other relevant legislation. The authorization is the broad legal approval for an activity that would otherwise be prohibited under the Wildlife Act and a permit is the specific instrument or document that grants that authorization and usually contains conditions.

Policy Principles

- Early and timely intervention
- Proportionality and minimal harm
- Non-lethal methods as the default where practicable
- Regional discretion and flexibility
- Clear separation between governance policy and operational practice
- Advisory/authorising role for Fish & Game
- Transparent reporting and accountability

Permit Framework

Step 1 – Non-lethal disturbance (default) where practicable.

Step 2 – Lethal control at discretion of the Region and proportionate to the issue at hand.

or take eggs of or destroy eggs of

Mandatory Requirements

- All disturbance or lethal actions require an authorisation, and the permit issued conveys the conditions of that authorisation.
- Time-bound, purpose-specific conditions must be included.
- Regions are not required to own or maintain equipment.
- Standard reporting is required.

Standard Operating Procedure

Standard Operating Procedures - Game Bird Nuisance Procedure provides guidance to staff for consistency in approach, operational efficiency, improved employee onboarding, and ensuring compliance with safety and legal regulations.

Regional Flexibility

Site visits are discretionary and based on risk. Trusted operators may be streamlined.

Compliance and Review

Regions will retain records and the NZC will periodically review this policy. Reporting will continue to occur in annual reports which involves no change to current practice.

Standard Operating Procedure – Game Bird Nuisance Procedure

Roles

Regional Managers approve permits; staff provide advice and draft authorities/permits ; landholders receive permits but can delegate permitted actions.

Service Levels

Enquiries acknowledged within two working days with follow-up as soon as possible afterwards.

Intake and Assessment

Collect information about species, numbers, nature of nuisance, location, history, methods tried, and safety considerations. Photos of what is happening can also be useful.

Risk Assessment

Use regional risk categories (low to critical). Site visits are discretionary.

Consider Options and recommend response from non-lethal disturbance and/or lethal control

Non-Lethal Response Where Practicable

Issue a Permit to Disturb with conditions. Rotate scare devices and ensure safe use.

Escalation to Lethal Control

Used only at Regional discretion. Must specify persons authorised to undertake disturbance, maximum numbers, species, method, duration and reporting and ideally not occur in April or during the season unless all persons have a game bird hunting license.

Or take eggs or destroy eggs

Trusted Operator Pathway

Streamlined where compliance history supports it.

Equipment and Assistance

Councils are not required to provide equipment. Any field support may be contracted separately depending on staffing resources in the region.

Site Visits

Site visits are at the discretion of the region.

Record Keeping and Reporting

Use standard templates and ensure timely returns. Continue to report annually on total permits issued in your annual report.

Compliance Monitoring

Risk-based checks; non-compliance may affect future permits.

Review and Ongoing Work

Annual review of SOP for improvements. Regions to collaboratively put together a handbook of response options by game bird species for future use.

The current authority requires Fish and Game to indemnify DoC

Trout Plan Update

North Canterbury Fish and Game Council Meeting - 16 September 2026

Prepared By: H. Sanders Garrick and Matthew Garrick

1. Kōrero taunaki - Summary of Considerations

a) Purpose:

To inform council on the progress towards the development of a Trout Plan and seek strategic direction on key risks and priorities that will guide baseline monitoring.

b) Ngā taunaki - Staff Recommendations:

- 1) Note progress toward development of the Trout Plan.
- 2) Council to provide strategic direction on the key risks and management priorities for trout in North Canterbury. This will be used to inform the Operational Work Plan and prioritisation of baseline monitoring data to be collected on the high-country lakes and stepping stone fisheries as per the Trout Monitoring Toolkit.

2. Whakarāpopoto - Executive Summary

Per staff communication during the 2026 Council Workshop, the most effective way to meet the priority set by the Council was to split the priority into three working parts:

- 1) Trout Monitoring Toolkit (*how* we will collect information)
- 2) Baseline Monitoring (*what* the current state of the fishery is)
- 3) Trout Management Plan (uses data and Council direction to *inform* Council decision making).

The first of these three working parts is complete, pending the inclusion of visual aids. The North Canterbury Trout Monitoring Toolkit is attached for information.

The monitoring toolkit will be used to guide baseline monitoring efforts, which will in turn guide the development of the Trout Management Plan.

3. Takenga mai – Background

Every year during the February Council workshop, the North Canterbury Fish & Game Council sets priorities, which are then used to develop the Operational Work Plan for the coming year. Council Priority 2 for the 2025/26 financial year was listed as: “Staff have been tasked with establishing a population baseline for our

high-country lakes and stepping stone fisheries. This information will be used to develop an enhancement plan and the development of a 'Trout Plan'... the Council intends to work on developing a wide range of initiatives to protect and enhance the trout fishery and licence holders' enjoyment of it." This priority has been colloquially referred to as the 'Trout Plan'.

4. **Financial Considerations**

☒ Nil ☐ Budgetary provision ☐ Unbudgeted

No financial considerations for presenting the toolkit. Baseline monitoring programmes will require operational expenditure and staff time.

5. **Risk**

☒ Low ☐ Medium ☐ High ☐ Extreme

Risk is considered low because this paper seeks strategic direction only and does not commit Council to specific management interventions.

6. **Kōrerorero – Discussion**

In order to adequately meet the Council's objective, staff broke the priority into three working parts:

- Development of a Trout Monitoring Toolkit,
- Establishment of a trout population baseline through baseline monitoring at key sites,
- And development of a Trout Management Plan, similar to the existing North Canterbury Salmon and Game Bird Management Plans,

In which each step contributes to the development of the next. Specifically, the monitoring toolkit is used to guide baseline monitoring efforts, and the results of baseline monitoring are used to guide the development of the management plan.

Phase 1 - The monitoring toolkit has been developed (pending the inclusion of visual aids) and is attached for Council information.

Phase 2 - Baseline monitoring programmes will be used to establish repeatable baseline measures of the state of the fishery. This will have ongoing budgetary and work plan considerations for Council.

Phase 3 – Development of a Trout Plan.

7. Ngā mahinga e whai ake nei - Next Actions

The Council identification of strategic direction for trout management in Canterbury will enable staff to develop a work programme to collect relevant baseline fishery information. This will ultimately be used to inform development of a Trout Management Plan and Council decision making. Questions to consider;

- 1) What aspects of the trout fishery (or anglers) are most important to protect (or learn about)?
- 2) Are there particular risks Council is most concerned about?
- 3) What outcomes would Council regard as evidence that the Trout Management Plan is successful?
- 4) How should angler opportunity, satisfaction, and ecological drivers be balanced within a management framework?



North Canterbury Fish & Game

Trout Monitoring Toolkit

September 2026

Prepared by H. Sanders Garrick

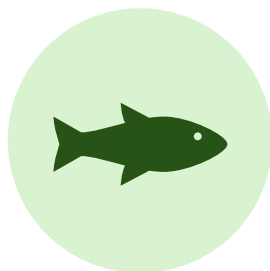
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INTRODUCTION

The purpose of this document is to describe methods which can be used to monitor various aspects of the trout population by Fish & Game staff in North Canterbury. These methods comprise a toolkit which may be applied as needed to garner valuable insight about North Canterbury trout populations.

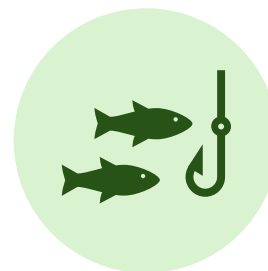
Methods are broken into three categories:



Methods to monitor
trout populations



Methods to
monitor **trout**
habitat



Methods to
monitor **trout**
anglers

Each category provides a valuable component of information that allows Fish & Game to more effectively manage trout populations.

The most effective method of monitoring depends on the question of interest – also known as the core objective. Figure 1 depicts the decision tree used by North Canterbury Fish & Game staff to determine the best monitoring method for the most common core objectives for trout (Grainger et al. 2013, Rowe & Graynoth 2002).

Due to limitations in staff time and budget, not all monitoring methods can be implemented at once (Appendix I). As such, methods will be implemented to assess trout populations based on North Canterbury Fish & Game Council priorities. Additional methods may be employed to assess specific research objectives as required.

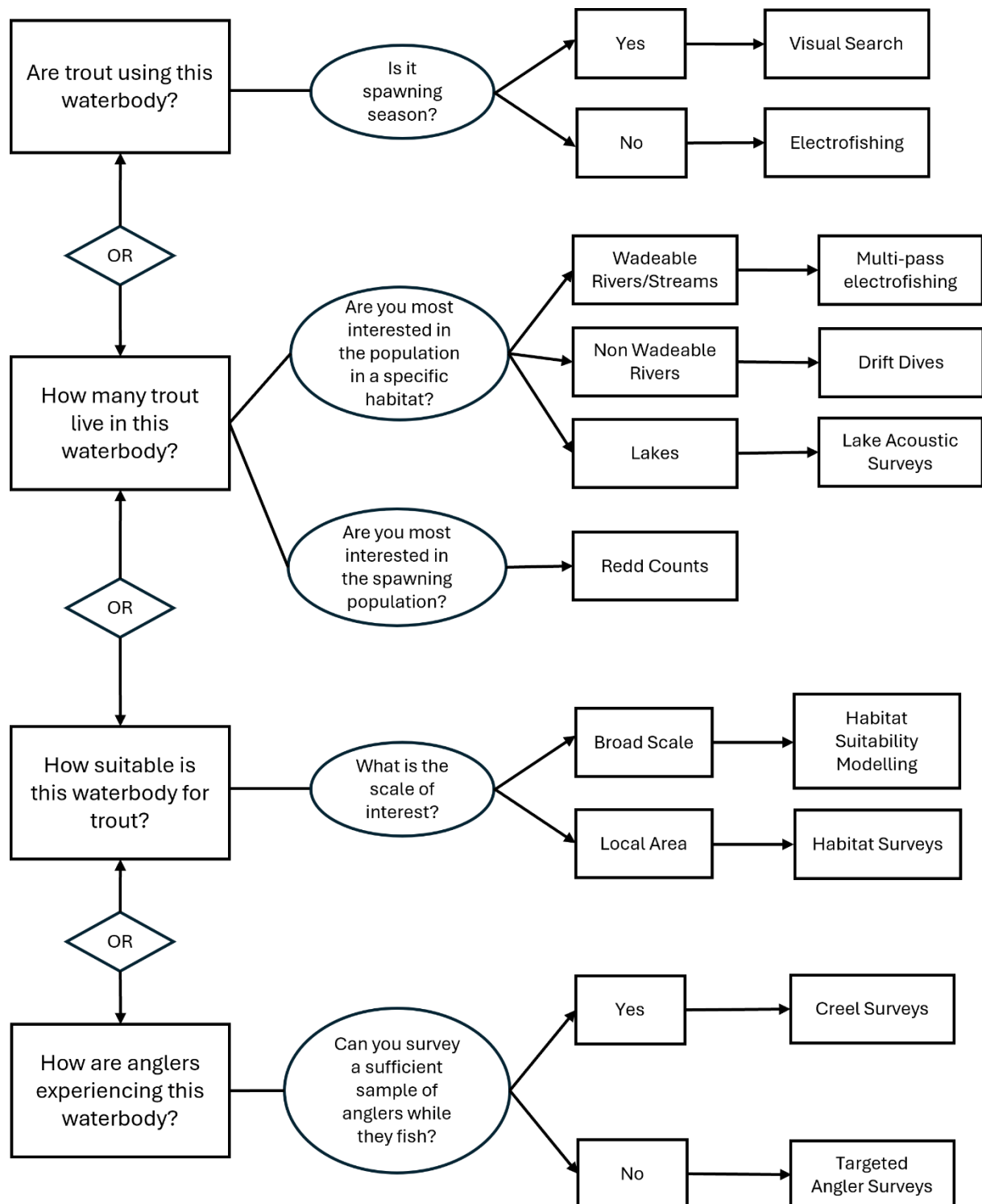


Figure 1. Decision Tree depicting the most appropriate survey methodology for trout based on the core objective.

MONITORING TROUT POPULATIONS

PRESENCE/ABSENCE SURVEYS

Presence/absence surveys are used to identify if trout are using a stream during a given stage of the life cycle, but are not used to estimate population size. Changes in presence over time, or trends in presence relative to environmental factors provide valuable insight into how environmental changes impact trout populations.

VISUAL SEARCH

SUMMARY

Visual search is a non-invasive method for determining whether or not trout are present in a stream that requires very little equipment or staff training. As this method is non-invasive, it is suitable year-round, provided stream conditions are clear. However, this method is less effective than electrofishing as fish may be concealed under debris, boulders, or overhanging banks.

OBJECTIVES

To identify the presence of trout.

SITE SELECTION & MONITORING SCHEDULE

Presence/absence sampling of trout should occur on a per need basis, to address specific management questions. The site selection and monitoring schedule will be entirely dependent on the core objective.

TIMING OF MONITORING

Visual searches can be conducted at any time of year, when stream conditions are suitable – specifically the water is clear enough to identify trout. Timing of surveys will depend on the core objective and should occur when the life stage of interest is most likely to be observed based on the NIWA fish spawning and migration calendar and local staff knowledge (Smith 2014).

FISH SAMPLING

A minimum of one staff member is required to conduct visual searches, however two staff members are preferred for health & safety purposes. Sampling should be conducted from the access point to the end of the defined reach of interest. If the stream of interest is too wide for both banks to be observed from the same position, passes of both banks may be required. Up to three site visits should be conducted a minimum of 6 hours apart, all during daylight hours. If trout are detected on the first or second pass, additional site visits are not required, as presence has been confirmed. To confirm spawning activity, redds may be used in lieu of sighting fish, provided the observer is sufficiently trained in redd identification.

ELECTROFISH SAMPLING

SUMMARY

Using electrofishing for presence/absence surveys is the most effective method for determining if trout are present in a wadable stream. However, due to the invasive nature of electrofishing, it is not a suitable method when trout are spawning or in cases where sensitive populations of native fish are present.

OBJECTIVES

To identify the presence of trout.

SITE SELECTION & MONITORING SCHEDULE

Presence/absence sampling of trout should occur on a per need basis, to address specific management questions. The site selection and monitoring schedule will be entirely dependent on the core objective.

Additionally, site selection should take the safety of staff into consideration. Any streams selected for electrofishing should meet the safety requirements laid out in the North Canterbury Fish & Game standard operating procedure (SOP) for electrofishing (NCFG 2025a).

TIMING OF MONITORING

Electrofishing should be avoided when trout are most likely to be spawning, to reduce impacts on spawning and recruitment (NCFG 2025a). According to the NIWA fish spawning and migration calendar, peak spawning for brown trout occurs in May–June with potential to spawn from March–July (Smith 2014). Peak spawning for rainbow trout occurs in June–August with potential spawning occurring from May–September.

FISH SAMPLING

Sampling will be conducted according to the North Canterbury Fish & Game SOP for electrofishing (NCFG 2025a). A minimum of two staff members is required to conduct sampling – one person to operate the electrofishing machine, and one to net fish. However, three staff members are preferred to improve sampling efficiency and for health & safety purposes. Sampling should occur in three passes, and should take care to survey all available habitat and avoid introducing bias from the surveyor's perception of suitable habitat. If trout are detected on the first or second pass, additional passes are not required, as presence has been confirmed.

RELATIVE ABUNDANCE SURVEYS

Relative abundance surveys are more intensive than presence/absence surveys but provide staff with a means to estimate population size.

MULTIPASS ELECTROFISH SAMPLING

SUMMARY

Using electrofishing for population monitoring produces data on abundance, distribution, and recruitment of trout in a way that is statistically robust, allowing staff to make inferences about the broader population. However, this methodology is limited to shallow streams and requires intensive staff time and training.

OBJECTIVES

Objective A: To quantify trout abundance.

Objective B1: To estimate the proportion of habitat containing adult trout.

Objective B2: To estimate the proportion of habitat containing juvenile trout.

Objective C: To provide an estimate of trout recruitment.

AREAS OF INTEREST

An Area of Interest (AOI) is a subset of a region or river catchment that is of particular importance, in accordance with the monitoring needs of the Council.

An AOI for this survey may be identified according to the following criteria:

- Important area for angler activity as provided by the 2021/22 National Angler Survey (Stoffels & Unwin 2023)
- Regulatory significance (e.g. Designated Waters)
- Biological significance (e.g. indicator streams for river catchments)
- Significant to angler perceptions

SITE SELECTION

Within a given AOI, potential monitoring streams are selected according to the following criteria:

- Accessibility for annual monitoring (e.g. areas with public access)
- Electrofishing is a practical and safe method based on stream morphology and accessibility
 - Stream height does not exceed knee height
 - Mean wetted width is narrow enough to successfully survey with standard electrofishing methods

Trout populations that are demographically independent must be monitored separately (Dauwalter et al. 2024).

SAMPLING STRATEGY

The sampling strategy for this survey is based largely on the Arizona Fish and Game Apache Trout Monitoring Plan (Dauwalter et al. 2024). Following site selection, AOIs are split into potential sampling units. Sampling units consist of 100 m reaches for streams of 2 km or more and 50 m reaches for streams of < 2km (Dauwalter et al. 2024). The sampling units to be surveyed are selected using a random number generator, which selects a random number 1-n where n= the number of potential sampling units in a stream. This randomly selected sampling unit serves as the anchor for the survey.

SAMPLE SIZE

Dauwalter and colleagues (2024) recommended a minimum sample size of 20% of available habitat, or one 100 m reach every 0.5 km along the sampling frame. This sampling scheme was selected in order to detect changes to the trout population of 40% or more with an 80% confidence interval, and was based on the standard deviation of historic surveys.

Following initial surveys, staff may find that sampling variation in the local trout population is higher than anticipated, and 20% of the available habitat is not sufficient to detect a 40% change in the population. In this case, the sample size

should be increased following the methods described in Dauwalter et al. (2017), Appendix B.

MONITORING SCHEDULE

The same sample reaches should be monitored every 5 years. Populations can be surveyed as subgroups of the population referred to as panels. All reaches within a panel are sampled in a single year, and different panels are surveyed each year on a 5-year rotation. This method is referred to as rotating panel design (Urquhart and Kincaid 1999), and may better allow for sampling to fit within the annual workflow and budget.

TIMING OF MONITORING

Surveys must be conducted at the same time of year during each year monitoring occurs. For example, if a survey is conducted during early December in the initial year of monitoring, then every year the survey occurs it should be conducted around early December (i.e., late November–December). Timing should match as best as possible to the fish life cycle and river flow conditions. Because trout spawn once per year at roughly the same time (Smith 2014), and have different mortality at each stage of the life cycle (Hayes 1988), surveying at the same time each year gives the most consistent metric of population size and age structure.

Electrofishing should be avoided when trout are most likely to be spawning. This is to avoid impeding spawning and recruitment (NCFG 2025a). Peak spawning for brown trout occurs in May–June with potential to spawning from March–July (Smith 2014). Peak spawning for rainbow trout occurs in June–August with potential spawning occurring from May–September.

Based on staff knowledge of the local trout life cycle, the best time of year to monitor for assessing recruitment is late summer (i.e., late January and February; Emily Craig, personal communication). Surveys could be conducted in late November and December, but would require extra considerations for juvenile identification. Namely, juveniles would need to be photographed to be identified in office using an identification guide.

FISH SAMPLING

Sampling will be conducted according to the North Canterbury Fish & Game standard operating procedure (SOP) for electrofishing (NCFG 2025a). A minimum of two staff members is required to conduct sampling – one person to operate the electrofishing machine, and one to net fish. However, three staff members are preferred to improve sampling efficiency and for health & safety purposes.

Sampling should occur in three passes, and should take care to survey all available habitat and avoid introducing bias from the surveyor's perception of suitable habitat.

Habitat sampling is required within each sampling unit, following fish sampling procedure. At a minimum, habitat data that should be collected includes the total surveyed reach length and at least ten reach widths so you can obtain an estimate of the average wetted width. With the reach length and average wetted width, you will be able to approximate the total area (m²) fished. A sample field sheet for habitat data is located in the Electrofishing SOP (NCFG 2025a; Appendix 2 & 4).

DRIFT DIVES

SUMMARY

Drift diving provides an index of trout in rivers that are too deep for effective electrofishing. Drift diving is a quick and efficient method to survey trout abundance, and has been used extensively throughout New Zealand since the 1970s (Teirney & Jowett 1990).

OBJECTIVES

Provide an index of trout population abundance at important angler sites and monitor changes in indexed abundance from year to year.

AREAS OF INTEREST

An AOI is a subset of a region or river catchment that is of particular importance, in accordance with the monitoring needs of the Council.

An AOI for drift diving is identified according to the following criteria:

- Important area for angler activity as provided by the 2021/22 National Angler Survey (Stoffels & Unwin 2023)
- Regulatory significance (e.g. Designated Waters)

SITE SELECTION

Within a given AOI, potential monitoring sites are selected according to the following criteria:

- Accessibility for annual monitoring (e.g. areas with public access)
- Drift diving is a practical and safe method based on river morphology and accessibility

- Rivers are sufficiently deep to allow a diver to survey the reach, but not so deep as to prevent the diver from adequately observing the full water column
- Mean wetted width is narrow enough to allow for the system to be adequately observed with a team of no more than 5 divers
- There are no or minimal sections of river containing rapids or other significant hazards that would prevent divers from safely surveying the reach

MONITORING SCHEDULE

The most important sites (as determined by angler usage and regulatory significance) should be surveyed annually. Additional sites may be surveyed using a 2–5 year rotating panel design (Urquhart and Kincaid 1999) to better allow for sampling to fit within the annual workflow and budget.

TIMING OF MONITORING

Surveys must be conducted at the same time of year during each year monitoring occurs. For example, if a survey is conducted during early March in the initial year of monitoring, then every year the survey occurs it should be conducted around early March (i.e., late February–March). Timing should match as best as possible to the fish life cycle and river flow conditions. Because trout spawn once per year at roughly the same time each year (Smith 2014) and have different mortality at each stage of the life cycle (Hayes 1988), surveying at the same time each year gives the most consistent metric of population size and age structure.

Historically, drift dives have been conducted in North Canterbury in February and March. During this time period, juvenile fish are large enough to consistently identify and rivers in North Canterbury are typically at base flow (R. Gabriellson, personal communication), allowing for safer and more accurate surveys.

FISH SAMPLING

Drift diving is conducted according to the North Canterbury Fish & Game Drift Dive Monitoring SOP (NCFG 2025b). At minimum, drift diving requires a team of five – four divers and one safety officer. Additionally, a minimum of two staff members is required to conduct the subsequent habitat surveys.

Divers align themselves in a straight line, parallel to the river flow, spaced evenly across the river. Divers float with the current at the surface, scanning the riverbed and water in front of them. Divers survey in an arc from due left to directly in front

of them (an arc of 90°), with the diver on the far right responsible for surveying from due left to due right.

To prevent double counting fish, staff communicate regarding fish that are likely to be counted by multiple divers using hand signals. Where river morphology might obscure fish, these areas are closely inspected. This includes overhangs in the bank, bedrock outcrops, boulders, and crevices.

Fish are counted and categorized by size: small (< 150 mm), medium (150 – 450 mm) and large (> 450 mm).

Habitat sampling is required within each sampled reach, following fish sampling. At a minimum, habitat data that should be collected includes the underwater visibility, mean wetted width, mean depth, and proportion pools. A sample field sheet for habitat data is located in the Drift Dive SOP (NCFG 2025b; Appendix C).

LAKE ACOUSTIC SURVEYS

SUMMARY

Using acoustic monitoring is an effective method for producing relative indices of salmonid abundance in lake habitats. However, this methodology is limited to deep lakes, and requires the rental of expensive equipment which requires extensive staff training.

OBJECTIVES

To produce a relative index of salmonid abundance.

SITE SELECTION

This type of sampling is suitable for deep lakes, with a maximum depth of greater than 20m. In North Canterbury, only Lake Coleridge and Lake Sumner are likely to meet the depth requirements for this survey type.

Within deep lakes, transects are selected based on three factors:

- 1) Importance to anglers (i.e., popular area for fishing based on staff knowledge from compliance efforts)
- 2) Biological importance to trout
- 3) Substrate suitability

Regarding substrate suitability, obstructions in the water column, such as submerged vegetation, can limit the ability of the instruments to detect fish

(Gauthier 2009). Transects should be tested to confirm suitability before committing them to the monitoring strategy.

MONITORING SCHEDULE

Due to the cost associated with acoustic surveys, monitoring should be performed every 2-5 years as budgets allow. In years that monitoring occurs, all transects on both suitable lakes should be surveyed.

TIMING OF MONITORING

Surveys must be conducted at the same time of year during each year for the most consistent metric of population size. This is because trout spawn once per year at roughly the same time (Smith 2014) and have different mortality rates at each stage of the life cycle (Hayes 1988). In order to maintain continuity with surveys performed in other regions, surveys should occur late January – mid February (Couper 2025).

FISH SAMPLING

The sampling strategy for this survey is based on the protocol established by NIWA during the 2007-09 acoustic surveys of South Island lakes (Gauthier 2009). A minimum of two staff members is required to complete the survey. The skipper must have attained the relevant boat driver's certification, per North Canterbury Fish & Game health and safety policy.

Sampling consists of single pass acoustic transects following zigzag patterns along shorelines, covering depths from 2-30m. For narrow lakes that do not exceed 30m in depth, a zig zag pattern may be used that crosses the width of the lake rather than along the shore. Boat speed during transects should remain consistent at approximately 4.0 knots, not to exceed 4.5 knots. Acoustic data is collected using a SIMRAD IK60 echosounder with a 22 degree split-beam 120kHz transducer (Gauthier 2009, Industrial Research Limited). The transducer is mounted on the side of the boat on the lower end of a pole, fitted into a bracket on the starboard side of the vessel. A connected laptop records and live-georeferences the data using the SIMRAD EK80 software.

REDD COUNTS

SUMMARY

Redd counts are a well-established method to produce an index of the breeding population in salmonids. However, this method requires repeated surveys throughout the spawning season, and, thus, is very time intensive.

OBJECTIVES

To produce an index of salmonid spawning activity.

AREAS OF INTEREST

An AOI is a subset of a region or river catchment that is of particular importance, in accordance with the monitoring needs of the Council.

An AOI for this survey may be identified according to the following criteria:

- Important area for angler activity as provided by the 2021/22 National Angler Survey (Stoffels & Unwin 2023)
- Regulatory significance (e.g. Designated Waters)
- Biological significance (e.g. indicator streams for river catchments)
- Significant to angler perceptions
- Trout populations that are demographically independent must be monitored separately (Dauwalter et al. 2024).

SITE SELECTION

Within a given AOI, potential monitoring streams are identified using the methodology outlined by the North Canterbury Salmonid Habitat Suitability Model (Sanders Garrick 2025). All available spawning habitat within the AOI must be identified, followed by an assessment of survey accessibility.

SAMPLING STRATEGY

The sampling strategy for this survey is based largely on the methodology described by the Salmonid Field Protocols Handbook (Gallagher et al. 2008). Following site selection, streams within the AOI are stratified by stream order or other substantial habitat characteristic and split into 250 m reaches (Irvine et al. 1992). These 250m reaches constitute potential sampling units. Potential sampling units are selected at random, with an equal number of sampling units selected from each stratum.

SAMPLE SIZE

The appropriate sample size for this survey consists of a stratified random sample constituting approximately 10% of the total habitat within the AOI (Gallagher et al. 2008).

MONITORING SCHEDULE

The same sample reaches should be monitored every 5 years. Populations can be surveyed as subgroups of the population referred to as panels. All reaches within a panel are sampled in a single year, and different panels are surveyed each year

on a 5-year rotation. This method is referred to as rotating panel design (Urquhart and Kincaid 1999), and may better allow for sampling to fit within the annual workflow and budget.

TIMING OF MONITORING

Survey timing should coincide with spawning for the species of interest. Spawning for brown trout occurs March – July while rainbow trout spawn May – September (Smith 2014). Surveys should begin before the onset of spawning and continue until spawning is complete (Gallagher et al. 2008).

FISH SAMPLING

The sampling methodology for this survey is based largely on the methodology described by the Salmonid Field Protocols Handbook (Gallagher et al. 2008). Surveys may be conducted by wading, rafting/kayaking, or using a drone depending on what method best suits the AOI and the operational load. Staffing requirements will vary depending on the methodology selected.

During surveys, regardless of methodology, individual redds are counted and marked using a handheld GPS. The date each redd was first observed, the fish species, the precise location, how many fish are present, and redd status (whether or not the redd is completed and whether it is still active) are recorded. Surveys should be repeated 7 – 14 days apart throughout the spawning run.

MONITORING TROUT HABITAT

HABITAT SUITABILITY MODELLING

SUMMARY

The development of a habitat suitability model for salmonid spawning in North Canterbury will help guide operational efforts in North Canterbury. By identifying segments of river that provide the in-stream habitat components required to support sustainable sports fish populations, we can focus efforts in areas that may have the greatest long-term impact on trout and salmon angling.

BACKGROUND

Suitable in-stream habitat for spawning plays a crucial role in the life cycle of both trout and salmon. Survival of eggs to fry can be variable and is highly influenced by in-stream conditions (Healey 1991). In trout, availability of spawning habitat has been positively correlated with adult population density (Beard and Carline 1991). As such, quality spawning habitat is a critical factor in supporting healthy salmonid populations.

MODEL CREATION

Staff at North Canterbury Fish & Game have developed preliminary habitat suitability models for rainbow trout and brown trout spawning (Sanders Garrick 2025). These models were developed using a combination of internal data and data from other sources, such as the New Zealand Freshwater Fish Database (Stoffels 2022), the Freshwater Ecosystems of New Zealand geodatabase (Leathwick et al. 2010), and the River Environment Classification geodatabase (Snelder et al. 2004).

MODEL VALIDATION

During the 2025/26 financial year, staff at North Canterbury Fish & Game will begin the process of model validation. Staff will ground truth sites throughout the region with various predicted suitability for two trout species; rainbow and brown trout. Ground truthing will consist of visually searching pre-selected locations for salmonids or redds during the months spawning is most likely to occur.

Alternatively, staff can electrofish segments in December and January in search of juvenile trout, following the procedure outlined in the presence/absence electrofish survey section of this report. In Jan Ground truthing data will be used to validate and fine tune the models as needed.

The final models will be released publicly when available, and incorporated into the final draft of this document. The estimated release date for the final models is September 2028.

HABITAT SURVEYS

SUMMARY

Habitat surveys are used to evaluate the suitability of a stream or lake for trout. These surveys are performed on the ground and are catered toward a specific core objective. Habitat surveys are coupled with a number of the trout population surveys discussed in this document. This section will focus on habitat surveys which are performed separately from additional population monitoring methods.

OBJECTIVES

To determine how suitable the habitat in a given area is for trout during a specific stage of the life cycle.

SITE SELECTION & MONITORING SCHEDULE

Habitat surveys should occur on a per need basis, to address specific management questions. The site selection and monitoring schedule will be entirely dependent on the core objective.

TIMING OF MONITORING

Habitat surveys can be conducted at any time of year, as conditions allow. Timing of surveys will depend on the core objective and should coincide with the life stage of interest based on the NIWA fish spawning and migration calendar and local staff knowledge (Smith 2014).

HABITAT SAMPLING

Specific sampling strategies for habitat surveys will be dependent on the core objective, however there are key elements that should be included in habitat surveys for trout whenever possible:

- **Substrate Size:** Spawning trout require loose gravel with low silt content to support egg survival, while juveniles require more substrate complexity.
- **Stream Habitat Composition:** Trout require deep pools as temperature refuges during hot summer months. Additionally, riffles are important for many food items. This will be measured by estimating the proportion of habitat that is pool or riffle.

- Large Woody Debris: Large woody debris, boulders, and overhanging banks provide valuable cover for trout. These features should be noted and, if possible, quantified.
- Water Quality: Trout require cool, clear water to survive. In particular, water temperature and turbidity are the two most important and easily measured metrics of water quality. When possible, flow rate and dissolved oxygen are also highly valuable metrics.

DRONE SAMPLING

One method for producing high-quality habitat surveys is to use drone technology to perform the survey (Woodget et al. 2017). These surveys are advantageous because staff are required to spend less time in the field, staff require less field training to consistently conduct the surveys, and they eliminate some of the traditional health and safety hazards compared with traditional in-stream surveys. These surveys eliminate observer bias in measurements and allow staff to characterise the entire reach of interest. However, this methodology does require at least one staff member trained in proficient drone use and at least one staff member who is proficient in remote sensing analysis.

The methodology used to perform drone habitat surveys is consistent with the methods described by Wang et al. (2026). Optimised flights are designed by digitising the reach of interest and identifying boundaries for obstacle avoidance using GIS software. Within a 10m buffer of the stream of interest, two flight routes are determined – a high elevation route at approximately 30m and a low elevation route at approximately 5m from ground height. The high elevation route is conducted in a serpentine pattern, with parallel lines set at a distance to achieve 75% image overlap. The low elevation route is used to illuminate areas that are likely to be obscured by shade or obstacles, with a route calculated using a Modified D-Lite algorithm to avoid obstacles while maintaining an efficient path of travel.

Once all images have been collected, photogrammetry software is used in the office to compile the images and build an ortho-terrain model. This model can then be used to take all required measurements for a stream habitat health assessment.

While the drone transects are designed and analysed in office, there are still measurements staff may be required to take in the field while the drone surveys are being performed. In particular, water temperature, turbidity, and flow rate must be measured by hand or supplemented using data loggers from other sources (for example, ECAN).

MONITORING TROUT ANGLERS

CREEL SURVEYS

SUMMARY

Creel surveys (also known as angler surveys) are a type of in-person survey designed to gain insight about angler efforts, angler success, harvest, and fishery perceptions. Creel surveys can be a valuable tool for both on-going and periodic fisheries monitoring (Nieman et al. 2021), and have long been used by fisheries managers to assess the status of recreational fisheries and inform management.

North Canterbury Fish & Game uses creel surveys to assess the perceptions and experiences of anglers on waterbodies of particular interest. The two ongoing angler surveys at North Canterbury Fish & Game are the high-country lakes survey and the stepping stone fisheries survey. While these are the only creel surveys currently operating, these same methods can be used to assess similar objectives in different AOIs or amongst different angler populations.

HIGH-COUNTRY LAKES SURVEY

AREA OF INTEREST

The AOI for this survey is the lakes in the upper Rakaia and upper Waimakariri catchments. Data from the 2022 National Anglers Survey demonstrated the importance of the lakes in this area to anglers, representing some of the most fished waters in the region (Stoffels & Unwin 2023). Additionally, many of these lakes border SH 76, which is a popular tourist route as the highway connects Christchurch to the West Coast. As such, these lakes are frequented by both local and tourist anglers.

OBJECTIVES

The purpose of the high-country lakes creel survey is to quantify the experience of anglers fishing these high value waters. In order to meet this objective, staff may:

- A) Quantify angler catch rate
- B) Assess angler harvest rate
- C) Identify the fishing methods used by anglers
- D) Evaluate angler satisfaction with various aspects of their fishing experience

MONITORING SCHEDULE

The lakes in this AOI are surveyed annually during routine compliance activities. Monitoring annually allows staff to keep a thumb on the pulse of the most utilised lakes, like Lake Coleridge. Additionally, this allows staff to compile data from less frequented lakes over multiple years to provide a better understanding of angler experience at those lakes.

TIMING OF MONITORING

Surveys occur throughout summer, from 1 December to 31 March annually. The survey period matches the period when these lakes experience the most angler pressure, making it an ideal time for both angler surveys and compliance efforts.

SURVEY DESIGN

Survey design is based on similar surveys from Otago Fish & Game (Sowry 2023) and Lake Taupō (DOC 2025). Anglers are asked a series of questions regarding how long they've been fishing that day, the fishing methods they used, how many fish they caught, and how satisfied they felt with the size and condition of fish they caught, the number of fish they caught, and their overall experience fishing that day. Staff also record information on the angler gathered during compliance checks such as name and licence number, the date, and the location of encounter.

STEPPING STONE FISHERIES SURVEY

AREA OF INTEREST

The AOI for this survey is existing stepping stone fisheries in North Canterbury, namely Roto Kōhatu. A stepping stone fishery is a fishery that presents opportunity for children and other novice anglers to gain angling experience. Characteristics of a stepping stone fisher are a large, easy to catch population of fish, easy access for children and families, and close proximity to population centres.

OBJECTIVES

The purpose of the stepping stone fisheries survey is to determine the traits of a successful stepping stone fishery that make it popular with urban and novice anglers. The ultimate goal of this survey is to gather metrics that can be used to identify and evaluate potential new sites for stepping stone fisheries.

In order to meet this objective, staff may:

- A) Quantify angler catch rate
- B) Quantify angler harvest rate

- C) Evaluate angler satisfaction with various aspects of their fishing experience
- D) Assess the relative perceived importance of various attributes (e.g., toilets, accessible trails, picnic areas) of stepping stone fisheries to anglers
- E) Evaluate the distance anglers travel to utilise stepping stone fisheries

This survey will allow staff to evaluate changes in angler satisfaction and catch rates relative to timing of fish stocking efforts in a popular put-and-take fishery.

MONITORING SCHEDULE

This is a short-term survey. Anglers will be surveyed annually until staff have obtained a sufficient sample size to meet the survey objectives. However, the survey is developed as an extension of the High Lakes survey (Graham-Samson & Sanders Garrick 2025), and with questions similar to the Otago and Lake Taupō creel surveys (Sowry 2023; DOC 2025). As such, the results of these surveys can be used in the future should staff choose to implement continued monitoring of angler experience at stepping stone fisheries.

TIMING OF MONITORING

Surveys occur over the winter fishing period, 1 April – 31 October, as Roto Kōhatu is closed to fishing during the summer months. Surveys are conducted during routine compliance activities. Efforts are also focussed during school holidays when families and children are most likely to utilise the fishery.

SURVEY DESIGN

Survey design is based on the High-Country Lakes Survey (Graham-Samson & Sanders Garrick 2025), similar surveys from Otago Fish & Game (Sowry 2023), and Lake Taupō (DOC 2025). Additional questions were asked to determine how far the angler travelled to reach the site, the relative importance of the ease of catch, proximity to home or work, the amenities available at the lake, and the accessibility of the lake were to the angler's enjoyment of the lake, and how likely each angler would be to recommend the fishery to the children in their life and other novice anglers.

TARGETED ANGLER SURVEYS

SUMMARY

Post-season surveys are used to assess angler satisfaction and activity related to important regulations. These surveys are designed to collect information specific to existing regulations, and serve to provide information to the Council and the Minister of Hunting & Fishing to support the decision-making process. Targeted

angler surveys are typically employed in backcountry areas where it is difficult for staff to survey a sufficient number of anglers to derive meaningful results. It is important to note that, as budgets and logistics allow, in person creel surveys are the preferred method for monitoring trout anglers.

North Canterbury Fish & Game staff currently use targeted angler surveys to assess angler use and satisfaction with the Designated Waters programme and the experimental Controlled Fishery.

DESIGNATED WATERS SURVEY

ANGLERS OF INTEREST

This is a targeted survey to measure angler use and satisfaction with the North Canterbury Designated Waters programme. Only anglers who purchased a North Canterbury Designated Waters Licence during the preceding fishing season are contacted during this survey.

OBJECTIVES

The objectives of this survey are to:

- A) Quantify angler satisfaction with various aspects of their fishing experience
- B) Estimate angler use for each Designated Waters fishery

MONITORING SCHEDULE

This survey is repeated annually, allowing staff to monitor changes in angler use and satisfaction and supply information that may impact Designated Waters regulations to Council and the Minister in a timely manner.

TIMING OF MONITORING

Surveys occur immediately following the annual closure of high-country rivers on 30 April.

Surveys could be improved by surveying Designated Waters licence holders every 2 months during the season, 1 October – 30 April, following the methods set out by the National Angler Survey (Stoffels & Unwin 2023). However, this would require a substantial increase in staff time allocated to the survey.

SURVEY DESIGN

Each year North Canterbury Fish & Game invites all anglers who had purchased a North Canterbury Designated Waters licence to participate in an online survey via email. Both anglers who did and did not actively fish the Designated Waters system are encouraged to participate to produce the most accurate estimates of

usage. However, only anglers who reported they fished North Canterbury Designated Waters are asked questions regarding their satisfaction with their fishing experience. Questions regarding satisfaction with the fishing experience are designed to be comparable to the high-country lakes creel survey (Graham-Samson & Sanders Garrick 2025), and similar surveys in the Otago region of Fish & Game (Sowry 2023) and Lake Taupō (DOC 2025).

CONTROLLED FISHERY SURVEY

ANGLERS OF INTEREST

This is a targeted survey to measure angler use of the Hurunui River Controlled Fisheries, and to identify any issues encountered by anglers using the system. Only anglers who booked days on one of the Hurunui River Controlled Fisheries are contacted during this survey.

OBJECTIVES

The objectives of this survey are to:

- A) Quantify angler use of each controlled fishery
- B) Identify any issues anglers are having with the booking system

MONITORING SCHEDULE

This survey occurred during the two-year experimental period of the Controlled Fishery Booking System, during the 2024/25 and 2025/26 fishing seasons.

If the Controlled Fishery is extended beyond the experimental period, this survey may continue annually or on a 2-5 year rotation to monitor trends in angler use of the system, and maintain records to support regulations.

TIMING OF MONITORING

Anglers are contacted within 2 weeks of the end of their booking period from 1 October – 30 April. Anglers which could not be contacted during the fishing season are surveyed in March.

SURVEY DESIGN

Anglers are contacted by phone within two weeks of their booked dates, and asked if they fished on their booked dates, how many of their booked dates they fished, and how many anglers were in their fishing party. Additionally, anglers were asked to comment on any issues they encountered when booking or fishing the Hurunui Controlled Fisheries.

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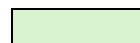
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APPENDIX I

Operational Workload by Monitoring Activity

Activity		S	O	N	D	J	F	M	A	M	J	J	A
Visual Search													
Electrofish Sampling													
Multipass Electrofishing													
Drift Dives													
Lake Acoustic Surveys													
Redd Counts	Brown												
	Rainbow												
Habitat Surveys													
Creel Surveys													
Targeted Angler Surveys													

If listed in OWP:



Activity Possible



Optimal Timing



Required Timing

OPERATIONAL PROGRESS REPORT

North Canterbury Fish and Game Council Meeting - 16 September 2026

Prepared By: NCFG Operational Staff

1. Kōrero taunaki - Summary of Considerations

a) Kaupapa – Purpose

To report operational performance against the Annual Work Plan and Strategic Plan outcomes during the reporting period to the North Canterbury Fish & Game Council (NCFG) on work by staff from July 2026 to September 2026.

b) Ngā taunaki - Staff Recommendations

1. Council receives this report.
2. Notes performance against operational objectives and key output areas.

2. Whakarāpopoto - Executive Summary

This report is a summary of progress of staff work against the 2025/2026 operational work plan since the last Council meeting, as well as progress on the annual strategic priorities set by Council.

Council Priorities

2025/2026 Strategic Priorities and Key Performance Indicators identified by Council;

- 1) Develop plant nursery and work with volunteers to source and grow native seedlings.

Status: Completed

- A plant nursery has been established and is functioning at the office. Multiple planting days have been held with a range of volunteers, with further planting days planned for the coming financial year.

- 2) Establish population base line for trout in High Country Lakes – use information to develop a “Trout Plan”.

Status: In Progress – Council Direction Required

- A trout monitoring toolkit is undergoing final revisions. Council direction is required to clarify the purpose, scope and desired outcomes of the Trout Plan, before associated work streams can be finalised. The update and paper are included in this Board pack.

3) Review the Salmon Management Plan.

Status: Completed

- The Salmon Adaptive Management Strategy has been reviewed to assess its effectiveness in meeting its objectives and whether it remains fit for purpose. The review is included in this Board pack.

4) Review population monitoring programmes.

Status: Completed

- Game bird monitoring programmes were reviewed with a report and recommendations provided to Council at the start of the 2025/2026 FY.
- Staff are working through potential options to adjust salmon monitoring methods to reduce costs.

5) Further develop stepping stone fisheries and evaluate effectiveness of Roto Kohatu as a stepping stone fishery.

Status: Ongoing

- A preliminary report on the effectiveness of Roto Kohatu was provided to Council in November 2025. No additional surveys were undertaken during 2026.

6) Develop a communications plan.

Status: Completed

- A communications plan was developed and provided to Council, with performance metrics reported at each Council meeting.

7) Maintain a high level of compliance.

Status: Ongoing

- Staff have maintained a significant focus on compliance, with offending rates substantially reduced compared with previous financial years.

3. Takenga mai – Background

This report is provided to the council each meeting to provide insight on recent staff activity.

4. Kōrerorero – Discussion

OUTPUT AREA 1: SPORT FISH AND GAME BIRD SPECIES MANAGEMENT

Population Monitoring

Lake Coleridge Trout Tagging

A total of 74 rainbow trout were tagged in Lake Coleridge between May and July 2026. Staff have begun monitoring the spawning streams in the Harper & Avoca River catchments to assess whether any of these fish have made it through the Harper Diversion gate to the spawning waters. Information obtained from this monitoring will feed into reporting for submitting on Contact Energy's reconsenting of the Harper Diversion scheme. Indications from Contact Energy are that they will use the Fast Track Act route for this. North Canterbury Fish and Game have been actively engaged with them regarding timelines and improvements we'd like to see.

Salmon Spawning Flights

The full Salmon Report is provided with the 'For Information' papers in this Board pack.

Harvest Assessment

Game Bird Harvest Surveys

The last game bird call period was completed at the beginning of September. Staff will be compiling South Island data for the South Island Harvest report.

Species Rescue

Staff continue to monitor El Niño conditions for any fish strandings. A coordination register for species rescue contacts across organisations (i.e., DOC, ECan, and University of Canterbury) for large-scale rescue operations is being compiled.

Regulations

Staff hosted the game bird reference group in August, with feedback being compiled to be included as part of consultation for Council consideration of game bird regulations at the November meeting.

The pre-season fisheries reference group meeting is being held early in mid-September to talk about potential regulation changes for the 2026/27 review. Council will receive a brief information paper at the November Council meeting.

Species Management and Control

Game Bird Control

During the 2025-2026 financial year 81 control/disturbance permits were issued (32 for pukeko, 21 for black swan, 24 for paradise shelduck, and 4 for mallards). An additional three permits were issued for cultural harvest of paradise shelduck and black swan (birds and/or eggs).

Sports Fish Control

During the 2025-26 financial year, a total of twelve sports fish permits were issued; one event licence (TAKF), one competition permit (Clubs South Island), one display permit (Willowbank), two out-of-season (coarse fishing), one special licence (disabilities assistance), and six electric fishing/netting authorisations (ecological contracting organisations). The display permit and six electric fishing/netting authorisations are ongoing into the next financial year.

OUTPUT AREA 2: HABITAT PROTECTION, MAINTENANCE AND ENHANCEMENT

Statutory Planning Process

For a more detailed overview of the RMA advocacy and planning to represent the interests and aspirations of anglers and hunters in the statutory planning process, see the RMA Report.

Assisted Habitat

Habitat Enhancement

The Game Bird Habitat Trust awarded an additional \$80,000 toward the 'Selwyn Backwater' project. Staff are working with the landowner and QEII to progress next steps.

OUTPUT AREA 3: PARTICIPATION

Increase Participation

Take a Kid Fishing

With the event 27th September, staff will collect fish from Nelson/Marlborough region hatchery the release into the Groynes junior fishing lakes. Staff and Honorary Rangers will be present on the day for compliance and to issue children's licences.

Three staff attended the funeral of David Denton.

Social Media

For a more detailed overview of recent regional communications and SMART goal tracking, see the Communications report.

Angler & Hunter Education

Staff are in the final phase of preparation for the inaugural Women's Fly-Fishing Course which will take place on the 19th September.

Satisfaction Surveys

Game Bird Hunter

Staff are working through editor revisions on the manuscript titled "Effects of variable daily bag limits on harvest and duck hunter satisfaction", which was submitted to the peer-reviewed Journal of Wildlife Management.

Access

Online Maps

Staff are working alongside a private app developer on updating and transitioning NCFG access map data for inclusion in a Freshwater Fishing NZ app for iOS. The app contains access maps, regulations, hatch predictions, fly recommendations, river flows, etc.

Paper Maps

The regional brochure for Designated Waters access has been updated to reflect the new regulations for the Upper Hurunui Controlled Fishery.

Newsletters

Ezines

Planning for the upcoming season's bi-weekly fishing reports.

Website

The sea-run salmon information hub and the Hurunui Controlled Fishery pages on the Fish & Game website have been updated ahead of the new season.

Magazine Supplements

Anglers are beginning to receive the 2026/27 season fishing magazine.

Client Relations

Club Relations

Staff gave presentations at the Christchurch Fishing & Casting Club AGM and the Christchurch South Rotary Club.

Media Relations

Staff continue to respond to media questions and support national office with writing and reviewing media releases. The Press have been approached to attend and write an article on the first NCFG women's fly-fishing course.

OUTPUT AREA 4: PUBLIC INTERFACE

Liaison

Public Liaison

Staff presented to fisheries management students at Lincoln University to provide an overview of what Fish & Game does the management tools Fish & Game use for fisheries management.

Statutory Liaison

The Coleridge Habitat Enhancement Trust (CHET) completed its annual financial statements. Staff on the board provided feedback into operational documents, in particular, work soliciting interim funding from Contact Energy to cover projected shortfall for ongoing costs associated with habitat projects until the Lake Coleridge reconsenting occurs.

Staff continue to attend meetings and liaise with Department of Conservation concerning multi-agency practical support for their recent Stokell's Smelt Action Plan. This work, as well as maintaining good relationships with other Statutory bodies, may be beneficial to better understanding the issues our lowland fisheries face.

OUTPUT AREA 5: COMPLIANCE

Since the last Council meeting in July there is no update on the gamebird hunting case before the courts. The sentencing for this has been adjourned to the end of October.

Staff have checked 35 licences (a combination of fishing and gamebird licences) since the middle of July. During this period, one offence on the Waimakariri river was detected for an angler fishing without a licence, another angler was detected at Lake Rotokohatu committing multiple offences and finally an offender has been observed committing multiple offences via a video posted on social media. One angler completed his diversion requirements at the end of July for fishing without a licence.

The encounter at Lake Rotokohatu is progressing to court sentencing at the end of September.

Staff have also finished planning out the summer compliance schedule which is shared with our honorary ranger team so they can get involved with staff.

Additionally, staff are holding a pre fishing season ranger training event with our honorary rangers which is run by staff. The purpose of this event is to refresh rangers when it comes to writing out ranger reports and gathering explanations from offenders.

Staff will also go over the compliance schedule with honorary rangers and determine their availability to join staff for ranging trips throughout the season. These trips provide honorary rangers the opportunity to explore various parts of the region as well as help them to get licence checks.

There will be a separate compliance report produced for the final council meeting of the year in November summarising the 2025/26 Fishing season and the regular 2026 Gamebird season. This will include the outcomes of the mentioned cases before the courts.

OUTPUT AREA 6: LICENCING

Licence production/distribution

Staff continue to issue licences in-office.

Agent Servicing

Staff have visited all of the main licence agents ahead of the 2026-27 season's fishing seasons going on sale. Staff will visit the smaller agents as needed, as well as providing continued support to all agents as the new season gets underway.

OUTPUT AREA 7: COUNCIL

Staff have prepared papers for Councils consideration for 16 September Meeting.

OUTPUT AREA 8: PLANNING AND REPORTING

Work is currently underway in finalising the 2026/27 Budget and Operational Work Plan. Work on the annual Audit Report will commence shortly.

OUTPUT AREA 9: ADMINISTRATION

National Liaison

Staff contributed to the National Game Bird Nuisance Policy, which has been finalised. Staff continue to provide feedback into national HPAI planning and preparedness. Staff continued to provide support with all national communications and licence holder insights when asked to assist.

Staff have also assisted NZC with video content for the new Fishing Knowledge Hub which is now live on the Fish & Game website (link below). The "how-to" video content will be added to the Knowledge Hub over the coming months.

[Fishing Knowledge Hub - Fish & Game New Zealand](#)

Staff have also been contributing regional information to NZC for Ministerial requests.

Regional Liaison

Staff provided feedback on game bird evidence prepared by Otago staff for RMA advocacy.

Staff are helping facilitate regional onboarding for the ongoing development of an app (iOS – Freshwater Fishing NZ) that displays F&G access information, as well as other pertinent information to fishing conditions (regulations, river flows, etc).

Staff have assisted other regions with communications as required.

Staff training

One staff member has completed their boat masters and VHF radio course. This brings the number of North Canterbury boat skippers to three, which will help spread the workload amongst the staff.

One staff member will also be attending Qualitative respirator fit test training; this will allow other staff to be fitted with the appropriate masks for any HPAI-related work without needing to source external fittings.

FINANCE REPORT

North Canterbury Fish and Game Council Meeting - 16 September 2026

Prepared By: Debbie Ambler

1. Kōrero taunaki - Summary of Considerations

a) Kaupapa - Purpose

To inform Council of the financial performance and position, using an accounting accrual basis. It documents income and expenditure against the current year's annual budget. This Report covers the financial year to 31 August 2026.

b) Ngā taunaki - Staff Recommendations

That the Finance Report be accepted.

2. Whakarāpopoto - Executive Summary

- c) The 25/26 Budget used in this Report is \$1,074,183. This is made up of baseline funding of \$1,035,183, with the addition of approved use from reserves of \$39,000. A depreciation budget (\$105,996), levy payments (\$545,060) and Eyede charges (\$65,183) that are outside the normal budgeting process have been added to the bottom line of the budget.

d) Table 1A – Performance Overview (new Report)

Summarises

Income and Expenses

Profit and Loss (year to date and month end)

Balance Sheet

Bank Accounts

Cash Balance

e) Table 1B – Summary of Licence Revenue

Licence sales are received by two methods – Public Online (paid to NCFG monthly) and Agency Online (paid to NCFG on a bi-monthly basis). This table breaks down and compares major category licence sales only.

f) Table 2 – Cash Position (new Report)

Summarises Cash In v Cash Out

Net Cash Flow

g) Table 3 – Manual Journal Report

A new Report required by the Auditors for Council approval showing all manual journals completed for the reporting period.

h) Table 4 – Asset Replacement Fund

Shows assets brought and sold during the financial year and the balance of the Fund.

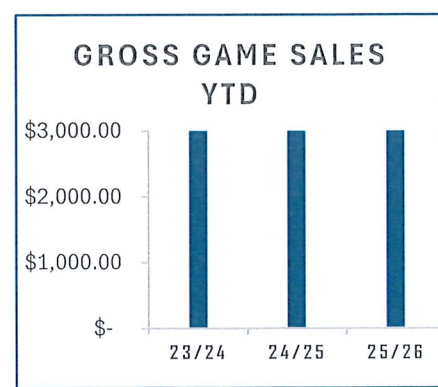
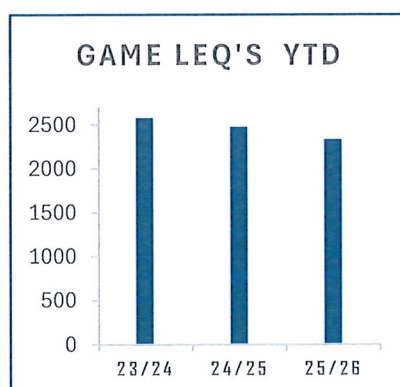
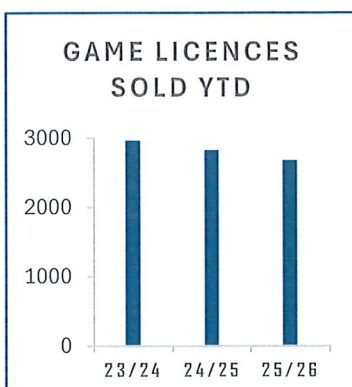
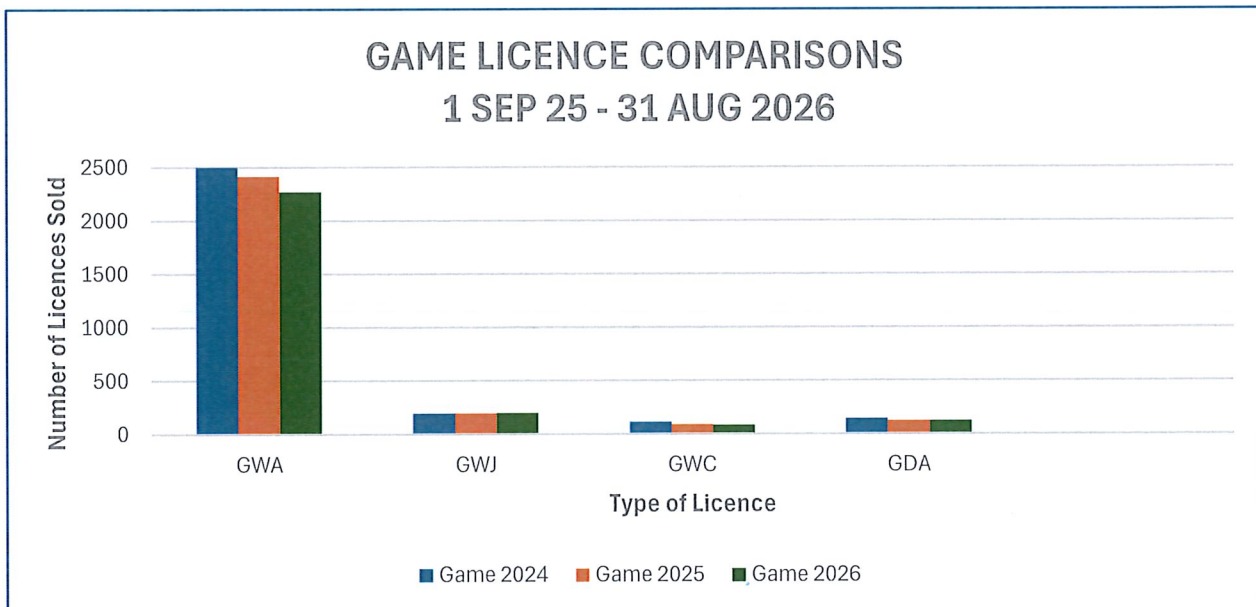
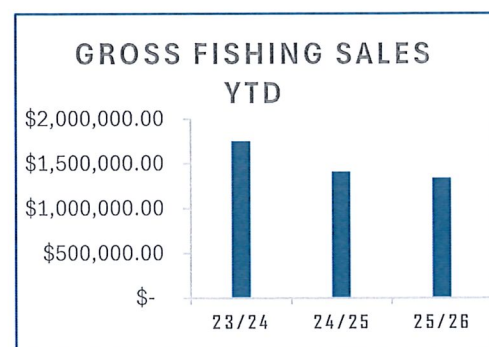
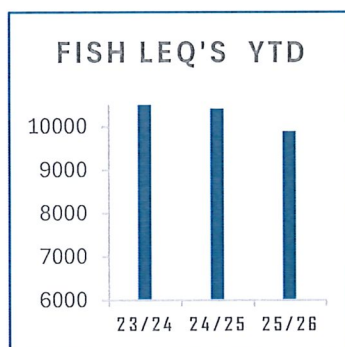
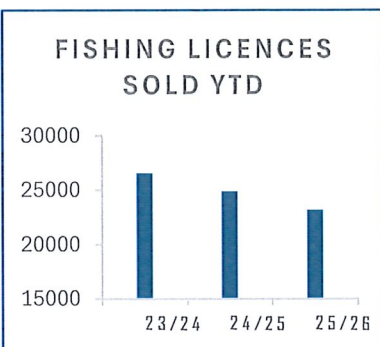
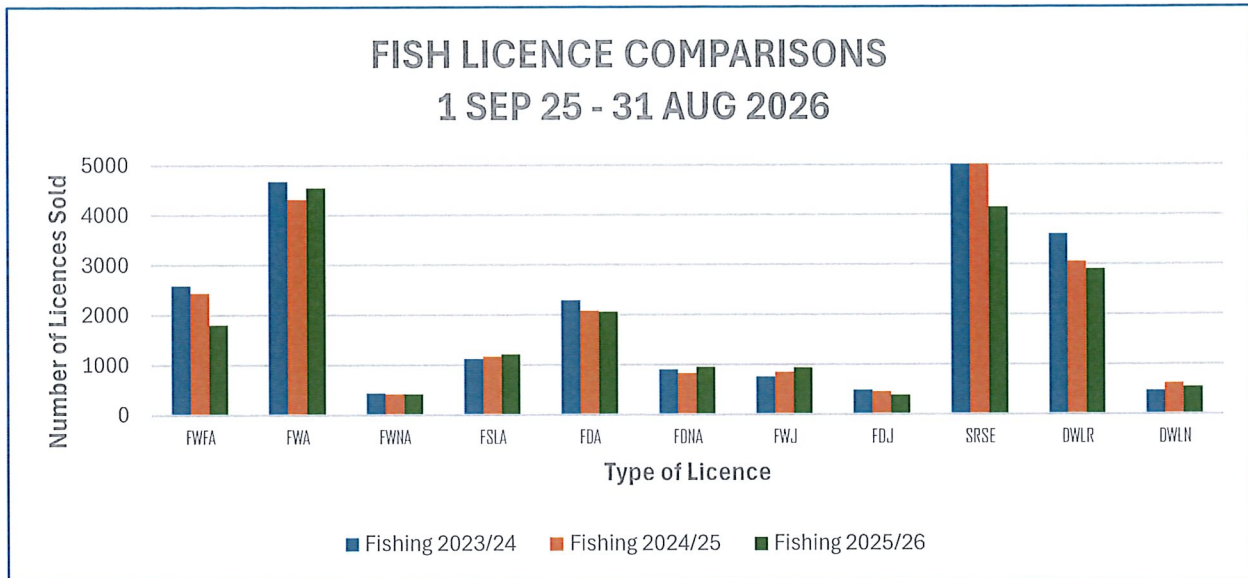
3. Kōrerorero – Discussion

- a. As at year end of the 2025/26 financial year fish licence income was down 5% with a variance of \$70,879, with gamebird sales down by 5.1% with a variance of \$13,641.
- b. However, overall income was significantly up against budget of \$74,600 by 112%. Major contributing factors that were unbudgeted for were a staff members' part-time secondment/contract to Southland Fish and Game for a period of nine months; working alongside MPI and other South Island regions to carry out banding of birds to monitor the spread of the highly pathogenic avian influenza (HPAI). ECan financially supporting the removal of old fencing around Te Waihora, with other smaller projects contributing to this total.
- c. Operational spending was at 95% of budget due to tighter controls over spending. However, overhead costs were 102% of budget mainly due to rising costs relating to the fuel crisis.
- d. With work underway on the annual Audit the following is a snapshot of expenditure against budget as at 31 August 2026. Note that audit adjustments/accruals/journals have yet to be applied where necessary.

Species Management	84,914	91,128	93%
Habitat Protection & Management	75,370	61,850	122%
Angler & Hunter participation	2,664	2,090	127%
Public Interface	5,004	500	1001%
Compliance	15,899	12,900	123%
Licencing Commission & Fees	59,838	65,183	92%
Salmon & Designated Waters Licence Costs	0	7,000	0%
Council	3,534	3,200	110%
Planning & reporting	10,942	27,820	39%
Overheads	941,037	921,401	102%

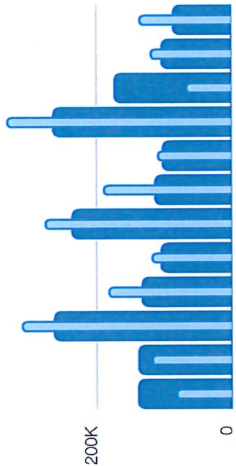
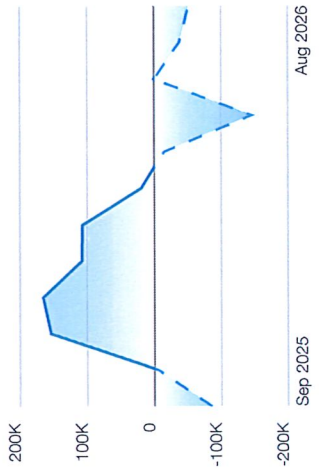
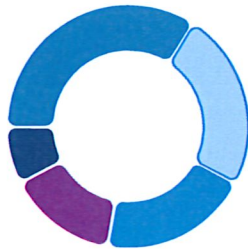
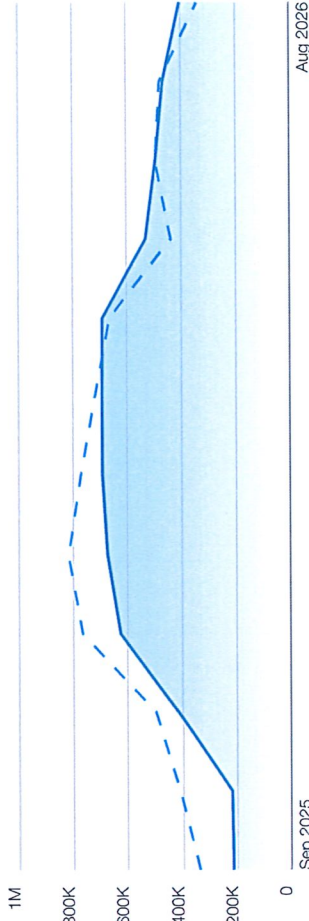
- a. Habitat & Protection – Major expense was for fencing around Te Waihora with costs being offset by approved Reserves, with residual RWCO costs being reimbursed by NZC which will show in the income.
- b. Public Interface – Costs relating to secondment to Southland and parliamentary fish being offset in income.
- c. Compliance – increased offenders being taken to court incurred higher legal costs.
- e. The usual end of financial year cashflow issues continue however, spending was reduced significantly in the July/August/September months allowing for a more positive bank balance at year end. The 'crunch time' is still to come in September when the final levy payment for the 2025/26 year is due.
- f. NZC has approved a top up of Reserves with a figure yet to be agreed upon. NZC has been advised that work is currently underway by our accountant to work out what that figure would be for a top up. This should be advised mid next week. The final levy for 2025/26 will be held back for payment until an agreement has been reached and a top-up payment has been made to NCFG.

TABLE 1B- LICENCE REVENUE



Performance overview

Monthly (FY YTD) ending on 31 Aug 2026

Income 1.93M Total Sep 2025 to Aug 2026 Down 6.18% ↓ 2.06M Total Sep 2024 to Aug 2025  1M Aug 2026 ● Current ● Prior		Expenses 1.72M Total Sep 2025 to Aug 2026 Down 11.56% ↓ 1.95M Total Sep 2024 to Aug 2025  400K Aug 2026 ● Current ● Prior		Profit and loss 211,606 Profit/loss Sep 2025 to Aug 2026  200K Aug 2026 — Profit - - - Loss		Summarised Profit and Loss Accounts Sep 2025 - Aug 2026 <table><tr><td>Trading Income</td><td>1.74M</td></tr><tr><td>Cost of Sales</td><td>0</td></tr><tr><td>Gross Profit</td><td>1.74M</td></tr><tr><td>Other Income</td><td>194,405</td></tr><tr><td>Operating Expenses</td><td>1.72M</td></tr><tr><td>Net Profit/Loss</td><td>211,606</td></tr></table>	Trading Income	1.74M	Cost of Sales	0	Gross Profit	1.74M	Other Income	194,405	Operating Expenses	1.72M	Net Profit/Loss	211,606									
Trading Income	1.74M																										
Cost of Sales	0																										
Gross Profit	1.74M																										
Other Income	194,405																										
Operating Expenses	1.72M																										
Net Profit/Loss	211,606																										
Summarised Balance Sheet Accounts Aug 2026 <table><tr><td>Assets</td><td></td></tr><tr><td>Bank Accounts</td><td>405,802</td></tr><tr><td>Current Assets (Excluding Cash)</td><td>1,013</td></tr><tr><td>Non-Current Assets</td><td>2.63M</td></tr><tr><td>Total Assets</td><td>3.04M</td></tr><tr><td>Liabilities</td><td></td></tr><tr><td>Current Liabilities</td><td>139,912</td></tr><tr><td>Long-Term Liabilities</td><td>0</td></tr><tr><td>Total Liabilities</td><td>139,912</td></tr><tr><td>Net Assets</td><td>2.90M</td></tr><tr><td>Total Equity</td><td>2.90M</td></tr></table>		Assets		Bank Accounts	405,802	Current Assets (Excluding Cash)	1,013	Non-Current Assets	2.63M	Total Assets	3.04M	Liabilities		Current Liabilities	139,912	Long-Term Liabilities	0	Total Liabilities	139,912	Net Assets	2.90M	Total Equity	2.90M	Bank accounts 405,802 Accounts balance Aug 2026  20% Minimum ... Income / Expe... Rakaia Restrict... Habitat Restora... Other		Cash balance 403,997 Balance at Aug 2026 Up 18.14% ↑  1M Aug 2026 — Current - - - Pric	
Assets																											
Bank Accounts	405,802																										
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Liabilities																											
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Long-Term Liabilities	0																										
Total Liabilities	139,912																										
Net Assets	2.90M																										
Total Equity	2.90M																										

Performance overview

Monthly (FY YTD) ending on 31 Aug 2026

Cash in

2.10M

Total Sep 2025 to Aug 2026

Down 9.99% ↓

2.34M

Total Sep 2024 to Aug 2025

Cash out

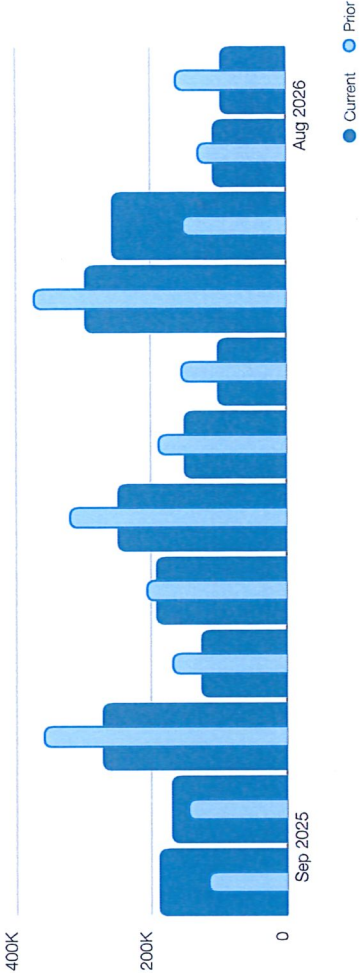
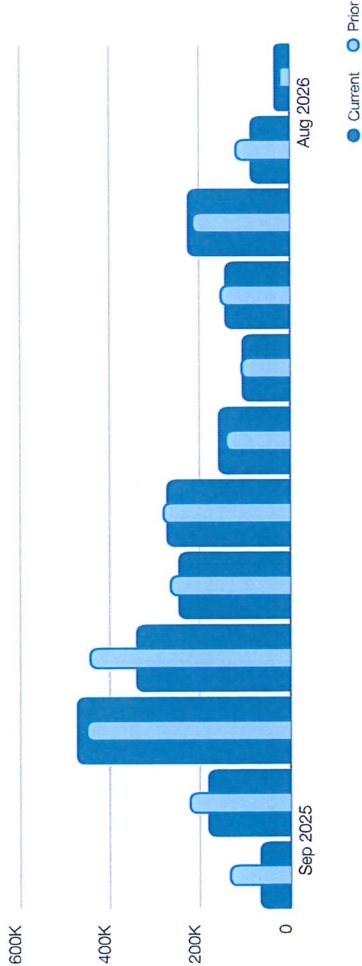
2.04M

Total Sep 2025 to Aug 2026

Down 12.04% ↓

2.32M

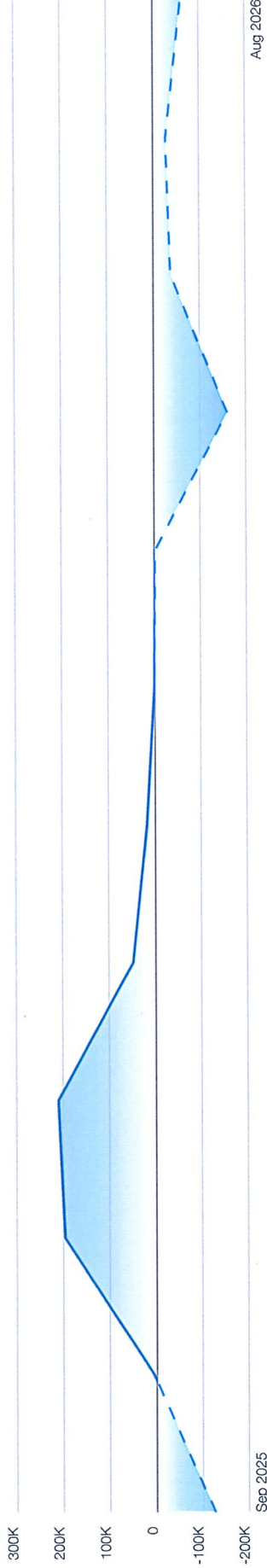
Total Sep 2024 to Aug 2025



Net cash flow

62,037

Net Cash Flow Sep 2025 to Aug 2026



Journal Report

North Canterbury Fish and Game Council For the period 1 May 2026 to 31 August 2026

DATE	JOURNAL ID	ACCOUNT CODE	ACCOUNT	DEBIT	CREDIT	POSTED DATE	POSTED BY
ID 63426 LICENCE SALES - INCOME IN ADVANCE TO 31 AUGUST 26 - Manual							
31 Aug 2026	63426	7011	Income in Advance	111,084.00	-	7 Sept 2026	Debbie Ambler
31 Aug 2026	63426	3000A	Fish Licence - Income in Advance	-	111,084.00	7 Sept 2026	Debbie Ambler
31 Aug 2026	63426	3000A	Fish Licence - Income in Advance	105,080.00	-	7 Sept 2026	Debbie Ambler
31 Aug 2026	63426	7011	Income in Advance	-	105,080.00	7 Sept 2026	Debbie Ambler
31 Aug 2026	63426	8770	Tracking Transfers	-	111,084.00	7 Sept 2026	Debbie Ambler
31 Aug 2026	63426	8770	Tracking Transfers	111,084.00	-	7 Sept 2026	Debbie Ambler
31 Aug 2026	63426	8770	Tracking Transfers	-	105,080.00	7 Sept 2026	Debbie Ambler
31 Aug 2026	63426	8770	Tracking Transfers	105,080.00	-	7 Sept 2026	Debbie Ambler
Total				432,328.00	432,328.00		
ID 63425 To Balance Reserves as at 31 August 26 - Manual							
31 Aug 2026	63425	8000a	Transfer to and from Reserves	-	78,600.85	7 Sept 2026	Debbie Ambler
31 Aug 2026	63425	8001-13	20 Minimum Cash Reserve	99,656.93	-	7 Sept 2026	Debbie Ambler
31 Aug 2026	63425	8001-14	Habitat Protection Revenue	-	6,253.14	7 Sept 2026	Debbie Ambler
31 Aug 2026	63425	8001-11	Murawai (Coopers Lagoon) Mai Mai Reserve	-	873.01	7 Sept 2026	Debbie Ambler
31 Aug 2026	63425	8001-5	Rakaia Fund Reserve	-	127.57	7 Sept 2026	Debbie Ambler
31 Aug 2026	63425	8001-4	Te Waihora (Lake Ellesmere) Mai Mai Reserve	-	13,802.36	7 Sept 2026	Debbie Ambler
Total				99,656.93	99,656.93		
ID 63423 Accrue Annual Leave to 31 Aug 26 - Manual							
31 Aug 2026	63423	1911	Staff Salaries	32,001.16	-	7 Sept 2026	Debbie Ambler
31 Aug 2026	63423	7006	Employee Entitlements	-	32,001.16	7 Sept 2026	Debbie Ambler
Total				32,001.16	32,001.16		
ID 63326 To Balance Reserves as at 30 June 26 - Manual							
30 Jun 2026	63326	8000a	Transfer to and from Reserves	-	107,016.41	13 Aug 2026	Debbie Ambler
30 Jun 2026	63326	8001-13	20 Minimum Cash Reserve	74,658.49	-	13 Aug 2026	Debbie Ambler
30 Jun 2026	63326	8001-14	Habitat Protection Revenue	-	4,533.70	13 Aug 2026	Debbie Ambler
30 Jun 2026	63326	8001-1	Asset Replacement Funding	36,998.06	-	13 Aug 2026	Debbie Ambler

Journal Report

DATE	JOURNAL ID	ACCOUNT CODE	ACCOUNT	DEBIT	CREDIT	POSTED DATE	POSTED BY
30 Jun 2026	63326	8001-11	Murawai (Coopers Lagoon) Mai Mai Reserve	-	3.30	13 Aug 2026	Debbie Ambler
30 Jun 2026	63326	8001-5	Rakaia Fund Reserve	-	103.14	13 Aug 2026	Debbie Ambler
Total				111,656.55	111,656.55		

ID 63324 To Balance Reserves as at 31 MAY 26 - Manual

31 May 2026	63324	8000a	Transfer to and from Reserves	-	14,482.83	13 Aug 2026	Debbie Ambler
31 May 2026	63324	8001-13	20 Minimum Cash Reserve	-	410.20	13 Aug 2026	Debbie Ambler
31 May 2026	63324	8001-14	Habitat Protection Revenue	15,006.05	-	13 Aug 2026	Debbie Ambler
31 May 2026	63324	8001-1	Asset Replacement Funding	-	3.16	13 Aug 2026	Debbie Ambler
31 May 2026	63324	8001-11	Murawai (Coopers Lagoon) Mai Mai Reserve	-	3.41	13 Aug 2026	Debbie Ambler
31 May 2026	63324	8001-5	Rakaia Fund Reserve	-	106.45	13 Aug 2026	Debbie Ambler
Total				15,006.05	15,006.05		

ID 63320 To Balance Reserves as at 31 July 26 - Manual

31 Jul 2026	63320	8000a	Transfer to and from Reserves	1,252.92	-	13 Aug 2026	Debbie Ambler
31 Jul 2026	63320	8001-13	20 Minimum Cash Reserve	-	351.47	13 Aug 2026	Debbie Ambler
31 Jul 2026	63320	8001-14	Habitat Protection Revenue	-	777.59	13 Aug 2026	Debbie Ambler
31 Jul 2026	63320	8001-11	Murawai (Coopers Lagoon) Mai Mai Reserve	-	3.82	13 Aug 2026	Debbie Ambler
31 Jul 2026	63320	8001-5	Rakaia Fund Reserve	-	120.04	13 Aug 2026	Debbie Ambler
Total				1,252.92	1,252.92		

ID 63223 Accrue Annual Leave to 31 Jul 26 - Manual

31 Jul 2026	63223	1911	Staff Salaries	42,543.48	-	3 Aug 2026	Debbie Ambler
31 Jul 2026	63223	7006	Employee Entitlements	-	42,543.48	3 Aug 2026	Debbie Ambler
Total				42,543.48	42,543.48		

ID 63222 Reversal: Accrue Annual Leave to 31 Jul 26 - Manual

1 Aug 2026	63222	1911	Staff Salaries	-	42,543.48	3 Aug 2026	Debbie Ambler
1 Aug 2026	63222	7006	Employee Entitlements	42,543.48	-	3 Aug 2026	Debbie Ambler
Total				42,543.48	42,543.48		

ID 63134 Record the prepayment of ACC Levy - Manual

21 Jul 2026	63134	5103	Prepayments and Accrued Income	-	1,808.60	21 Jul 2026	Debbie Ambler
21 Jul 2026	63134	1921	ACC Levy	1,808.60	-	21 Jul 2026	Debbie Ambler
Total				1,808.60	1,808.60		

Journal Report

DATE	JOURNAL ID	ACCOUNT CODE	ACCOUNT	DEBIT	CREDIT	POSTED DATE	POSTED BY
ID 63049 Accrue Annual Leave to 30 Jun 26 - Manual							
30 Jun 2026	63049	1911	Staff Salaries	41,885.98	-	9 Jul 2026	Debbie Ambler
30 Jun 2026	63049	7006	Employee Entitlements	-	41,885.98	9 Jul 2026	Debbie Ambler
Total				41,885.98	41,885.98		
ID 63048 Reversal: Accrue Annual Leave to 30 Jun 26 - Manual							
1 Jul 2026	63048	1911	Staff Salaries	-	41,885.98	9 Jul 2026	Debbie Ambler
1 Jul 2026	63048	7006	Employee Entitlements	41,885.98	-	9 Jul 2026	Debbie Ambler
Total				41,885.98	41,885.98		
ID 63047 To record sale proceeds of LAP975 - Manual							
5 Jun 2026	63047	4970	Miscellaneous Income	17,400.00	-	9 Jul 2026	Debbie Ambler
5 Jun 2026	63047	6010	Vehicles	-	17,400.00	9 Jul 2026	Debbie Ambler
Total				17,400.00	17,400.00		
ID 62832 Accrue Annual Leave to 31 MAY 26 - Manual							
31 May 2026	62832	1911	Staff Salaries	42,126.91	-	2 Jun 2026	Debbie Ambler
31 May 2026	62832	7006	Employee Entitlements	-	42,126.91	2 Jun 2026	Debbie Ambler
Total				42,126.91	42,126.91		
ID 62831 Reversal: Accrue Annual Leave to 31 MAY 26 - Manual							
1 Jun 2026	62831	1911	Staff Salaries	-	42,126.91	2 Jun 2026	Debbie Ambler
1 Jun 2026	62831	7006	Employee Entitlements	42,126.91	-	2 Jun 2026	Debbie Ambler
Total				42,126.91	42,126.91		
ID 62683 Reversal: Accrue Annual Leave to 30 APR 26 - Manual							
1 May 2026	62683	1911	Staff Salaries	-	42,104.07	19 May 2026	Debbie Ambler
1 May 2026	62683	7006	Employee Entitlements	42,104.07	-	19 May 2026	Debbie Ambler
Total				42,104.07	42,104.07		
Total				1,006,327.02	1,006,327.02		

ASSET REPLACEMENT FUND TO 31 AUGUST 2026

TABLE 4

For the period 1 September 2025 to 31 August 2026

Date	Description	INCOME	EXPENSE	Running Total
	Opening Balance	\$ 16,572.12		
	Plus Budget Approval	\$ 20,000.00		
		\$ 36,572.12		
6004 - Plant & Equipment	Cost of Asset	Income	Expense	
		\$ -	\$ -	
		\$ -	\$ -	
Total 6004 - Plant & Equipment		\$ -	\$ -	
6008 - Office Equipment				
		\$ -	\$ -	
		\$ -	\$ -	
Total 6008 - Office Equipment		\$ -	\$ -	
6010 - Vehicles & Boats				
	Sale of trailer 56S53	\$ 756.52	\$ -	
	Purchase of RUH728	\$ -	\$ 37,000.00	
	Sale of LAP975	\$ 17,000.00	\$ 17,000.00	
		\$ -	\$ -	
Total 6010 - Vehicles & Boats		\$ 17,756.52	\$ 54,000.00	
	Interest Received	\$ 24.63		
		\$ 54,353.27	\$ 54,000.00	\$ 353.27

NZC Report

North Canterbury Fish and Game Council Meeting - 16 September 2026

Prepared By: Cr Coll

NZ Council Meeting in Wellington

28 – 29 August 2026

The NZ Council met over two days with the formal Council meeting starting on Friday 28 August and finishing on Saturday morning.

Items of interest to North Canterbury Fish and Game follow:

1. Two NZ Councillors and Alan were invited to present their separate proposals on possible resource allocation models for Fish and Game to adopt going forward. The three proposals used different approaches, and all had one central theme; that NZC needs to be able to allocate a set amount of money to each region depending on their needs and let them get on with the job of spending it in accordance with their annual plan. This would be a departure from the current position where each region puts together their budget (wish list) and NZC then works through the regional budgets and its own budget trying desperately to make the dollars fit the requests. A working group will be set up by NZC to evaluate the proposals and provide a report to Council in a form that can be sent to regions for their input before a final decision is made.
2. Alan also made a request to NZC to provide North Canterbury with a top up of money to bring our general reserves pool up to 20% of our budget to provide a cash flow that will allow us to pay salaries and invoices and our levy to NZC without going into overdraft. Similar requests were made by Auckland/Waikato and Nelson/Marlborough. This was approved subject to confirmation of the actual amounts required. The North Canterbury request is for \$144,945
3. The CEO reported that our submissions in the RMA reforms have been mostly ignored by the government review team. It has become obvious that the whole process has a pre-determined outcome. The main issues we have are the removal of having regard for the habitat of trout and salmon from the bill, no recognition given to valued introduced species, no recognition of hunting and fishing as important recreational activities, no mention of protection of access to hunting and fishing spaces and no requirement for Regional Councils (e.g. Ecan) to have regard to approved Sports Fish and Gamebird Management Plans.
4. A presentation by the Nelson/Marlborough appointee on the issue of allowing grey teal to be added to the gamebird licence was received and it was decided to request regional input into this proposal. Their plan is to move slowly with this request given the sensitivity of adding another native species to the gamebird list. Their request is for grey teal to be added to section 3 of the Wildlife Act to allow limited hunting at least initially. It was decided to ask all regions to provide their input on this issue, and the Nelson/Marlborough presentation will be forwarded in due course.

RMA REPORT

North Canterbury Fish and Game Council Meeting - 16 September 2026

Prepared By: Caleb Ryder

1. Kōrero taunaki - Summary of Considerations

a) Kaupapa - Purpose

This report has been prepared for Council to summarise key RMA activities undertaken by the North Canterbury Fish and Game (NCFG) team throughout the period mid-July to 31st August 2026.

2. Takenga mai – Background

As the statutory management agency for sports fish and game birds, we are required to consider Legislation, the RMA, local plans, regional plans, and National Policy Statements that are applicable to our Region.

3. Kōrerorero – Discussion

All resource consent applications lodged with the regional council are presented weekly to affected parties, including NCFG, to assess whether these are relevant to us. If relevant, we provide feedback to Regional Councils and where necessary propose these be publicly notified.

Staff also monitor the Fast Track Projects portal to determine whether there are listed or referred projects which concern sports fish or gamebirds and their associated habitats.

Through the period July – August 31st we have received and assessed **165** resource consent applications, of which **120** (72%) were relevant to the North Canterbury region, with the remainder shared between Nelson/Marlborough and Central South Island regions.

Only applications that are relevant to the North Canterbury region are reported on below.

For the 2025/2026 Financial year, a total of **650** resource consent applications have been assessed for North Canterbury region.

The most common were discharge permits (>50%) (s15).

Staff attended RMA training in Wellington at the end of July. This represented a great opportunity to engage with other Regional and National Fish and Game staff and learn about breaking down projects and the use of tools to craft submissions in response to both Fast track act projects and RMA applications.

Staff submitted on the Plan Change 8 – *Proposed changes to water management in Canterbury* by Environment Canterbury (ECAN) to the Canterbury Land and Water Regional Plan. Most of our submission focused on ensuring that both indigenous and sports fish were considered when it comes to constructed wetlands.

Staff provided data to Selwyn District Council in relation to known spawning sites within the network of drainage channels within the Selwyn District.

Staff met with ECAN River Engineers at their Kainga Depot to go over and provide feedback on their Draft Annual River work plans 2026-2027. In addition to this staff also met with one of their engineers at the lower Rakaia River to discuss upcoming rivers works.

Contact Energy have indicated that they will go down the fast-track act route in terms of the Lake Coleridge consenting. Once Contact Energy's referral application has been approved staff will seek to meet with the applicants again and discuss further improvements which we would like implemented.

Staff have begun to do their annual spawning counts in the Harper/Avoca catchment to determine whether tagged trout are making their way upstream of the Harper Control gates. This work ties into the Lake Coleridge consenting because if we determine that trout are not making their way past the control gates this is an opportune time to establish improvements to fish passage for the Lake Coleridge scheme.

Health & Safety Report

North Canterbury Fish and Game Council Meeting - 16 September 2026

Prepared By: Harry Graham-Samson

1. Kōrero taunaki - Summary of Considerations

a) Kaupapa – Purpose

This Report provides a summary of health and safety for the period July and August 2026.

b) Ngā taunaki - Staff Recommendations

That Council receives this report.

2. Whakarāpopoto - Executive Summary

Health and safety performance for the reporting period remains satisfactory, with no serious harm incidents reported and controls operating as intended. Key risks relate to field activities, and public interaction and continue to be actively managed through established procedures.

The Council is asked to **note the report** and the continued adequacy of current health and safety controls

3. Takenga mai – Background

This report provides a summary of any significant health & safety incidents and related matters providing any updates as necessary; any near-miss events and subsequent follow-up actions; any new risks/hazards; health & safety performance including any contract work undertaken and staff training. Any other health and safety related matters arising since the last council meeting.

4. Kōrerorero – Discussion

The table below summarises the reporting statistics for this period (July – August).

Context and any follow up the procedures are captured in the various Health and Safety registers.

Lost time injuries this period	Lost time injuries this year	Incidents this period	Incidents this year	Near Miss Events this period	Near miss events this year	New Hazards reported this period	New Hazards reported this year
0	0	0	2	0	1	2	2

This dataset continues to build over time particularly as our work programme grows and the health and safety reporting culture is ingrained into our work ethos.

Near Miss and Incident Events

None detected.

New Hazard Identified

- a. Black ice over the winter months. Staff have been cautious when driving during these events.
- b. While undertaking Black Swan nesting surveys a drone was flying in the vicinity which meant our work had to cease until the owner of the drone was spoken to. Staff asked that he cease flying until our work had been completed.

H&S Improvements

The justification to run Trackme and the costs associated with doing so was reevaluated. To reduce costs, staff work phones have been updated with Starlink capability/data usage. This will enable staff to keep in contact with one another where-ever they are in the Region more easily. Staff have written a 'Check-In Procedure' Policy (which is attached to this Report).

5. Other Updates

Staff attended an HPAI meeting, which outlined what to do if they encounter a mass bird die off and what work can be done at certain levels which MPI have set. One staff member is being trained on how to fit PPE in case of the requirement to pick up dead birds in a public area.

The Health & Safety programme 'MANGO' was introduced to staff but continues to be set up to meet NCFG requirements.

A Maritime audit was carried out in conjunction with two other regions. The purpose was to make sure our operation was meeting the requirements of all Maritime rules including Part 19. NCFG passed this Audit with the next scheduled for November 2028.

The annual check of fire extinguishers on North Canterbury property including boats, vehicles and office was completed by Firewatch Canterbury.

6. Ngā mahinga e whai ake nei - Next Actions

Monthly dedicated health and safety meetings continue to be held, with health and safety being on the agenda at bi-weekly Monday staff meetings.

North Canterbury Fish & Game

Check-In Procedure

for Remote Work

CHECK-IN PROCEDURE

When working in the field, North Canterbury Fish & Game staff are required to check-in at scheduled intervals to ensure prompt escalation in the event of an emergency.

DESIGNATED CONTACT PERSON

When planning remote work, staff must select a designated contact person. The designated contact person must be available and contactable throughout the day(s) the remote work is scheduled. The designated contact person is responsible for monitoring contact from the field crew, and appropriate escalation in the event of a missed check-in.

FIELD PLAN

When travelling out of the office, a field plan should be submitted with the standard JSA form and the designated contact person. The field plan should include the intended travel route, start and return time, overnight accommodation plans, and all modes of transport (licence plate and description of vehicle(s) driven, boat description, helicopter operator). Field plans must include a detailed description of the timeline of work, indicating when staff anticipate working at specific sites. The field plan should also include a detailed description of intended check-in times and the contact numbers for all persons working on the field crew.

CHECK-IN SCHEDULE BY RISK LEVEL

Risk levels are assigned based on lone worker risk assessment. When in doubt, staff should comply with the higher frequency.

Risk Level	Example Work	Frequency
High	All back-country work	Every 2-3 hours, or at scheduled times based on intended work
Medium	Compliance work, work on Te Waihora, flights	Every 4 hours, or scheduled time frame at roughly midday, start, and end time
Low	Non-compliance work within 50 km of office	As needed

ESCALATION LADDER

The escalation timer starts the minute a check-in is due and not received. Steps run in order, but any step can jump straight to emergency escalation if there is an indication of danger.

Time Since Missed Check-in	Action	Who
30 min	Attempt contact via SMS and app message	Designated Contact Person
1 hour	Attempt contact via phone call, then SMS and app message	Designated Contact Person
2 hours	Attempt contact via all available methods, report staff missing to supervisor	Designated Contact Person
4 hours (or end of day)	Dispatch a welfare check to last known location of field crew	Supervisor
Any time	Any indication of danger: call 111 immediately, then report to supervisor and continue escalation ladder	

CHECK-IN CONTENT

Check-ins are sent via SMS or app message, as agreed between the designated contact person and the field crew prior to field work. Check-ins should contain a status message, indications of anticipated delays in return to office or overnight accommodation, and current location if different than anticipated in the field plan.

Example	When Appropriate
Start	Staff have departed the office (not required if designated contact person is in office at departure time)
Okay	Work is running on schedule, staff are either at the anticipated location according to the field plan or still at the location per the last update
Running behind 1 hour	Staff anticipate returning to office or overnight accommodation approximately 1 hour after anticipated according to the field plan
Coopers lagoon	Staff are well, but are at a different location than anticipated by the field plan at this time
Home	Staff have returned to the office or overnight accommodation safely

The designated contact person is not required to respond to check-ins, but is responsible to answer or return calls from the field crew and to escalate following any missed check-in.

Communications Report

North Canterbury Fish and Game Council Meeting – 16 September 2026

Prepared By: Jackson Meecham

1. Kōrero taunaki - Summary of Considerations

a) Kaupapa – Purpose

To update and provide the North Canterbury Fish and Game Council (NCFGC) with data and information regarding our regional and joint national communication.

b) Ngā taunaki - Staff Recommendations

- Receives the Communications Report dated 16 September 2026.
- Notes performance against the Communications and Engagement Strategy's SMART objectives and strategic pillars.
- Notes audience growth, engagement trends, misinformation management activities, and identified communications risks and mitigations.

2. Whakarāpopoto - Executive Summary

Communications activity during July-August between game bird and fishing seasons is generally quieter so activity focused on maintaining audience engagement, providing timely updates as required on regulatory and fishery matters, responding to misinformation on some platforms, and continuing audience growth.

During this period performance against Communications and Engagement Strategy objectives was monitored with engagement targets performing strongly, with audience interaction across all social media platforms exceeding the Strategy's target of a 20% increase from the 2024 baseline. Despite reduced posting frequency, Facebook remains North Canterbury Fish & Game's primary communications channel and continues to generate significant reach and engagement.

During the 2025/26 financial year, North Canterbury Fish & Game's communications channels collectively generated:

- Facebook reach of 913,049 views.
- Facebook audience growth of 658 additional followers.
- Instagram reach of 15,812 views.
- Instagram audience growth of 75 additional followers.
- YouTube content reaching 9,516 views.
- A total of 170 pieces of content published across Facebook, Instagram and YouTube.

Fisheries management, environmental education, public participation, risk communication and advocacy content continuing to generate strong engagement from licence holders and the wider community.

Management of misinformation remained an important component of communications activity with clarifications relating to the salmon fishery were provided through direct engagement and targeted post content. This helped maintain factual public understanding and supported confidence in Fish & Game's management decisions.

Preparation for the upcoming fishing season, with content planning focused on season opening communications, fishing reports, access information, regulation awareness and participation promotion have been undertaken in this quiet period.

SMART Goal Tracking

- a. Objective: To increase average monthly social media engagement by 20% compared to the 2024 baseline by 31 August 2026.

Status: **Achieved**

Commentary: Engagement across Facebook and Instagram exceeded the Strategy target. High-performing content included video fishing reports, salmon-related content, education messaging and seasonal information.

- b. Objective: Maintain at least 85% retention of North Canterbury fishing licence holders from the 2024/25 to 2025/26 season.

Status: **Pending final licence data.**

Commentary: Final retention figures will be confirmed following completion of licence reporting. Communications activity throughout the season focused on reinforcing the value of participation, management outcomes and angler opportunities in the region.

- c. Objective: Increase under-25 fishing licence sales by 10% compared with 2024/25.

Status: **Pending final licence data.**

Commentary: Youth-focused content, beginner angling opportunities and participation-focused communications were delivered throughout the reporting year; however, the outcome remains dependent on licence sales data.

- d. Objective: Collaborate with at least five regional influencers by 31 August 2026.

Status: **Achieved**

Commentary: Relationships were established with multiple regional anglers, outdoors people and content creators, expanding audience reach beyond existing Fish & Game channels.

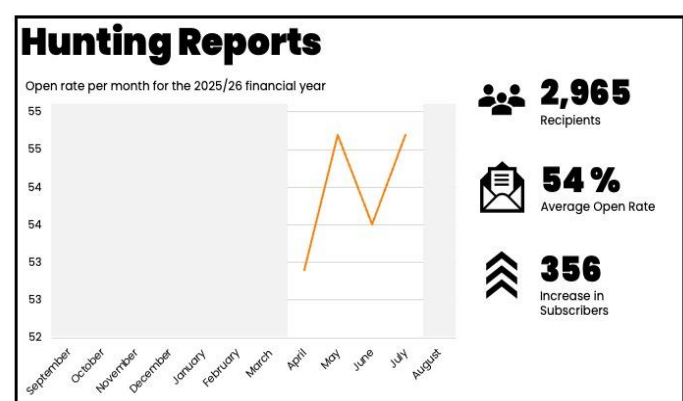
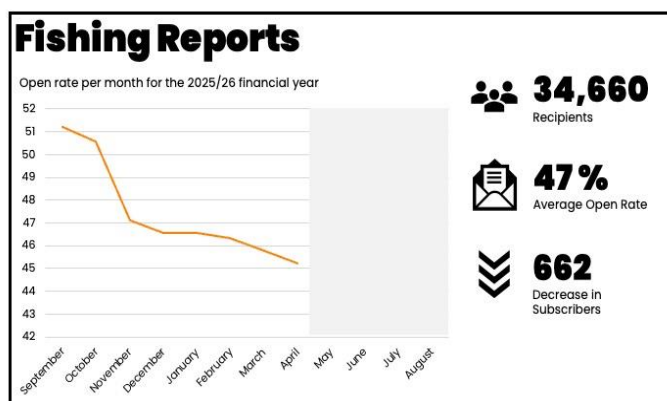
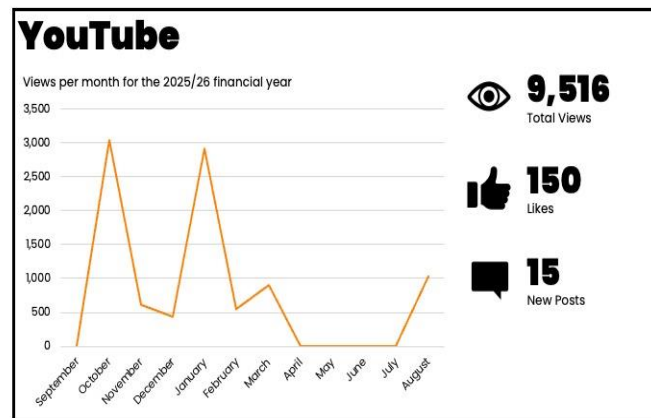
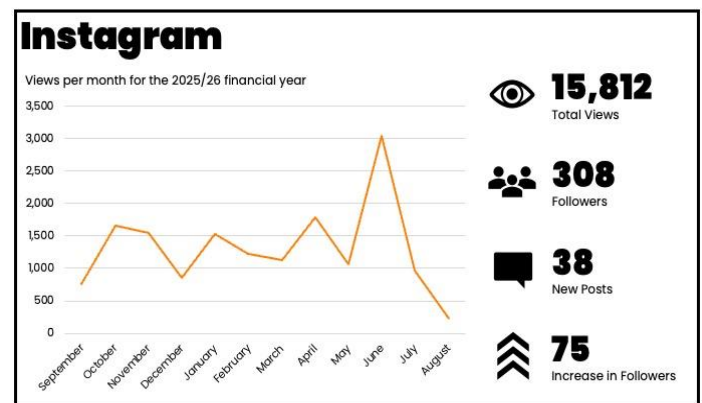
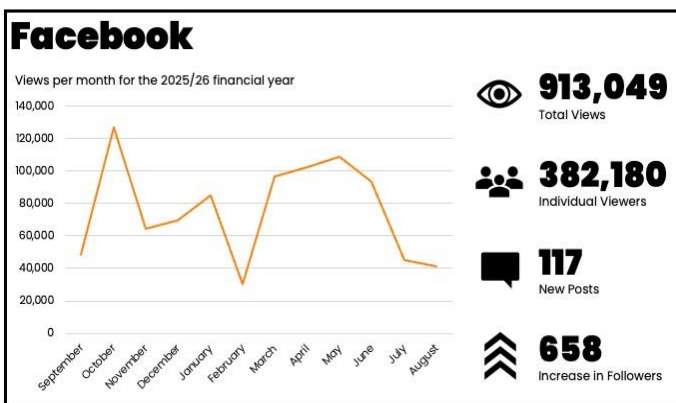
- e. To Objective: Recruit and onboard 20 volunteers and retain at least 50% for future opportunities.

Status: **Achieved**

Commentary: Volunteer recruitment targets were met through ongoing promotion of Fish & Game habitat restoration, compliance activities and direct engagement with interested participants.

3. Takena mai – Background

All statistics and information contained in this report were collected on Friday, 4 September 2026. As these figures are subject to change, numbers may vary between the time of data collection and the Council meeting.



4. Ngā mahinga e whai ake nei - Next Actions

- Prepare and post opening day communications for the 2026/27 fishing season.
- Increase visibility of access information and updated regulation resources.
- Draft new 2026/27 SMART objectives for the Communications and Engagement Strategy.
- Provide video content regarding spawning surveys.
- Continue monitoring and responding to misinformation in the comment sections of our channels.
- Report on licence retention and youth licence participation figures once final season data becomes available.

Game Bird Reference Group

North Canterbury Fish and Game Council Meeting - 16 September 2026

Prepared By: M. Garrick

1. Kōrero taunaki - Summary of Considerations

a) Purpose:

To provide Council with meeting notes from the most recent Game Bird Reference group meeting

2. Whakarāpopoto - Executive Summary

The Game Bird Reference group met in late August. This meeting was to provide an update on game bird management in North Canterbury, including discussing the upcoming regulation consultation.

The group is feeding into the regulation process by providing specific feedback on staff regulation proposals. General public consultation will be starting in the next few weeks.

3. Takenga mai – Background

The Game Bird Reference group was initiated to connect staff with key game bird hunters within the region. The group meets three times a year, and primarily discusses ongoing management risks/challenges. The group also has a specific role in feeding into regulation setting processes, which is ongoing for the 2027-2028 game bird regulation process.

4. Kōrerorero – Discussion

Meeting summary notes are attached to this paper. Staff are collecting feedback from the Game Bird Reference group to feed into the consultation document as part of the game bird regulation review. Staff also gave an update to the group on band recoveries from the ducks banded in Te Waihora this parts February. Additionally, staff covered access works completed at Te Waihora, as well as the current status of HPAI in New Zealand and potential risks facing F&G.

5. Ngā mahinga e whai ake nei - Next Actions

The game bird regulation consultation process is ongoing. Public consultation will be completed prior to staff recommendations on game bird regulations going to Council for decision in November.

August 26th 2026

Game Bird Reference Group

1. Introductions

- Members Present: Colin Hewson, James Kean, Malcolm Main
- Members Absent: Tom Power , Craig Maylam
- Informal Member: Daniel Maxwell
- Staff Present: Matthew Garrick, Harry Graham-Samson

2. Presentation

- Banding/recoveries update
- HPAI update
- Te Waihora Access project work
- Proposed regulation changes/process

3. Open Discussion

- Banding/Recoveries update
 - Discussed likely scenarios regarding arrival of HPAI and our ability to capture/band in the coming FY
 - Implications related to HPAI arrival and uncertainty regarding hunting seasons/political reaction
- Highlighted ongoing compliance outcomes from this duck season, and ongoing prosecutions
- Proposed regulation changes/process
 - Action: Matthew to develop survey monkey link for Reference Group to collect opinions as part of the consultation process.

4. Potential Next Meeting Discussions

- TBD

5. Ongoing regulation considerations (being considered as part of current regulation setting process)

- Regular season swan bag limit
- Liberalisation of paradise shelduck regulations (summer season)
- Pheasant season liberalisations

Action List

NORTH CANTERBURY FISH AND GAME COUNCIL



As of: 17 Sept 2026

NCFG / ECan Councillor to Councillor Meeting

In Progress

That NCFG host a Councillor-to-Councillor meeting with ECan as soon as possible, with NCFG councillors providing Cr Strong agenda topics.

Due Date: 23 Sept 2026

Owner: ALAN STRONG

Meeting: 22 Jul 2026 North Canterbury Fish and Game Council Meeting, 1.5 Council Time

Health and Safety Operating Procedures

Not Started

That NCFG Council write to NZC to ask whether a set of generic SOP's could be purchased or provided for common activities such as vehicle use, off road work and power tools.

Due Date: 25 Nov 2026

Owner: DEBBIE AMBLER

Meeting: 22 Jul 2026 North Canterbury Fish and Game Council Meeting, 4.1 Standard Reports

Changing Policy on Regulation Setting

In Progress

That the topic of 'Changing Policy' in relation to setting dates for regulations be put on agenda for the Strategic Planning Workshop being held in late January 2027.

Due Date: 31 Jan 2027

Owner: ALAN STRONG

Meeting: 26 Nov 2025 NCFG Council Meeting, 2.4 Game Bird Regulations - 2026 Game Bird Season Dates

Latest Update:

Move to 2027 Council Workshop

DEBBIE AMBLER | 30 Jul 2026

WHISKEY CREEK HATCHERY

North Canterbury Fish and Game Council Meeting - 16 September 2026

Prepared By: Caleb Ryder

1. Kōrero taunaki - Summary of Considerations

a) Kaupapa - Purpose

To outline the permissions, resource consents, and statutory requirements to operate a Fish and Game hatchery at Whiskey Creek.

2. Whakarāpopoto - Executive Summary

Key Findings

To reestablish and operate Whiskey Creek would require:

- a) **Land Use Consent** under the Resource Management Act 1991 for activities such as stream diversion works, vegetation clearance, excavation, and earthworks which is already in place.

However the following consents and permissions would be required to be obtained -

- b) **Water Permit** for the taking, diversion, and use of surface water required for hatchery operations.
- c) **Discharge Permit** for the discharge of hatchery water and associated contaminants into natural water bodies.
- d) **Landowner Authorisation** where the hatchery is located on land not owned by a Fish and Game Council.
- e) **Approval under the Conservation Act 1987** to establish and operate the hatchery.

However, a significant legal issue exists under the Conservation Act. While section 48A(1)(o) empowers the Governor-General to make regulations authorising the establishment and operation of fish hatcheries, no such regulations appear to have been enacted.

As a result, there is no clearly identifiable regulatory framework under the Conservation Act authorising the establishment of new Fish and Game hatcheries after 10 April 1990¹.

¹ Section 51E(2) Conservation Act 1987

3. Takenga mai – Background

The Whiskey Creek hatchery was in operation from 2016 through to 2019 and is located on Contact Energy (formerly Manawa Energy) land.

The hatcheries in North Canterbury were closed after scientific advice was sought from both NIWA and the Cawthron Institute that concluded that hatchery salmon released into open systems were detrimental to the genetics of wild fish, alongside financial constraints at the time.

A land use consent (CRC155889) is active for this hatchery until 2051; however, NCFG would require additional permits and permissions as outlined in Section 2 to reestablish and operate the hatchery.

4. Kōrerorero – Discussion

The regulatory pathway to establishing/operating a hatchery after 10 April 1990 is legally complex. (See Appendix A for the 2022 legal advice).

Currently there is no provision in the Conservation Act 1987 to establish a hatchery by a Fish and Game Council.

An alternative pathway could be to operate a salmon hatchery as a "fish farm" under the Freshwater Fish Farming Regulations 1983. Doing so would introduce additional regulatory requirements, including obtaining a fish-farm licence² from MPI and being subject to MPI's compliance and inspection regime.

However, the regulations expressly exclude from the definition of a fish farm 'any hatchery established or operated by a Fish and Game Council within the meaning of the Conservation Act 1987'³. As a result, the availability of the fish-farm licensing framework as a mechanism for Fish and Game to establish and operate a hatchery is uncertain.

To utilise that framework, the hatchery would likely need to be established and operated by an independent third party rather than by the Fish and Game Council itself. Such an arrangement would raise additional legal and practical issues, including questions of control, ownership, operation, and regulatory responsibility.

² Freshwater Fish Farming Regulations 1983 Part 1(4)(1)

³ Freshwater Fish Farming Regulations 1983 Part 4(33)

5. Whai whakaaro ki ngā whakataunga - Considerations For Decision-Making

In summary, there does not appear to be a clear statutory mechanism enabling a Fish and Game Council to establish and operate a hatchery in the absence of regulations made under section 48(1)(o) of the Conservation Act 1987.

It's worth noting that Section 51E (Establishing, managing, or operating a fish hatchery is in breach of regulations without authorization by regulations made under the Conservation Act) of the Conservation Act 1987 outlines that this section does not apply in relation to the management or operation of any hatchery for sports fish that was already established or was being established as at 10 April 1990.

6. Policy Implications

Until such a regulation for establishing a hatchery under Section 51E is enacted in the Conservation Act 1987, any operation of a new or re-commissioned hatchery would be in breach of the Conservation Act. In addition, sourcing of broodstock or smolt from commercial salmon operators would also be in contradiction to Fish and Game's National policy on the release of commercial origin chinook salmon into open systems of water, where these fish are able to reach the ocean

7. Risks and Mitigations

Outlined in sections 4, 5 and 6.

ELANA GEDDIS LLB(Hons), LLM (Harvard)
BARRISTER

PO Box 15-080
Miramar, Wellington 6243
New Zealand
elana.geddis@elanageddis.com
+ (64) 21 1888 662

8 December 2022

Jack Kós
Senior Policy Advisor
New Zealand Fish and Game Council
WELLINGTON

By email: jkos@fishandgame.org.nz

Dear Jack

Establishment of Hatcheries: s 26ZI(3) Conservation Act 1987

1. I refer to your email of 7 November 2022, seeking my advice on the interpretation of s 26ZI(3) Conservation Act 1987 (the Act). In particular, you have asked:
 - a. Can a Fish and Game Council establish a hatchery without regulations made under s 48A(1)(o) of the Act?
 - b. If so, what is the process to establish a hatchery and what authorisations are required?
2. You have advised that this request has arisen because the Otago Fish and Game Council is currently in the process of coordinating the establishment of a hatchery through a trust funded by Contact Energy. You have provided me with a copy of advice received by Otago Fish and Game from Anderson Lloyd in 2004. That advice concluded that the absence of specific hatchery regulations under s 48A(1)(o) of the Act did not preclude the establishment of a hatchery, provided that appropriate authorisations were obtained under the Freshwater Fisheries Regulations 1983.

Summary of advice

3. In summary, my advice is that:
 - a. Reading ss 26ZI(3) and 48A(1)(o) of the Act together, Parliament's intention was that:
 - i. specific regulations would be adopted under s 48A(1)(o) to authorise establishment of hatcheries by a Fish and Game Council; and

- ii. no new hatcheries would be established after the entry into force of Part 5B of the Act except as authorised by those regulations.
 - b. Regulation 64 of the Freshwater Fisheries Regulations 1983 was not intended to provide for the establishment of a fish hatchery and cannot properly be used for that purpose.
4. I accordingly agree with you that a Fish and Game Council cannot establish a hatchery without regulations being in place under s 48A(1)(o) of the Act.

Fish and Game Council’s functions include maintaining hatchery and breeding programmes, where required

5. Section 26Q(1) of the Act sets out the functions of a regional Fish and Game Council. Under s 26Q(1)(b)(ii) these include:

...maintaining the hatchery and breeding programmes, where required for stocking or restocking the sports fisheries and game habitat

6. Section 26(1) of the Act provides that a Fish and Game Council has “all such powers as are reasonably necessary or expedient to enable it to carry out its functions”. However, s 26R(1) makes clear that in exercising its powers and functions, a Council must abide by the requirements of the Act and any regulations made under it.

S 26ZI(3) – offence to establish a hatchery for sports fish “except pursuant to regulations made under this Act”

7. Section 26ZI(3) of the Act provides:

Every person commits an offence and is liable to a fine not exceeding \$5,000 who establishes, manages, or operates any fish hatchery for sports fish except pursuant to regulations made under this Act; but nothing in this subsection shall apply in relation to any hatchery for sports fish that is established or is being established at the commencement of this Part. (emphasis added)

8. “Person” includes a Fish and Game Council.¹ A Council accordingly cannot establish a hatchery “except pursuant to regulations” made under the Act.

“Except pursuant to regulations” means hatchery must be authorised by regulations

9. Section 26ZI(3) clearly prohibits the establishment of hatcheries “except pursuant to regulations” made under the Act.

¹ Section 13 Legislation Act 2019.

10. “Pursuant to” can have a range of meanings including “in accordance with”, “under”, “authorised by” and “in carrying out”.² It appears to have different meanings in different provisions of the Act.³
11. In my view, the phrase “except pursuant to regulations” in s 26ZI(3) means “except as authorised by regulations”. I hold that view for the following reasons:
 - a. Section 51E(1) of the Act creates an infringement offence that mirrors the offence in s 26ZI(3). Section 51E(1) uses the language: “A person must not establish, manage, or operate a fish hatchery for sports fish *unless the person is authorised to do so by regulations made under this Act.*”
 - b. Section 48A(1)(o) of the Act clearly contemplates that the basis and process for the “authorisation of” hatcheries will be set out in regulations.
 - c. The second part of s 26ZI(3) “grandfathers” any hatchery that were established at the time that Part 5B entered into force. The inclusion of this provision indicates that it was Parliament’s intention that no new hatcheries would be established after that date except as authorised by regulations made under s 48A(1)(o).

Do any regulations made under the Act authorise the establishment of hatcheries?

12. Section 48A(1)(o) of the Act sets out the Governor-General’s power to make regulations:

authorising the establishment of fish hatcheries by Fish and Game Councils, or the Department, and regulating the management and operation of such establishments; (emphasis added)
13. As Anderson Lloyd points out in its advice, no specific regulations authorising the establishment of fish hatcheries have been made under s 48A(1)(o) of the Act.
14. The only relevant regulations that have been made under the Act are: the Freshwater Fisheries Regulations 1983; and the Freshwater Fish Farming Regulations 1983. However, the Freshwater Fish Farming Regulations 1983 expressly do not apply to hatcheries established and operated by a Fish and Game Council.⁴
15. The question then becomes: do the Freshwater Fisheries Regulations authorise the establishment, management and operation of a hatchery for sports fish? Anderson Lloyd pointed to regulations 61 to 64 in its advice. Of these regulations only regulation 64 could now potentially apply.⁵

² See the discussion in *Director of Human Rights Proceedings v Commissioner of Police* (2008) 8 HRNZ 749 at [35]-[37].

³ For example, “pursuant to” in s 17W(4) of the Act appears to mean “in accordance with”; while the same phrase in s 26ZQ(2) appears to mean “authorised by”.

⁴ See the definition of “fish farm” in regulation 2(1).

⁵ Regulations 61 and 63 have been revoked since Anderson Lloyd’s advice was provided. Regulation 62 has been amended and only applies to the transfer of sports fish from a lake, river or stream in one catchment to

Regulation 64

16. Regulation 64 of the Freshwater Fisheries Regulations 1983 provides:

64 No unauthorised catching or keeping of certain fish

No person shall, except with the prior consent in writing of the Fish and Game Council within the meaning of the Conservation Act 1987 for the district within which it is proposed to catch or keep the fish and except in compliance with such conditions as the Council may lay down—

- (a) obtain or keep in captivity any live sports fish or any mosquito fish (*Gambusia affinis*).
- (b) [Revoked]

17. On its face, regulation 64 is broad enough to cover the establishment and operation of a hatchery. Fish in a hatchery are “obtained” and “kept in captivity”. As Anderson Lloyd suggests, in the absence of any dedicated regulations for hatcheries, a “pragmatic” application of the Act would suggest that a Fish and Game Council may rely on the authorising power in regulation 64.

18. However, that interpretation runs into two significant difficulties:

- a. The Act distinguishes between “fish hatcheries” and fish “kept in captivity”.⁶ The expression “keep in captivity” in regulation 64 must be interpreted consistently with the Act.⁷ It accordingly must mean something different to a hatchery – for example, fish kept in captivity for display or scientific research purposes.
- b. Section 48A(1)(o) only refers to the establishment of hatcheries by Fish and Game Councils or DOC. But regulation 64 is not limited in that way. This supports the interpretation that regulation 64 was intended to cover something other than the establishment of a fish hatchery for the purposes of s 26ZI(3).

19. I consider that s 26ZI(3), s 48A(1)(o) and regulation 64 have to be read together. In my view, the power in regulation 64 was not intended to provide for the establishment of a fish hatchery and cannot properly be used for that purpose.

What this means for Otago Fish and Game Council

20. I accordingly conclude that the Otago Fish and Game Council cannot safely rely on regulation 64 to establish a fish hatchery.

one in another. I consider it an unreasonable stretch of regulation 62 to interpret it as “authorising” the establishment of a fish hatchery.

⁶ Compare s 48A(1)(o) Conservation Act 1987 enabling regulations concerning hatcheries with s 48A(1)(p) enabling regulations “to prohibit or impose conditions and restrictions on the *possession, or the retention in captivity, or the transfer to or release into any waters, of any live aquatic life*”.

⁷ Section 20 Legislation Act 2019.

21. I have considered whether this problem could be avoided if the Otago Council set up a third party entity jointly with Contact and either:
- a. Authorised that third-party entity to hold fish in captivity for purposes of breeding under regulation 64. This would shift the legal risk from the Otago Council to the third party entity. But it would not remove it.
 - b. Obtained a licence for the third-party entity to operate a hatchery as a “fish farm” under the Freshwater Fish Farming Regulations 1983. However, this would require a licence from the Minister of Primary Industries (or his delegate). And it would also require the ongoing operation of the hatchery to be subject to the detailed requirements of the Fish Farming Regulations – including inspection by MPI.
22. Neither of those options are failsafe alternatives, and I imagine that the establishment of a third-party entity would carry with it other legal considerations for both the Otago Council and Contact Energy.
23. I assume, however, that the Otago Council will wish to proceed with the hatchery proposal if at all possible. Given the legal complexities, as a first step, I recommend that you consult with DOC as the administrator of the Act and potential enforcement authority and seek their views on the issues raised in this opinion.

Yours sincerely



Elana Geddis
Barrister

DESIGNATED WATERS USER SURVEY

North Canterbury Fish and Game Council Meeting - 16 September 2026

Prepared By: H. Sanders Garrick

1. Kōrero taunaki - Summary of Considerations

a) Purpose:

To inform Council on the outcomes of the 2025/26 Designated Waters User Survey

2. Whakarāpopoto - Executive Summary

During June 2026, staff conducted an email survey of all North Canterbury Designated Waters Licence holders. A total of 360 valid surveys were collected from Designated Water anglers. The survey this year did not include the Controlled Fisheries, as staff conducted targeted surveys throughout the season to more accurately engage Controlled Fisheries users during the final year of the trial.

Both estimated angler use and angler satisfaction on the Designated Waters were similar to the 2023/24 fishing season. Anglers were, on average, satisfied with the condition of the fish they caught and their overall fishing experience, and reported neutral average feelings about their angling success.

Estimated angler use of the Lewis Pass and Upper Waiau Uwha Designated Waters have increased following the implementation of the Controlled Fisheries on the Hurunui River North and South Branch.

The full technical report with more detailed information on the results is attached for your consideration.

3. Takenga mai – Background

The Designated Waters User Survey is conducted annually to provide an estimate of angler use and satisfaction with the Designated Waters in North Canterbury.

4. Kōrerorero – Discussion

For a complete discussion on the results of this survey, please refer to Appendix 2 attached titled North Canterbury Designated Waters Angler Survey: July 2026.

5. Ngā mahinga e whai ake nei - Next Actions

Staff will continue to monitor angler use and satisfaction on these sensitive fisheries.



Technical Report

North Canterbury Designated Waters Angler Survey

July 2026

North Canterbury Fish & Game

H. Sanders Garrick

During the 2023/24 fishing season, North Canterbury (along with six other regions of Fish & Game) implemented the Designated Waters system. This system is aimed at reducing angling pressure on pressure sensitive fisheries, in particular pressure from non-resident tourist anglers. North Canterbury identified four pressure sensitive backcountry fisheries to be included as Designated Waters (Appendix A). Additionally, North Canterbury added two experimental Controlled Fisheries within the Designated Waters, which require a booking to fish. The objective of this survey is to evaluate angler use and satisfaction with the North Canterbury Designated Waters.

Methods

During June 2026, North Canterbury Fish & Game invited all anglers who had purchased a North Canterbury Designated Waters licence to participate in an online survey. Anglers were sent an initial email invitation, followed by two email reminders, for a total of three emails. Additionally, social media posts advertised the survey and encouraged licence holders to check their email for the survey link. The link was not supplied on social media to prevent spam entries. Both anglers who did and anglers who did not fish the Designated Waters system were encouraged to participate.

North Canterbury sold designated waters licences to 3,207 anglers, 2,642 residents and 565 non-residents. Of those licence holders who consented to receive further contact via email, 1,926 provided an email address at point of sale. Emails were sent to each of the 1,926 email addresses with an invitation to participate in the survey. Surveys that were not linked to an email address from the North Canterbury Designated Waters licence database were hand checked to confirm the angler who participated in the survey held a valid

licence in 2025/26. Any surveys that could not be tied to a valid North Canterbury Designated Waters licence were excluded from analysis.

The survey questionnaire was designed using the online Survey Monkey platform. While all anglers were asked to participate in the survey, only anglers who reported that they went fishing within the North Canterbury Designated Waters were asked questions regarding satisfaction or the number of days fished on each fishery. Satisfaction questions were designed to be comparable to the results from the 2024/25 Lake Coleridge angler surveys (Graham-Samson & Sanders Garrick 2025). The full questionnaire is provided in Appendix A.

Estimated angler days, E_i , were calculated from reported angler days according to the formula:

$$E_i = N \left(\frac{D_i}{n} \right)$$

In which N represents the number of anglers with a North Canterbury Designated Waters licence, D_i represents the number of reported angler days for river i , and n represents the number of anglers surveyed.

Additionally, staff attempted to individually survey each angler who booked the Controlled Fisheries. Anglers were asked how many of the booked days were fished, and how many anglers were in their fishing party. Details of the Controlled Fisheries Survey can be found in the full report (Sanders Garrick 2026). As the overwhelming majority of anglers who booked the Controlled Fisheries were successfully surveyed, the Designated Waters survey focused only on the remaining North Canterbury Designated Waters: the Lewis Pass and Upper Waiau Uwha fisheries.

Results

Designated Waters User Survey

We received 423 submissions to the survey. Twenty-three anglers indicated that they did not wish to participate in the survey. Sixty-three surveys were invalid (included no responses). We identified no duplicate surveys (i.e., surveys in which the same survey participant submitted a survey twice). As such, we were able to use 360 valid surveys for analysis, a response rate of 18.7%. Only one of the survey respondents was a non-resident, while the remainder had purchased resident licences.

Of those who responded, 94 anglers said that they fished either the Lewis Pass or the Upper Waiau Uwha Designated Waters during the 2024/25 fishing season. However, one

angler who said they fished the Designated Waters reported zero angling days for the Lewis Pass or Upper Waiau Uwha fisheries. As such, the final reported participation rate for fishing Designated Waters was 25.8%.

The Lewis Pass was the most utilized of the two Designated Waters, with 75.8% of reported angler days. The median number of total reported days fishing North Canterbury Designated Waters was 3 (IQR 2-5.5). The maximum reported number of days fished was 21. Eleven anglers reported fishing 10 or more days, and one reported fishing more than 20 days. The estimated number of angler days was 2,824 on the Lewis Pass fishery, 900 on the Upper Waiau Uwha, 108 on the Hurunui North Branch, and 95 on the Hurunui South Branch (Figure 1; Sanders Garrick 2026).

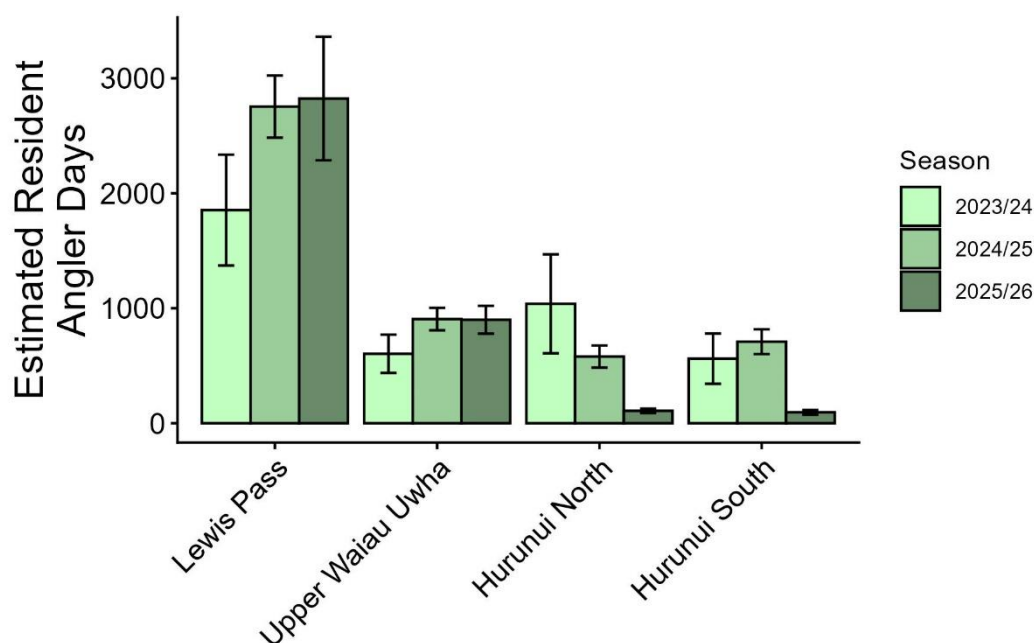


Figure 1. The estimated number of resident angler days for each of the North Canterbury Designated Waters during the 2023/24 - 2025/26 fishing seasons, with error bars representing 95% confidence intervals.

Satisfaction

When it came to angler satisfaction, 45% of anglers reported they were satisfied or very satisfied with their angling success; 20% of anglers reported they were dissatisfied with their angling success and 12% felt very dissatisfied. Sixty-five percent of anglers reported they were satisfied or very satisfied with the condition of fish they caught while 14% reported they were either dissatisfied or very dissatisfied with fish condition. Finally, 61% of anglers reported they were satisfied or very satisfied with their overall experience fishing North Canterbury Designated Waters.

Anglers on average rated the condition of fish they caught at 3.5 +/- 0.2, their angling success at 3.1 +/- 0.2, and their overall fishing experience at 3.7 +/- 0.2. Reported satisfaction was similar to the 2024/25 fishing season.

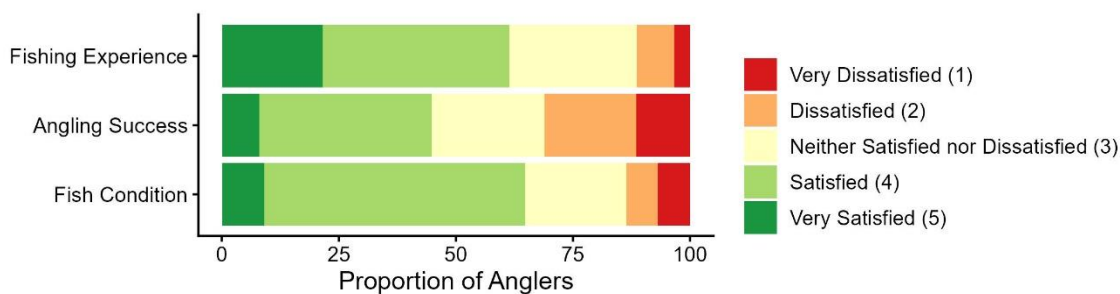


Figure 3. Angler satisfaction with the overall fishing experience, angling success, and condition of fish caught during the 2025/26 fishing season on North Canterbury Designated waters.

Discussion

The implementation of the Controlled Fisheries on the North and South Branches of the Hurunui River appears to have increased pressure on other rivers. The number of estimated resident angler days has increased on both the Lewis Pass Fishery and the Upper Waiau Uwha Fishery by nearly 50% relative to the 2023/24 season and remained consistent across the 2 seasons the Controlled Fisheries have been in place.

Anglers were, on average, satisfied with all aspects of their experience fishing North Canterbury Designated Waters. Satisfaction with their overall fishing experience was similar to the 2023/24 and 2024/25 fishing seasons. Compared to the recent satisfaction survey on Lake Coleridge (Graham-Samson & Sanders Garrick 2026), anglers were less satisfied with the condition of fish they caught than anglers on Lake Coleridge and less satisfied with the overall fishing experience. However, anglers were more satisfied with their angling success in the Designated Waters than on Lake Coleridge.

As during previous seasons, this survey was not sufficient to survey non-resident anglers. Because non-resident anglers can only fish five days within any regional Designated Waters, it may be more effective to survey them as they fish, similar to the proposed surveys for the Controlled Fishery. However, this will require coordination with the licencing system that may not be possible under our current provider. North Canterbury should pursue options to better survey non-resident anglers in the coming years.

Targeted angler surveys have enabled staff to produce more accurate estimates of use for the Controlled Fisheries. Estimated angler use was decreased by 90% on the North Branch and 84% on the South Branch relative to the 2023/24 season. The substantial difference in angler days estimates between the first and second years of the Controlled Fisheries – in which the first year utilised the same survey techniques as the remainder of the Designated Waters while the second year utilised targeted angler surveys – suggests the post season survey method overestimates angler use. Similar to the post season salmon harvest survey, it is likely that anglers who participate in this survey voluntarily have higher average participation rates than anglers who chose not to participate (Craig et al. 2023, 2024, 2025). Three options exist to improve accuracy of the survey. Staff could continue with the post season survey and supplement the sample by conducting random phone surveys after the one month survey period, similar to the annual sea-run salmon harvest survey. Alternatively, staff could shift the survey methodology to emulate the National Angler Survey, conducting angler use surveys bimonthly through randomly selected phone interviews of North Canterbury Designated Waters Licence holders (Stoffel & Unwin 2023). Finally, staff could utilise physical in person or remote sensing surveys on a strategic sample of angling days, keeping in mind that activity on easily accessible fisheries (like the

Lewis Pass Designated Water) will be more difficult to assess than remote fisheries. Staff should consider which style of improved survey would best suit the existing work-load as set out in the operational work plan.

References

- Craig, E., Dellaway, N., & Sanders Garrick, H. 2023. 2022-23 Sea-run salmon management: Central South Island and North Canterbury regions. New Zealand Fish & Game.
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- Stoffels, R. & Unwin, M. 2023. Angler usage of New Zealand lake and river fisheries: Results from the 2021/22 National Angler Survey. National Institute of Water & Atmospheric Research Ltd.

Appendix A: North Canterbury Designated Waters

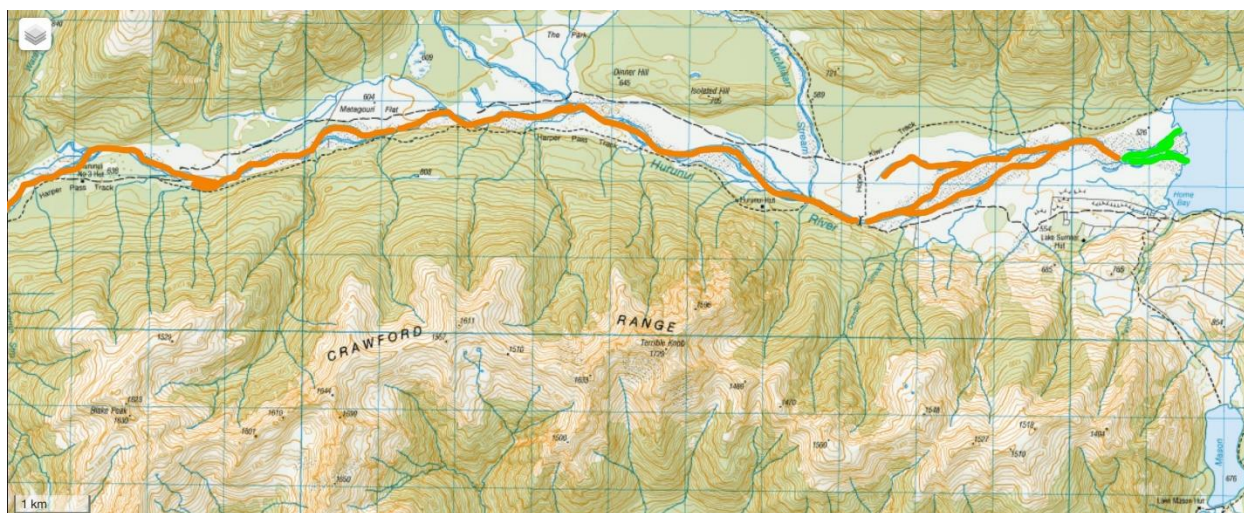
Hurunui River South Branch

The South Branch of the Hurunui River upstream of the confluence with the North Esk River. The area on the map shown in orange is the Designated Water for the Hurunui River South Branch.



Hurunui River North Branch

The North Branch of the Hurunui River beginning approximately 500 m upstream from Lake Sumner. The area on the map shown in orange is the Designated Water for the Hurunui River North Branch.



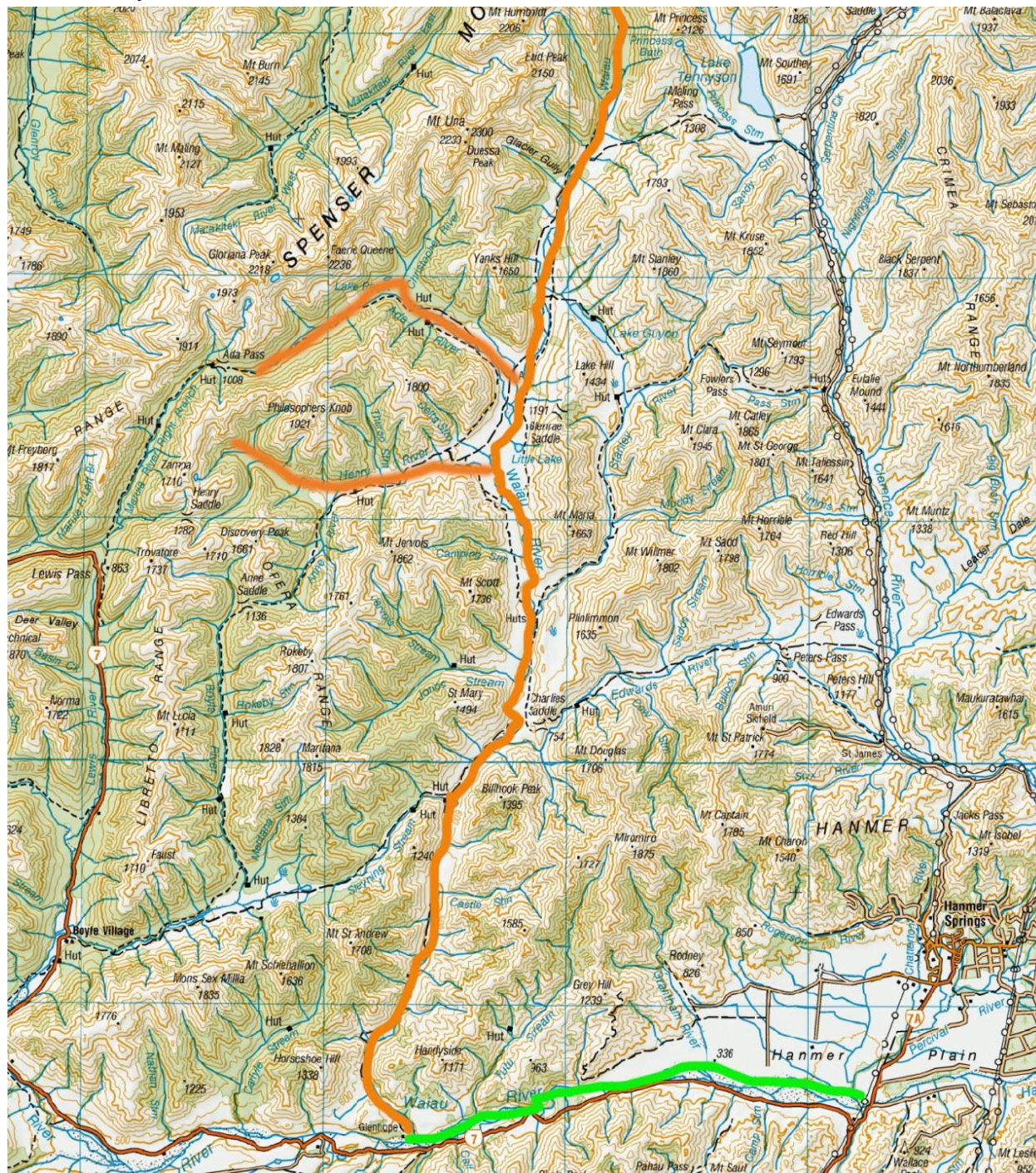
Lewis Pass Fishery

The Hope River and all tributaries upstream of the State Highway 7 bridge. Includes the Boyle, Doubtful, Nina, and Lewis Rivers. The area on the map shown in orange is the Designated Water for the Lewis Pass Fishery.



Upper Waiau Uwha Fishery

The upper Waiau Uwha River upstream of the confluence with the Hope River and includes the Henry and Ada Rivers. The area on the map shown in orange is the Designated Water for the upper Waiau Uwha Fishery.



Appendix B: Full Questionnaire

Q1. Do you wish to participate in this survey?

Yes

No

Q2. First Name

Q3. Surname

Q4. Please provide the email address associated with your Fish & Game fishing license.

Q5. Did you fish the Lewis Pass or Upper Waiau Uwha Designated Waters in North Canterbury during the 2024/25 fishing season?¹

Yes

No

Q6. How many days did you fish the Lewis Pass Designated Waters fishery?¹

Q7. How many days did you fish the Upper Waiau Uwha River Designated Waters fishery?¹

Q8. On a scale of 1 to 5, 1 being very dissatisfied and 5 being very satisfied, how satisfied were you with...

The number of fish you caught while fishing North Canterbury Designated Waters?	Very dissatisfied (1)	Dissatisfied (2)	Neither satisfied nor dissatisfied (3)	Satisfied (4)	Very satisfied (5)
The size and condition of fish you caught while fishing North Canterbury Designated Waters?	Very dissatisfied (1)	Dissatisfied (2)	Neither satisfied nor dissatisfied (3)	Satisfied (4)	Very satisfied (5)
Your enjoyment of the overall experience of fishing North Canterbury Designated Waters?	Very dissatisfied (1)	Dissatisfied (2)	Neither satisfied nor dissatisfied (3)	Satisfied (4)	Very satisfied (5)

¹ Respondents were provided with a map and full description of each Designated Waters area alongside the question to help them respond to the best of their ability.

Review of the Sea-run Salmon Adaptive Management Strategy

North Canterbury Fish and Game Council Meeting - 16 September 2026

Prepared By: H. Sanders Garrick

1. Kōrero taunaki - Summary of Considerations

a) Purpose:

To provide Council with a review of the performance of the Sea-run Salmon Adaptive Management Strategy (AMS).

2. Whakarāpopoto - Executive Summary

The primary objective of the AMS was to reduce angler harvest of sea-run salmon, increasing the escapement proportion to at least 75%.

The 2-fish season bag limit successfully met this objective for both the Rakaia and Waimakariri Rivers, increasing the estimated escapement proportions to an average of 85% and 77% respectively.

Under the first year of a 1-fish bag limit, the escapement proportions have been 97% in the Rakaia River and 98% in the Waimakariri River.

The AMS is fit for purpose and has successfully met its objective. Further efforts to support salmon recovery should be focused on restoring salmon habitat.

3. Takenga mai – Background

In 2020, the North Canterbury and CSI Fish & Game Councils adopted the joint AMS, which uses three indicator rivers to set sea-run salmon regulations consistently across the two neighboring regions.

The AMS aimed to manage angler catch to ensure adequate sea-run salmon numbers reached the spawning grounds each year to ensure the continuation of the fishery. The primary objective of the AMS was to reduce angler harvest of sea-run salmon, increasing the proportion of the estimated run harvested to no greater than 25%.

4. Kōrerorero – Discussion

Because harvest is dependent on the size of the salmon run, we used the proportion of the estimated run harvested by anglers to assess this objective.

To test this objective, we compared the proportion of the salmon run harvested on the Rakaia and Waimakariri Rivers between the years of 1992/1993-2020/2021 (before the implementation of a bag limit) to the proportion of the

salmon run harvested after the implementation of the 2 salmon seasonal bag limit (2021/2022-2024/2025).

The average proportion of the run harvested on the Rakaia River has reduced from 43% to an average of 15% ($F_{1, 31} = 37.4$, $P < 0.001$). The average proportion of the run harvested on the Waimakariri River has reduced from 56% to an average of 24% ($F_{1, 31} = 51.8$, $P < 0.001$).

During the 2025/26 fishing season, a season bag limit of 1 salmon was implemented. Though it is still too soon to thoroughly evaluate the impact of the further reduction, in the initial year the proportion of the run harvested was 3% on the Rakaia River and 2% on the Waimakariri River. These initial results indicate the reduction of the bag limit has met its objective of further reducing angler harvest relative to the size of the salmon run.

Due to these results, staff conclude that the AMS has successfully met its objective.

Public consultation on additional regulatory frameworks within the AMS was sought as part of the 2026 sea-run salmon consultation. The consultation document, along with all public submissions, can be found on the Council Downloads page of our website or at [this link](#).

In addition to harvest, sea-run salmon are susceptible to a number of environmental factors that limit population recovery. Some of these factors include the availability of spawning habitat, water quality, river low flows, and ocean conditions. Limited habitat creates a population bottleneck, in which the population cannot grow to its full potential if habitat during one stage of the life cycle is limited (Figure 1). Because North Canterbury salmon may be facing a bottleneck throughout multiple stages of the life cycle, it will be important to investigate opportunities to improve salmon habitat across all stages.

Because the AMS has successfully met its objective in reducing harvest, staff time may be best invested in pursuing opportunities to improve salmon habitat, including developing education and outreach programs that empower sea-run salmon anglers and landowners to help restore salmon rivers.

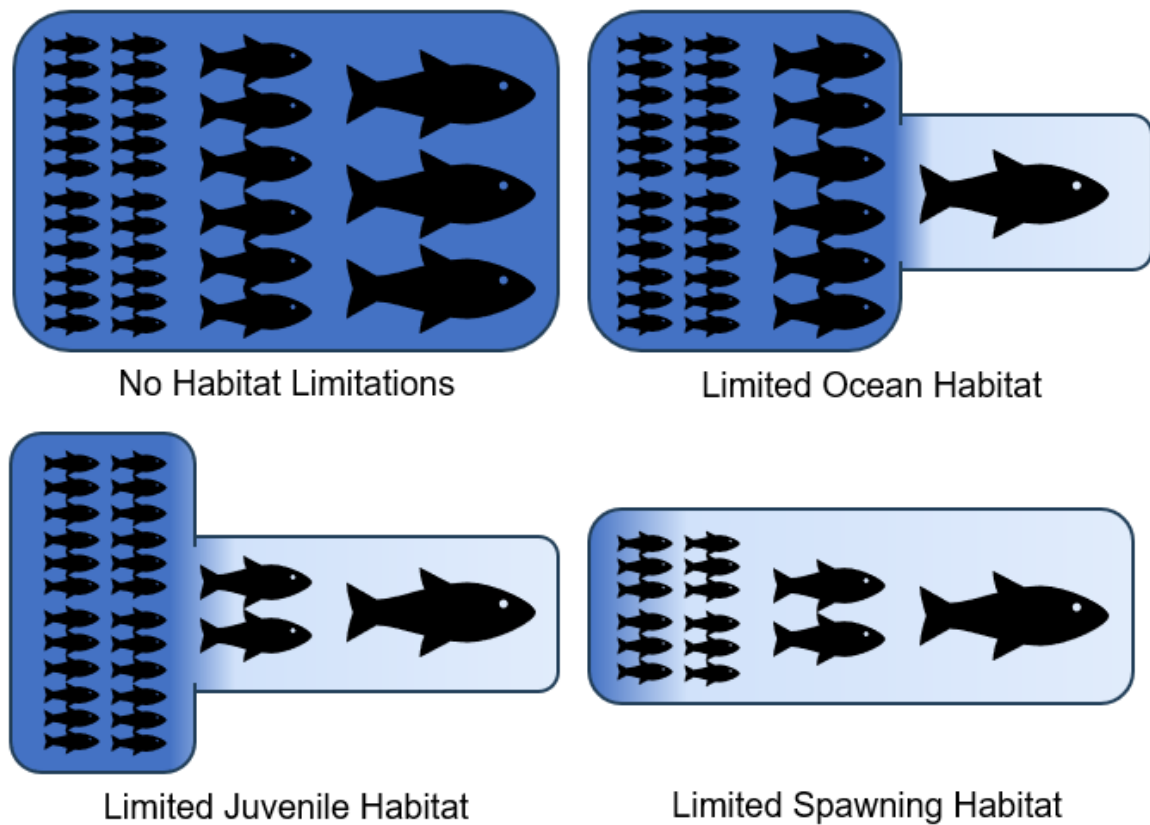


Figure 1. Illustration on the consequences of a lack of each habitat requirement for wild sea-run salmon populations.

5. **Ngā mahinga e whai ake nei - Next Actions**

Per the 2026/27 Council priorities, staff are to investigate habitat enhancement and restoration opportunities. Additionally, staff will investigate lower cost options to monitor the salmon population, and will continue to monitor the salmon spawning population as well as sea-run salmon harvest.

2025-26 Season Sea-run Salmon Management Report Summary

North Canterbury Fish and Game Council Meeting: September 2026

Prepared By: Emily Craig

1. Kōrero taunaki - Summary of Considerations

a) **Kaupapa – Purpose:** To provide Council with a summary of the 2025-26 sea-run salmon management report which includes results of the harvest survey, spawning counts and adaptive management, focusing on the three indicator rivers (Rakaia, Rangitata, Waimakariri).

b) **Ngā taunaki - Staff Recommendations:**

That Council receives this report.

2. Whakarāpopoto - Executive Summary

Anglers were required to obtain a sea-run salmon licence to fish for sea-run salmon in North Canterbury and Central South Island regions. Fish & Game issued a total of 8,122 sea run salmon licences in the 2025-26 season, which allowed anglers to fish for and harvest a season bag limit of one salmon. Over the season, anglers harvested an estimated 112 sea-run salmon across the rivers of both regions. The combined escapement (spawning) estimate for the three indicator rivers (used in the Adaptive Management Strategy) was 1,469 salmon, placing the population back in the “low” management band. With a one fish bag limit in place, escapement proportions on the three indicator rivers ranged from 93-98%.

3. Takenga mai – Background

a) **Full report**

See the attached for the full joint region 2025-26 Sea-run Salmon Management Report.

b) **Sea-run salmon licence sales**

- i) A total of 8,122 sea-run salmon (SRS) licences were issued by the conclusion of the season, a decrease of 2,131 from the previous season (10,253 in 2024-25).
- ii) This decrease in licences was expected due to the reduction to a one fish bag limit, as well as the high proportion of anglers who reported that they

did not go fishing the previous season, even though they held a SRS licence.

- iii) North Canterbury and Central South Island anglers accounted for 51.1% and 39.6% of SRS licence sales respectively.

c) Harvest survey

- i) The harvest survey methodology used in previous seasons was repeated in 2025-26, with the aim of receiving as many voluntary cards returns as possible in order to minimise error margins on subsequent phone survey harvest estimates.
- ii) In total, 1,413 valid bag limit cards were returned by the May 7 deadline, a return rate of 17%, higher than the previous season (14%), though the same level of communications.
- iii) Of the 1,413 returned cards, 64% reported they did not go fishing for sea-run salmon during the 2025-26 season, higher than the previous season (56%). Roughly 32% (458 anglers) reported that they went fishing but did not harvest salmon, and only 56 anglers (4.0%) reported that they harvested salmon.
- iv) A follow-up phone survey of the remaining non-respondents in two strata ('known success' and 'no known success') was carried out to complete harvest estimates.
- v) 982 anglers were surveyed by phone (100 from the 'known success' stratum and 882 from the 'no known success' stratum).
- vi) Of the 982 phone surveyed anglers, 758 (77.2%) did not go fishing, 213 (21.7%) went fishing but did not harvest salmon, and 11 (1.1%) harvested salmon.
- vii) Estimated harvest for the three indicator rivers was greatest for the Waitaki (31.0 ± 5.5 salmon), followed by the Rakaia (29.3 ± 3.6 salmon), the Rangitata (17.4 ± 3.2 salmon), and the Waimakariri (5.0 ± 0 salmon). Overall, there was a decrease relative to the 2024-25 season, however the Waitaki River estimate was higher. Some of this decline could mostly be attributed to the reduction to a one fish season bag limit, exacerbated by unfavourable fishing conditions across the season.

d) Spawning counts

- i) Four spawning counts were carried out on each of the upper Waimakariri and Rakaia rivers by North Canterbury (NC) staff, and five on the upper Rangitata by Central South Island (CSI) staff. CSI also completed three counts of Lake Heron/Mellish stream.
- ii) Counts were reduced in the North Canterbury region due to budgetary constraints, and by the 4th count, the AUC was able to be calculated and at

that stage the spawning estimates were sufficient to exceed the severe band threshold. It is important to note that the estimates for the Rakaia and Waimakariri rivers are therefore likely conservative.

- iii) Estimates of escapement/spawning are **278** salmon on the Waimakariri River, **969** salmon on the Rakaia River, and **222** salmon on the Rangitata River.

e) Escapement proportions

- i) Combining harvest and escapement estimates, a total run size for each river can be estimated, and subsequently an escapement/spawning proportions is calculated (the proportion of salmon of the total run that make it to spawning). Escapement/spawning proportions were highest on the Waimakariri River (98% of the total run), followed by the Rakaia River (97% of the total run), and the Rangitata River (93% of the total run). See Appendix Figure 2.
- ii) Comparative to pre-season bag introduction, estimated escapement proportion remain high on the Rakaia and Waimakariri rivers, and as of this season, the Rangitata River. The 2025-26 season escapement proportions were the highest on record for all three indicator rivers.

4. Kōrerorero – Discussion

a) Adaptive management

- i) The final estimate for the three indicator rivers is **1,469** salmon.
- ii) While this estimate places the population back into the ‘Low’ management band, the population needs to be sustained at this or a higher management band for another two consecutive seasons before a return to a two fish bag limit is considered.

b) Strategic implications

A review of the effectiveness of the Adaptive Management Strategy and the season bag limit has been considered in the separate paper “Review of the Sea-run Salmon Adaptive Management Strategy”.

5. Ngā mahinga e whai ake nei - Next Actions

The report will be made available to the public online and will be added to when additional information becomes available from Central South Island region.

6. Appendix

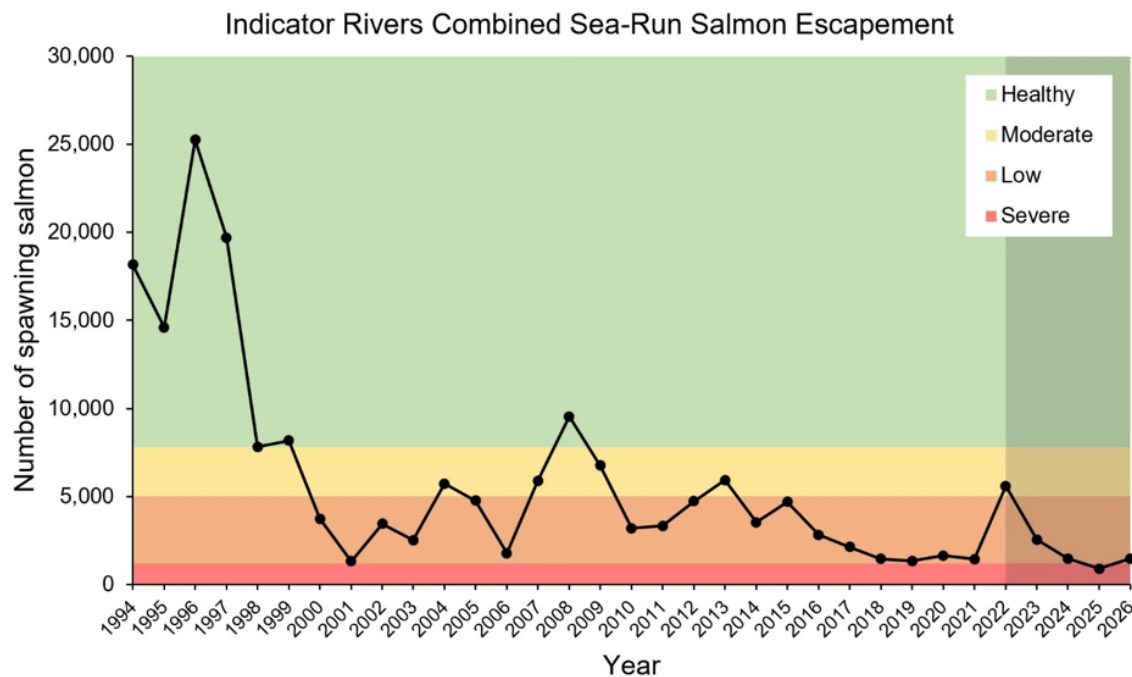


Figure 1. Combined escapement across the three indicator rivers 1993-2026 used for threshold management in comparison to the management bands. Grey shaded area indicates years where season bag limit system was in place.

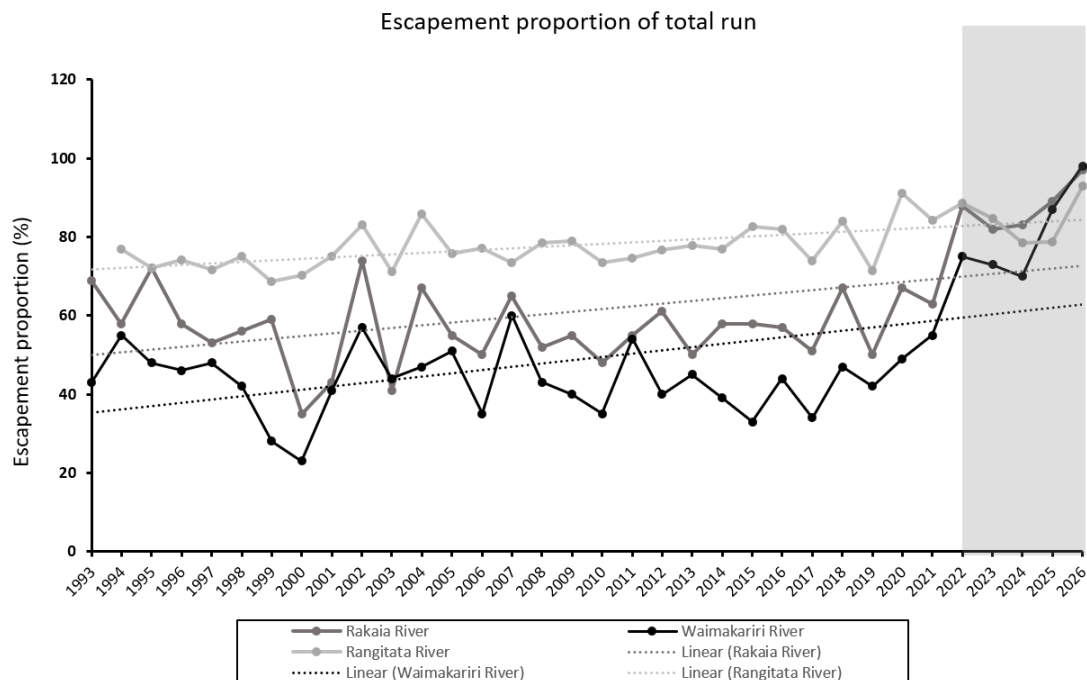


Figure 2. Escapement (spawning) proportions on the 3 indicator rivers 1993-2026 and corresponding trends. Grey shaded area indicates years in which the season bag limit system was in place.



2025-26 Sea-Run Salmon Management

Central South Island and
North Canterbury Regions

H. Sanders Garrick, N. Dellaway & E. Craig
Central South Island Fish & Game
North Canterbury Fish & Game

Document Control			
Version	Updated	Updated by	Changes
1.1	6 July 2026	H. Sanders Garrick	Original Document
1.2	18 Aug 2026	E. Craig & H. Sanders Garrick	Edits to Sections 1.0, 3.3 and 4.0
1.3	4 Sept 2026	E. Craig	Edits to Section 5.1
1.4	8 Sept 2026	N. Dellaway	Edits to Sections 3.3.21 and 7.0

Executive Summary

Anglers are required to obtain a sea-run salmon licence to be able to fish for sea-run salmon in the Central South Island and North Canterbury Fish & Game regions. This licence allowed anglers to harvest a season bag limit of one salmon, and anglers were required to record the details of harvested salmon on their season bag limit card. North Canterbury and Central South Island Fish & Game issued 8,122 sea-run salmon licence in the 2025-26 season, a decrease of 2,131 on the previous season. By the deadline, Fish & Game received 1,413 voluntary season bag card returns. The remainder of harvest by anglers that hadn't returned their information was then estimated by phone survey.

During the 2025-26 sea-run salmon season, anglers harvested an estimated 112 salmon in the North Canterbury and Central South Island Fish & Game regions. The combined live spawning estimate for the Rakaia, Rangitata and Waimakariri rivers (three indicator rivers) was 1,469 salmon and places the status of the fishery in the 'low management band (1,200 – 5,100)'. In accordance with the management strategy, three consecutive years of runs above the threshold for the 'severe' management band (0 – 1200) are required to increase the bag limit. This season constitutes the first of those three years.

The total salmon run for an individual river is calculated by adding the total spawning estimate for that season to the total estimated harvest for that season. The total run for the Rakaia River was 998 salmon, The total run for the Rangitata River was 239 salmon, and the total run for the Waimakariri River was estimated to be 283 salmon. The combined total wild run for the three indicator rivers in the 2024-25 season was 1,520 salmon.

Prior to the introduction of the management strategy, the proportion of the salmon run escaping anglers and reaching the spawning grounds had been low. This season, the three rivers achieved 97% (Rakaia), 93% (Rangitata) and 98%(Waimakariri) of the run reaching the spawning grounds, which is considered successful in terms of the original goal of the strategy however populations are at a level where further restrictions may need to be considered to avoid the fundamental extinction of species.

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1.0 Sea-run salmon licence

In order to fish for sea-run salmon in the Central South Island and North Canterbury Fish & Game regions, anglers must obtain a sea-run salmon licence¹ which includes a bag limit card for recording fish harvest details. The 2025-26 season was the fifth season in which a licence was required to fish for sea-run salmon. With the high proportion of licence holders that did not go fishing for sea-run salmon in the 2024-25 season (Sanders Garrick, 2025) and the change to the salmon bag limit, a decrease in licence sales was expected for the 2025-26 season.

By the conclusion of the 2025-26 season, a total of **8,122** licences had been issued, a decrease of 2,131 on the previous season (Table 1.1). Of these, 39.6% percent of licences were issued in Central South Island and 51.1% in North Canterbury. This constituted 90.7% of all licences sold in New Zealand. The remaining 9% of licences were sold predominantly to other South Island regions (Otago [3.9%], Nelson/Marlborough [2.0%], Southland [1.7%], and West Coast [0.6%]).

All North Island regions combined comprised only 1% of all licence sales. These proportions were similar to the previous season (Figure 1.1).

Table 1.1. Number of sea-run salmon licences issued each year since its introduction in the 2021-22 season across South Island regions and combined North Island regions.

<i>Licence Region</i>	<i>2021-22</i>	<i>2022-23</i>	<i>2023-24</i>	<i>2024-25</i>	<i>2025-26</i>
<i>Nelson/Marlborough</i>	567	437	280	200	160
<i>West Coast</i>	120	93	64	47	52
<i>North Canterbury</i>	5,081	6,385	5,899	5,222	4,148
<i>Central South Island</i>	2,603	4,882	4,542	4,163	3,219
<i>Otago</i>	655	625	512	382	316
<i>Southland</i>	216	257	193	135	138
<i>All North Island regions</i>	196	180	132	104	89
<i>Total</i>	9,438	12,859	11,622	10,253	8,122

¹ For the purposes of this report, from here on sea-run salmon licences will simply be referred to as 'licences'.

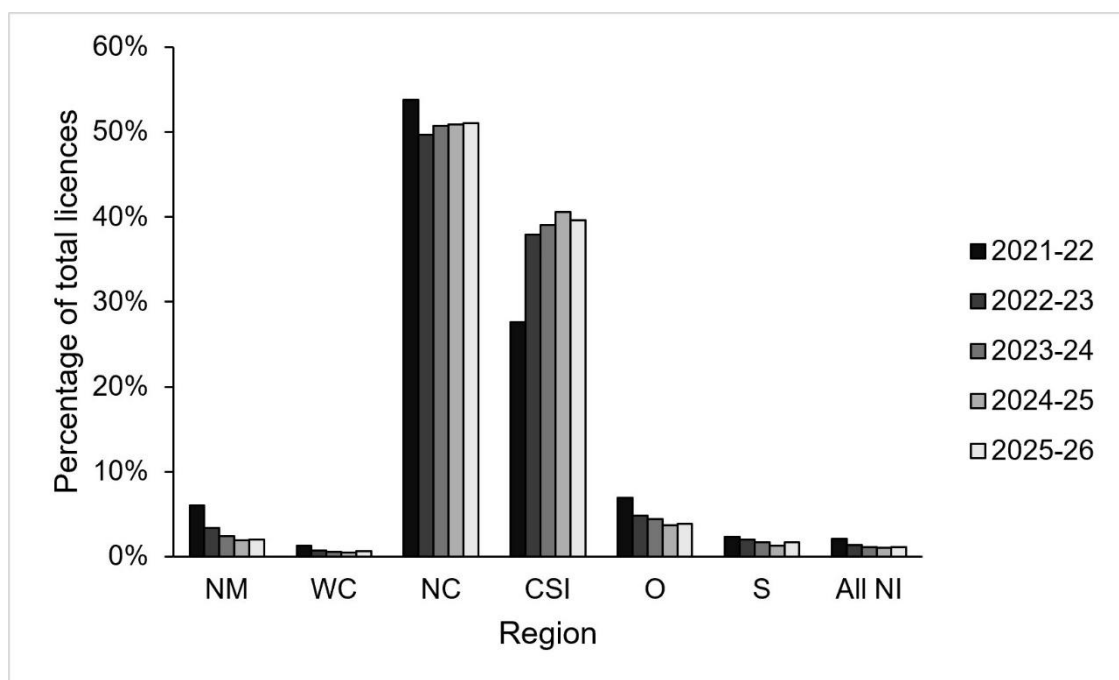


Figure 1.1. Percentage of total sea-run salmon licences issued by each South Island region (N/M=Nelson/Marlborough, WC=West Coast, NC=North Canterbury, CSI=Central South Island, O=Otago, S=Southland) and combined North Island regions (All NI).

Whole season Adults held the largest proportion of licences (47.2%), followed by Family (24.5%) and Loyal Seniors (13.4%) (Table 1.2). Compared to the 2024-25 season, there was a proportional increase in associated Whole season Adult and Loyal Senior licences and a proportional decrease in Family licences (Figure 1.2). This may have been due to the changes to the family licence eligibility criteria introduced in the 2025-26 season (Sanders Garrick 2026a).

Table 1.2. Comparison of number of sea-run salmon licences issued in the 2021-22 through 2025-26 seasons across whole season licence types.

Licence type	2021-22	2022-23	2023-24	2024-25	2025-26
Adult	4,560	6,021	5,253	4,568	3,830
Family	2,841	3,976	3,442	2,968	1,990
Loyal Senior	1,321	1,495	1,402	1,300	1,089
Junior	307	560	575	530	431
Child	165	370	347	319	234
Local Area	222	352	318	303	247
Non-Resident	22	59	285	265	301
Day (in error)	0	26	0	0	0
Total	9,438	12,859	11,622	10,253	8,122

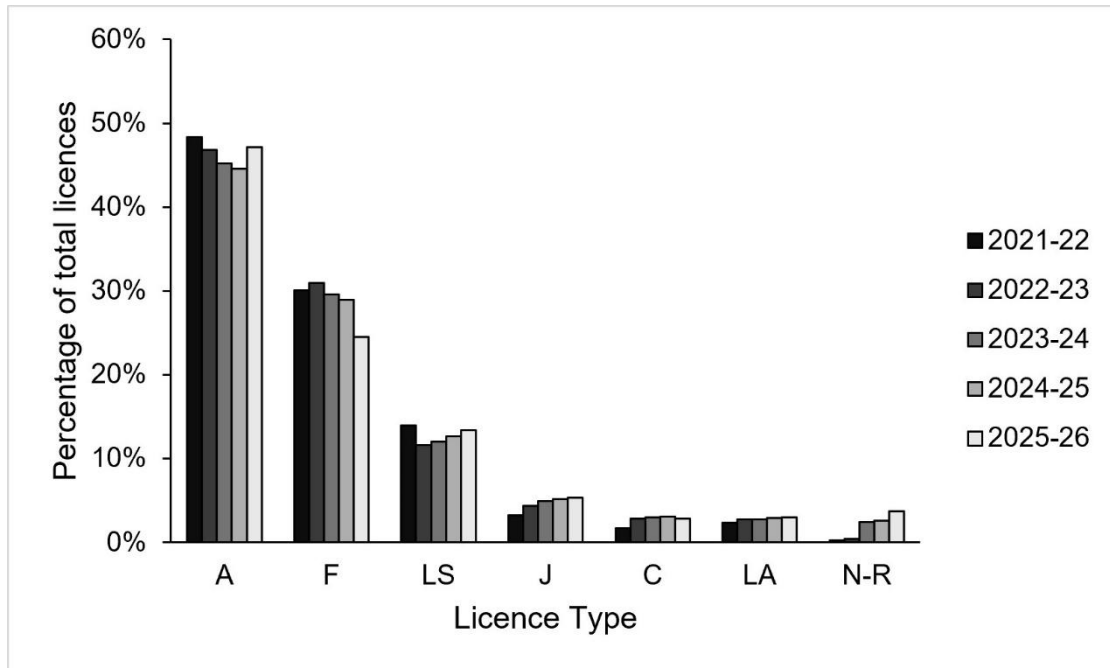


Figure 1.2. Percentage of total sea-run salmon licences issued by whole season licence type (A=Adult, F=Family, LS=Loyal Senior, J=Junior, C=Child, LA=Local Area, N-R=Non-resident). Sea-run salmon licences issued to day licence holders in error are not shown.

Fifty-three percent of anglers who purchased a 2025-26 sea-run salmon licence also purchased a sea-run salmon licence during the 2024-25 season. This constitutes just over 4,300 anglers. Of those, around 3,300 also purchased a sea-run salmon licence during the 2023-24 season. An additional 600 anglers 'reactivated' and purchased their sea-run salmon licence during the 2023-24 season and the 2025-26 season, but not during the 2024-25 season. The approximate 4,000 anglers who have consistently purchased a sea-run salmon licence each year indicates a "core" group of sea-run salmon anglers which is similar to sea-run salmon angling recorded during harvest surveys prior to the introduction of the season bag limit (NCFG & CSIFG, 2021).

2.0 Sea-run Salmon Harvest

2.1 Introduction

Anglers who purchase a licence to fish for salmon receive a bag limit card, which they are required to fill out immediately upon harvest of a salmon. Details listed on the card include the date and location of harvest and the sex and length of the fish. The information gathered during this survey is used to assess the health of the sea-run salmon fishery in the central eastern portion of the South Island of New Zealand, and help guide management actions in accordance with the adaptive management plan (Webb & Terry 2020).

2.2 Methods

Anglers are asked to return their bag cards following the close of season on 1 May. A random subset of anglers who did not return their bag cards were contacted during the months of May and June to ascertain the unreported harvest rate. Total harvest is estimated by calculating the mean harvest per angler, and extrapolating that number across the number of anglers who hold sea-run salmon licences. Because the harvest rate is substantially different between those who voluntarily return their bag cards and those who do not, harvest from voluntary bag card returns is not extrapolated to anglers who did not return their card. Additionally, the harvest rate is substantially different between anglers who have reported salmon harvest in previous years and anglers who have not previously reported harvesting salmon. As such, we used a stratified sampling scheme to produce more accurate harvest estimates. For more detailed information on the salmon harvest survey methodology, please see report by H. Sanders Garrick (2026b).

2.3 Results

2.3.1 Voluntary Card Returns

Before the 15 May cut off, we received 1,413 bag card returns. Of those, 64.0% reported that they did not fish for sea-run salmon during the 2025-26 season. Roughly 32% (458 anglers) reported that they fished for sea-run salmon but did not harvest any fish. Only 56 anglers (4.0%) reported that they harvested salmon (Figure 2.1).

2.3.2 Phone Surveys

We surveyed 982 anglers in total: 100 anglers from the known success stratum and 882 from the no known success stratum. Of the anglers surveyed, 758 (77.2%) did not go fishing, 213 (21.7%) went fishing but did not harvest salmon, and 11 (1.1%) successfully harvested salmon (Figure 1). The mean number of salmon harvested by those who went fishing was 0.05 fish/active angler (± 0.014).

Anglers who returned their bag cards voluntarily had a mean harvest rate of 0.11 fish/active angler (± 0.014), while the mean harvest of those who were surveyed during phone interviews was 0.05 fish/active angler (± 0.014). Catch rates were statistically distinct between the two

groups ($F_{1, 736} = 6.8$, $p = 0.009$; Figure 2.2). Therefore, we did not extrapolate data from voluntary returns to non-respondents.

Amongst anglers with known success, 67% of those surveyed actively participated in the 2025-26 salmon season, with an average harvest of 0.12 fish/active angler (± 0.04). Amongst anglers with no known success, 17.9% of those surveyed actively participated in the 2025-26 salmon season, with an average harvest of 0.02 fish/active angler (± 0.01). The two strata were statistically distinct ($F_{1, 222} = 10.5$, $p = 0.001$; Figure 2.3).

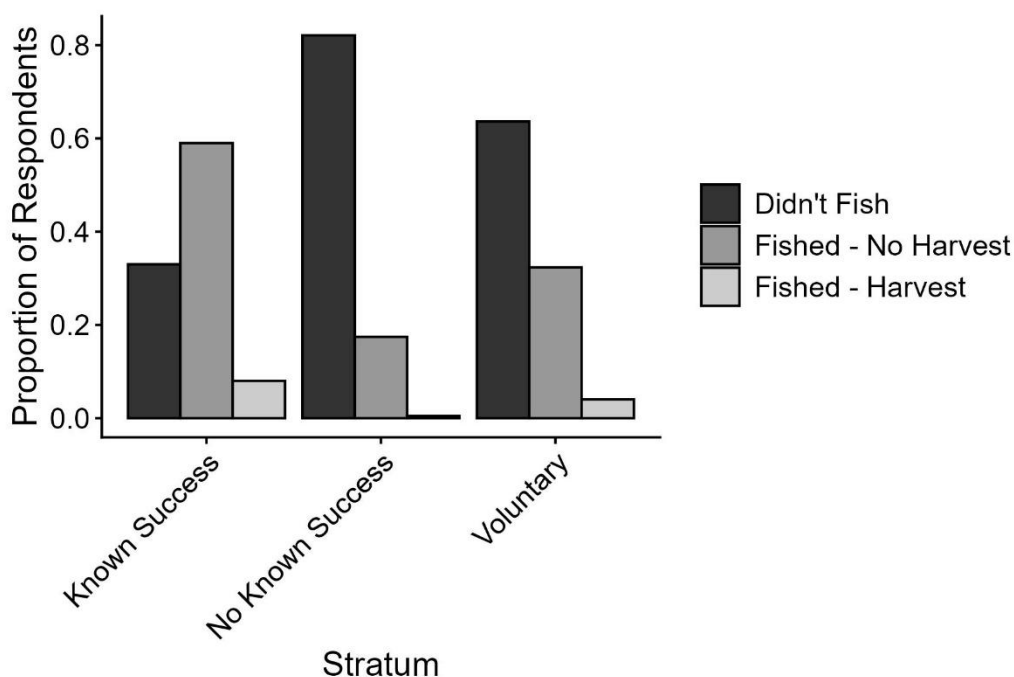


Figure 2.1. The proportion of respondents who didn't fish, fished but didn't harvest, and both fished for and harvested sea-run salmon in the North Canterbury and Central South Island regions of Fish & Game by survey stratum during the 2025-26 season.

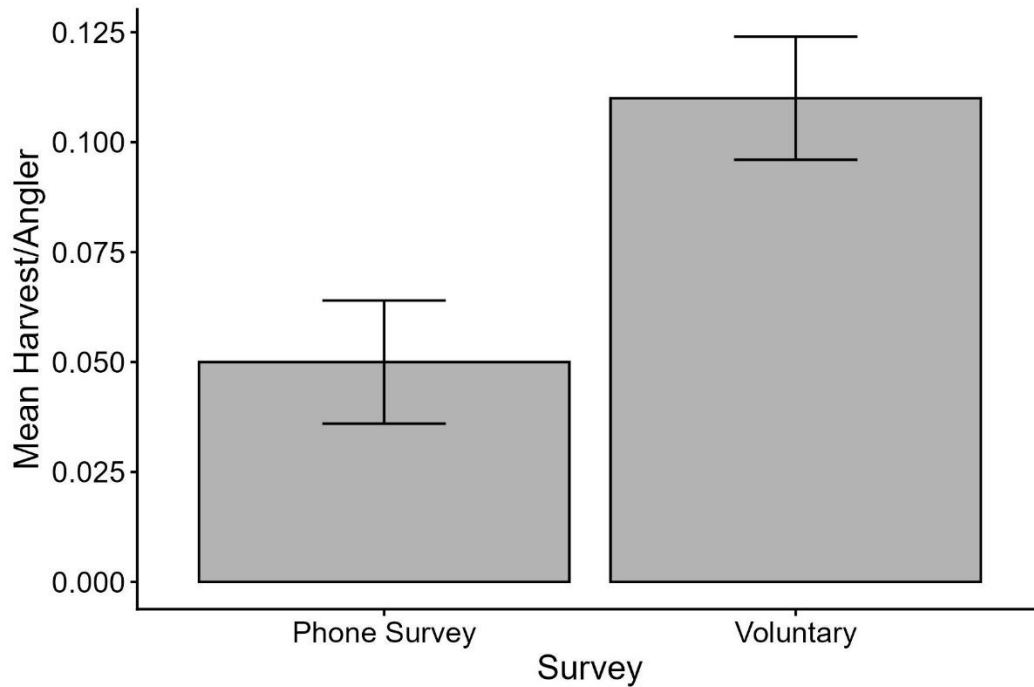


Figure 2.2. Mean harvest of sea-run salmon by survey type for active anglers in the North Canterbury and Central South Island regions of Fish & Game during the 2025-26 season. Error bars represent standard error.

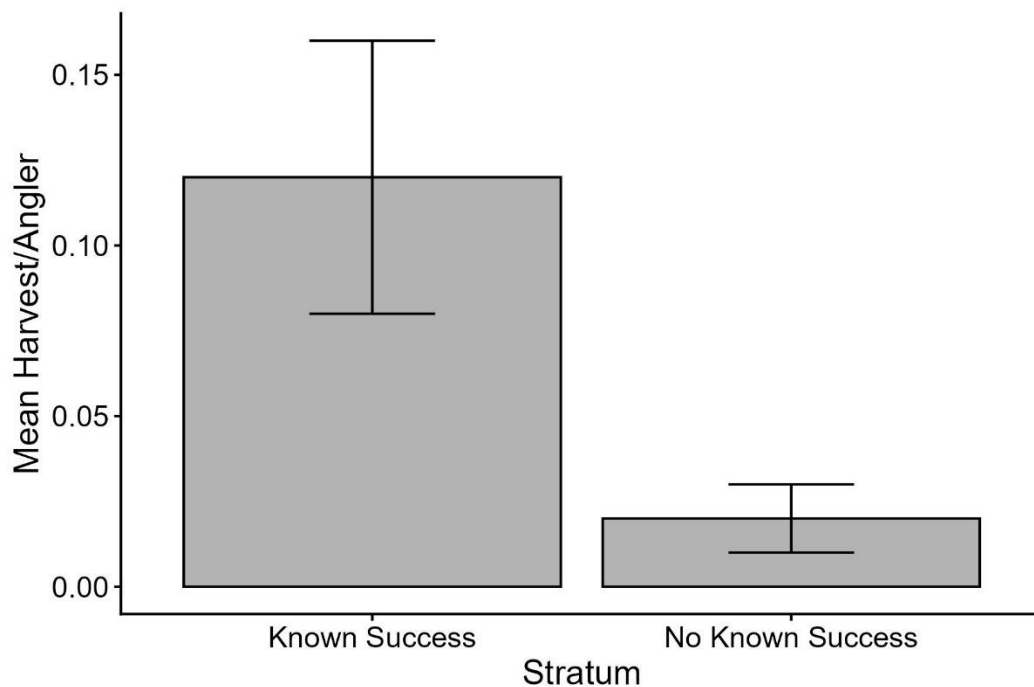


Figure 2.3. Mean harvest of sea-run salmon by phone survey stratum for active anglers in the North Canterbury and Central South Island regions of Fish & Game during the 2025-26 season. Error bars represent standard error.

2.3.3 Estimated Harvest

Voluntary respondents reported a total harvest of 56 salmon. Estimated harvest was 34.0 (± 18.2) salmon for the known harvest stratum and 21.5 (± 10.1) salmon for the no known harvest stratum. Total estimated harvest was 111.5 (± 16.3) salmon (Figure 2.4).

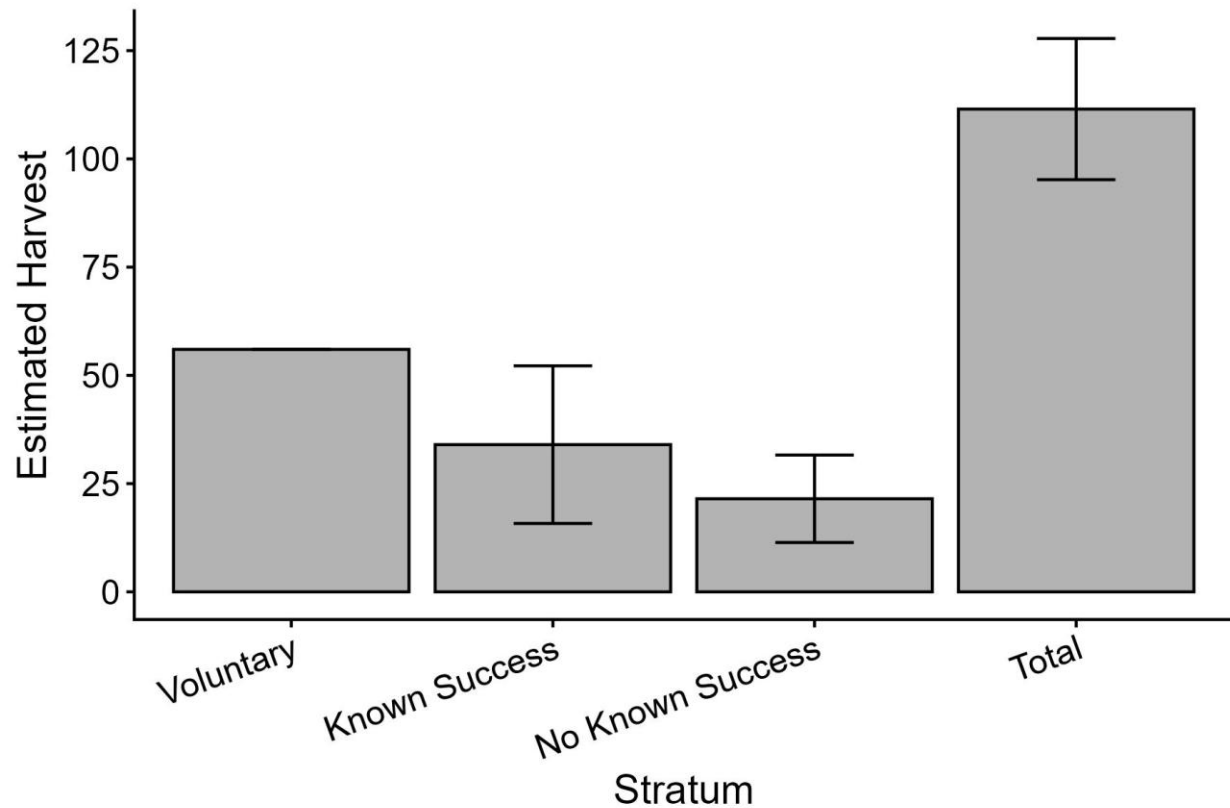


Figure 2.4. The estimated salmon harvest and 95% confidence interval on the estimate for each survey stratum, North Canterbury and Central South Island regions of Fish & Game, 2025-26 season.

2.3.4 Harvest by River

More than 80% of the reported salmon harvest occurred on the Rakaia, Rangitata, Waimakariri, and Waitaki rivers (Table 1). Angler effort was greatest on the Rakaia, followed by the Waimakariri. Anglers reported slightly more effort on the Waitaki River than the Rangitata.

Harvest varied substantially by river, both within and between survey strata (Figure 5). Total estimated harvest was greatest for the Waitaki (31.0 ± 5.5 salmon), followed by the Rakaia (29.3 ± 3.6 salmon), the Rangitata (17.4 ± 3.2 salmon), and the Waimakariri (5.0 ± 0 salmon), respectively. Estimated harvest for the Rakaia, Rangitata, and Waitaki Rivers all fell within the 95% confidence intervals for the estimates from the 2024-25 season, while estimated harvest on the Waimakariri decreased.

Table 2.1. The reported harvest, estimated harvest (with 95% confidence interval), and reported number of active anglers by survey stratum for the 2025-26 sea-run salmon season in North Canterbury and Central South Island Regions of Fish & Game, broken down by each of the four major sea-run salmon fisheries.

<i>Reported Harvest</i>					
	All Rivers	Rakaia	Rangitata	Waimakariri	Waitaki
<i>Voluntary</i>	56	25	6	5	14
<i>Known Success</i>	8	1	1	0	4
<i>No Known Success</i>	3	0	1	0	0
<i>Total</i>	67	26	8	5	18

<i>Estimated Harvest</i>					
	All Rivers	Rakaia	Rangitata	Waimakariri	Waitaki
<i>Known Success</i>	34.0 ± 18.2	4.3 ± 3.6	4.3 ± 3.0	NA	17.0 ± 5.5
<i>No Known Success</i>	21.5 ± 10.1	NA	7.1 ± 1.9	NA	NA
<i>Total</i>	111.5 ± 16.3	29.3 ± 3.6	17.4 ± 3.2	5 ± 0	31.0 ± 5.5

<i>Active Anglers Surveyed</i>					
	All Rivers	Rakaia	Rangitata	Waimakariri	Waitaki
<i>Voluntary</i>	514	196	55	211	60
<i>Known Success</i>	67	19	13	15	14
<i>No Known Success</i>	157	63	17	67	16
<i>Total</i>	738	278	85	293	90

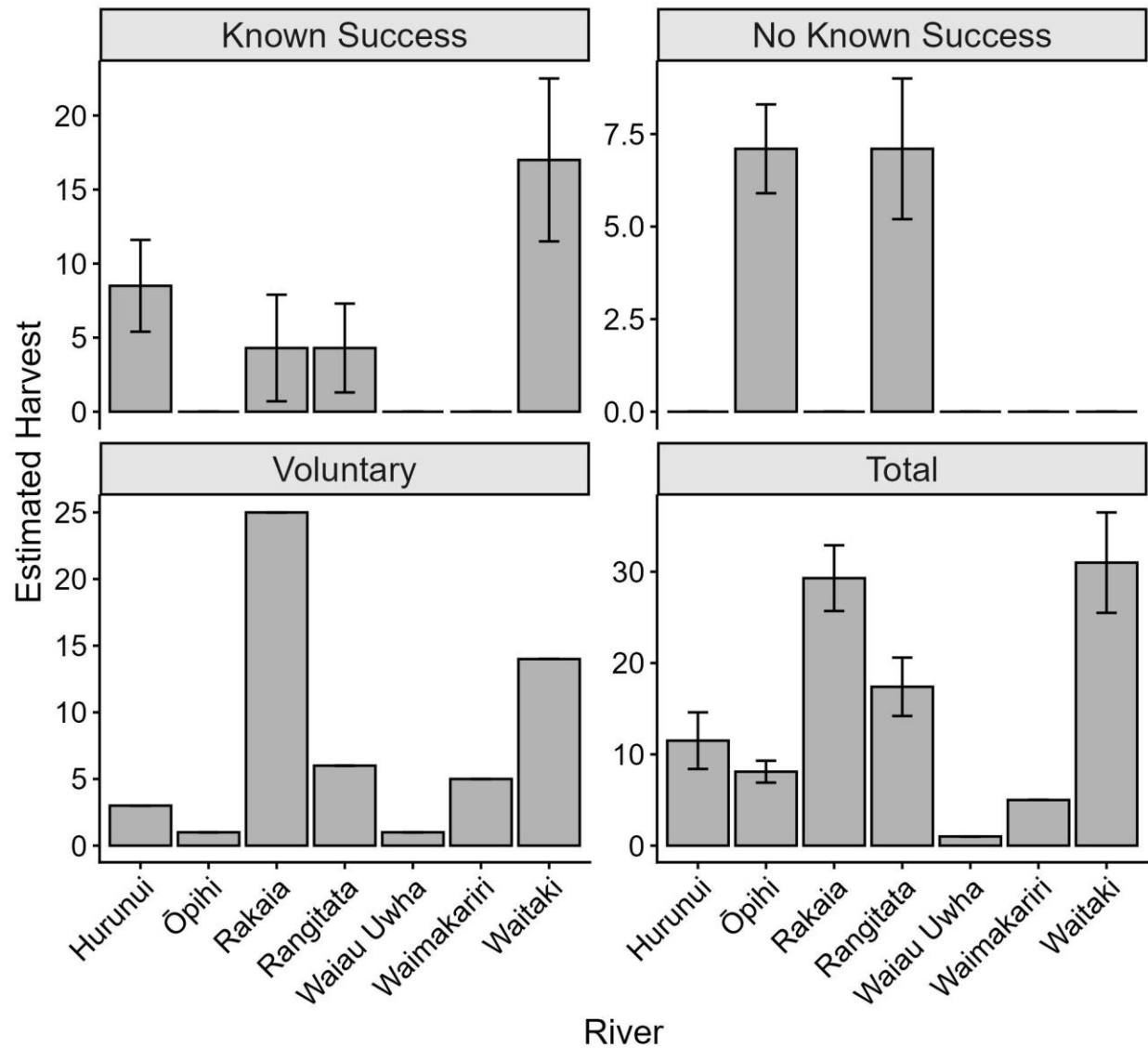


Figure 2.5. Estimated sea-run salmon harvest in the North Canterbury and Central South Island regions of Fish & Game during the 2025-26 fishing season by river for each survey stratum.

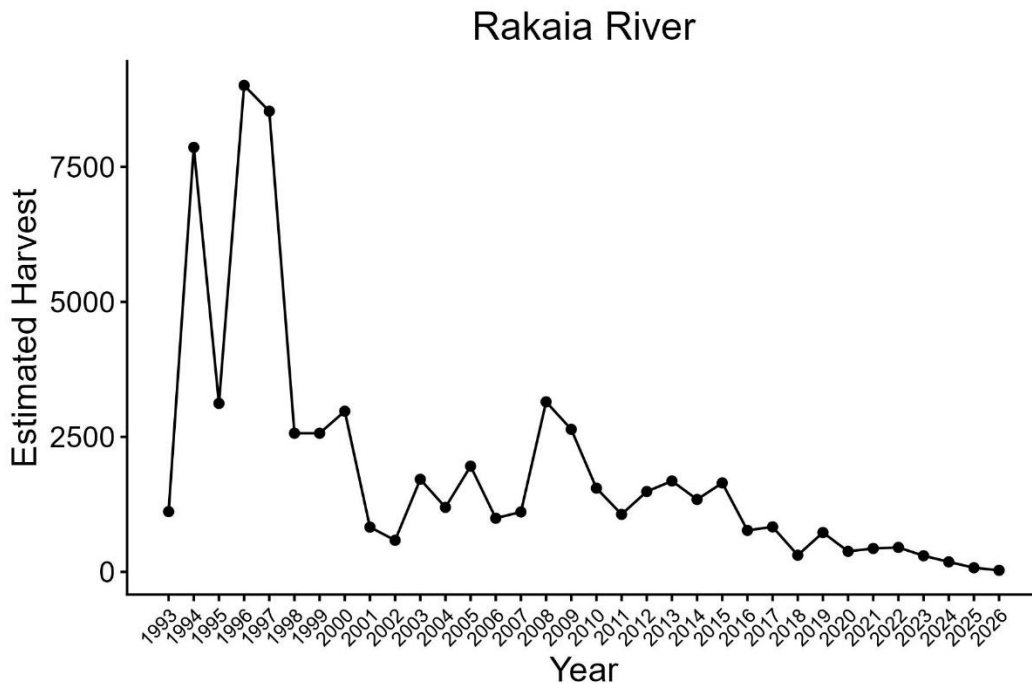


Figure 2.6. Estimated sea-run salmon harvest in the Rakaia River Catchment, 1993-2026.

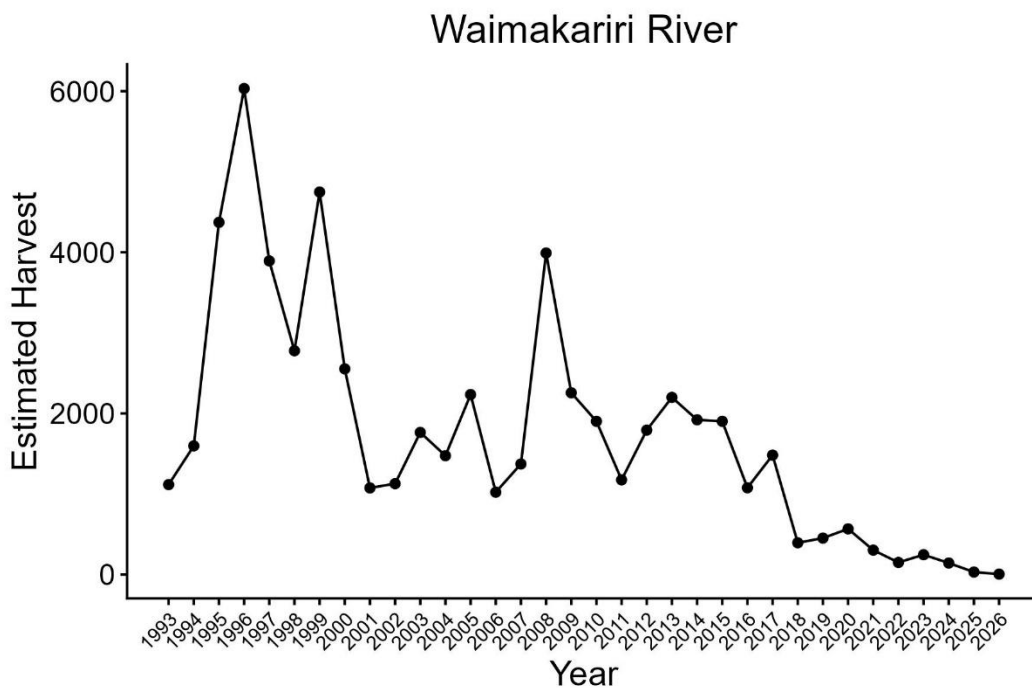


Figure 2.7. Estimated sea-run salmon harvest in the Waimakariri River Catchment, 1993-2026.

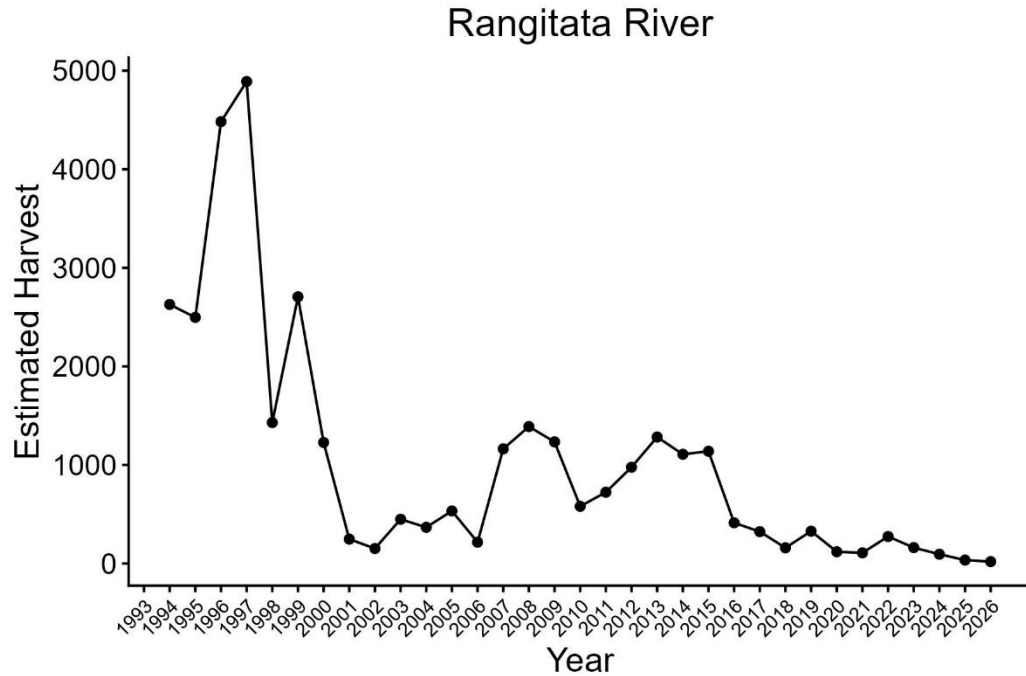


Figure 2.8. Estimated sea-run salmon harvest in the Rangitata River Catchment, 1993-2026.

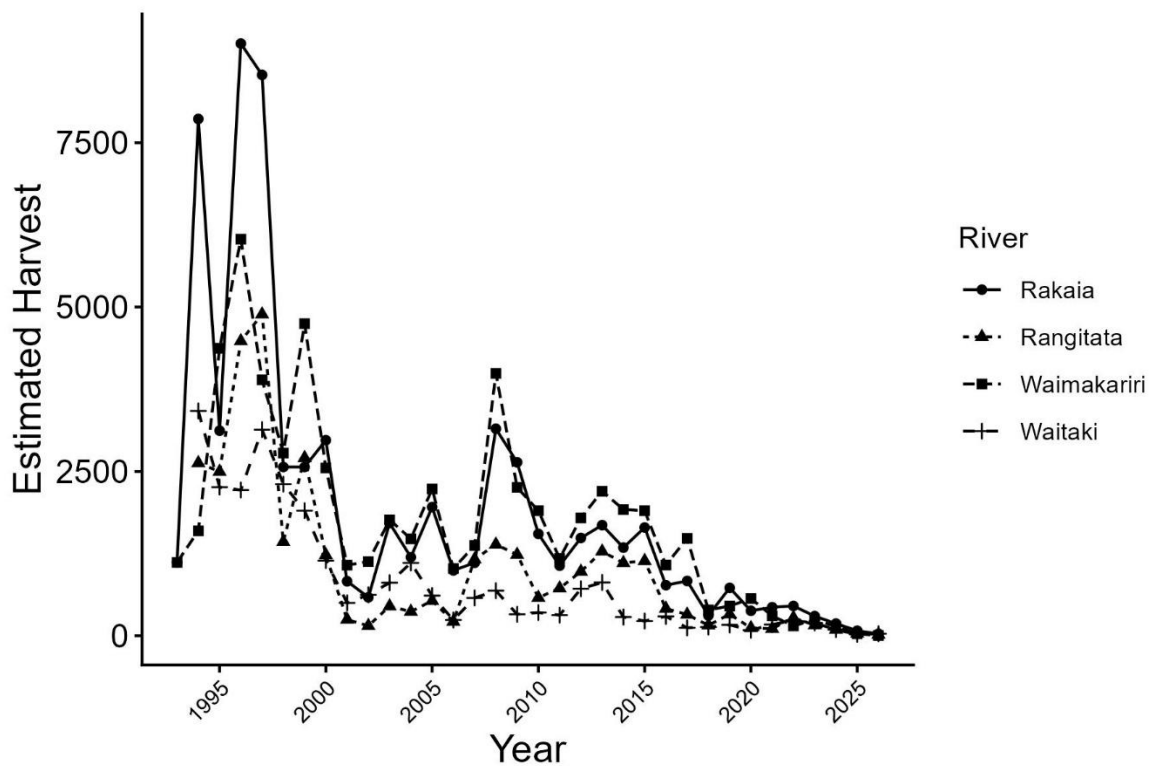


Figure 2.9. Estimated sea-run salmon harvest across the four major salmon fisheries in the North Canterbury and Central South Island regions of Fish & Game, 1993-2026.

2.3.5 Date of Harvest

The majority of salmon were harvested during February (32.8%), followed by April (31.1%), and March (28.4%). Only one fish was reported harvested before the first of the year (Figure 2.12). Timing of harvest varied by river (Figure 2.11). Harvest on the Rakaia River peaked in February, while harvest on the Waitaki peaked in April. Reported harvest on the Rangitata was spread evenly between February and March. Timing of peak harvest was similar to the 2024-25 season, but fewer fish were caught in December and January.

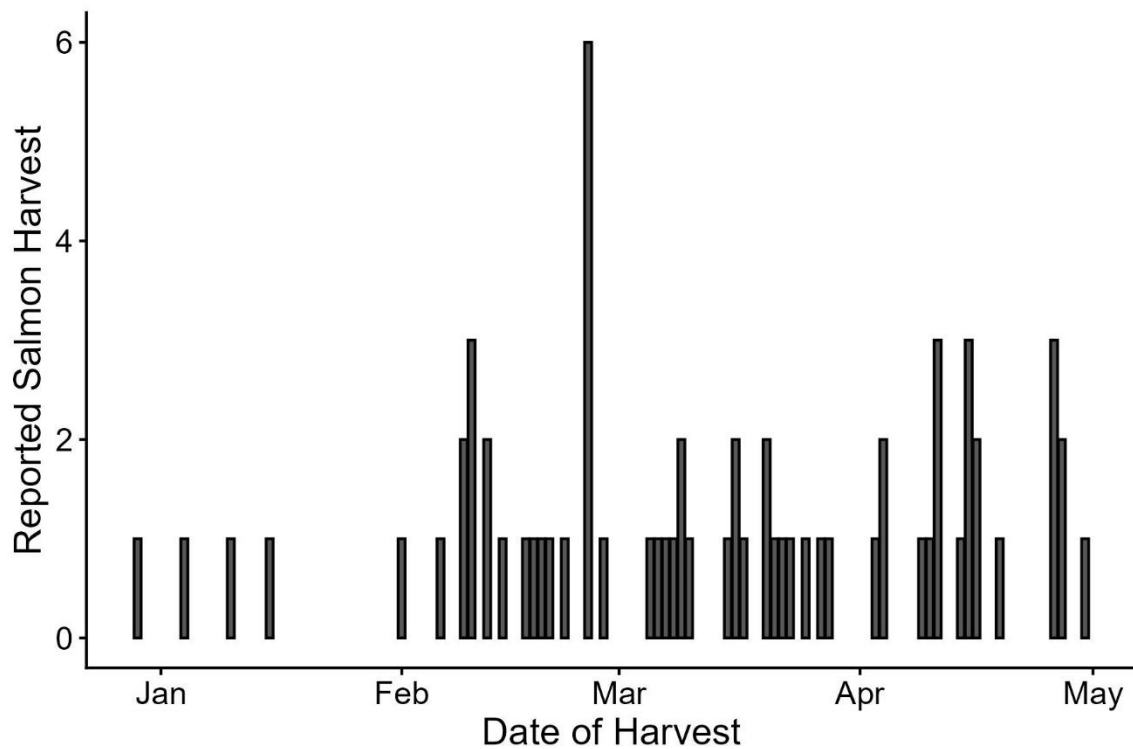


Figure 2.10. Date of harvest for all sea-run salmon harvested during the 2025-26 fishing season in North Canterbury and Central South Island Regions of Fish & Game, as reported by anglers.

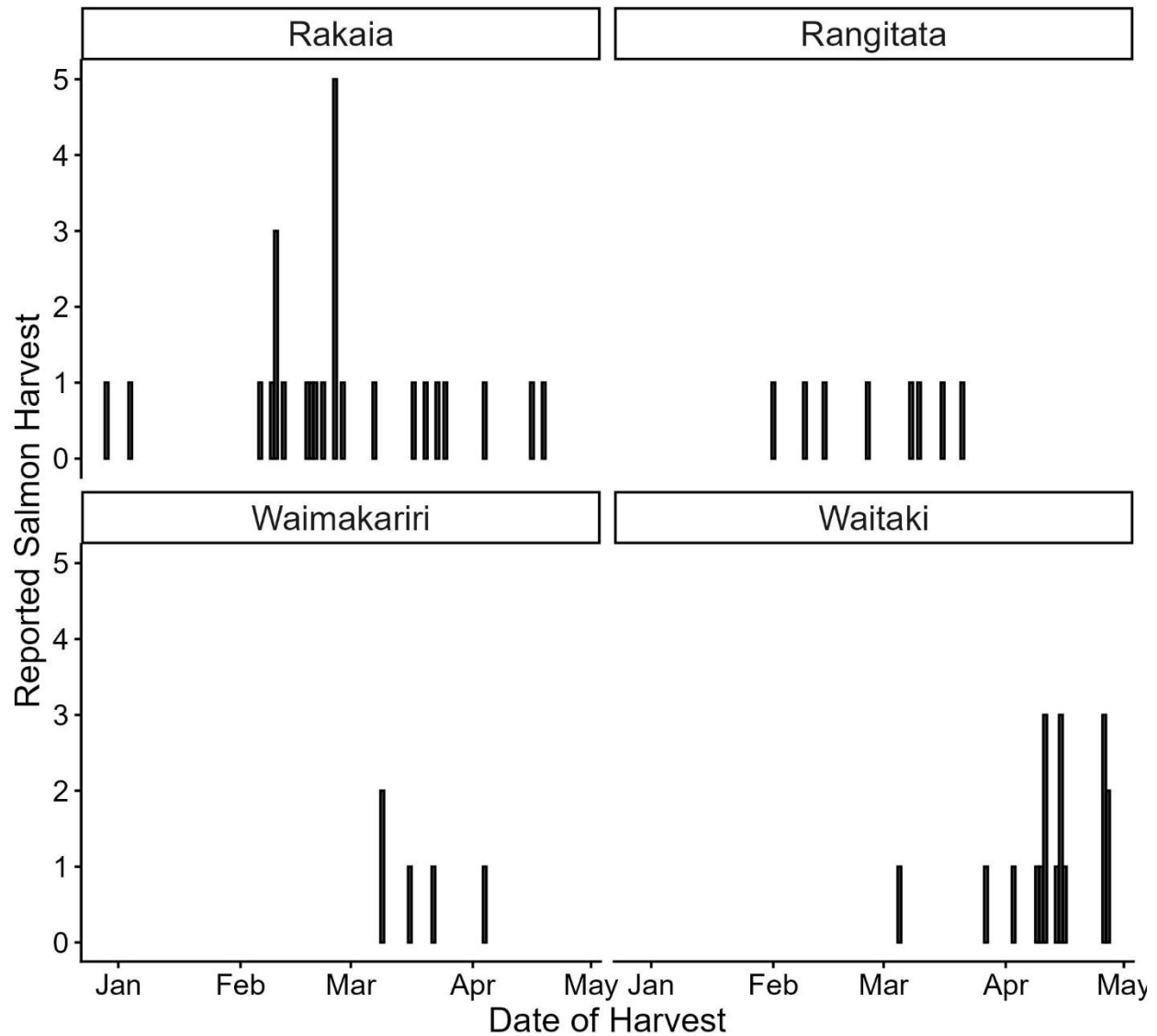


Figure 2.11. Date of harvest for sea-run salmon harvested during the 2024-25 fishing season on the four major sea-run salmon fisheries in North Canterbury and Central South Island Regions of Fish & Game, as reported by anglers.

2.3.6 Spatial Distribution of Catch

The river reach of catch was reported for 48 of the 67 harvested salmon reported during this survey. Similar to the 2024-25 season, small sample size makes it difficult to report on spatial distribution of catch with any certainty.

Table 2.2. Percent of reported sea-run salmon harvest by reach for 4 major salmon fisheries in the North Canterbury and Central South Island regions of Fish & Game during the 2025-26 season, as reported by anglers.

North Canterbury			
River	Reach	Description	Harvest (%)
<i>Rakaia</i>	1	Mouth and tidal reaches	23.1
	2	Above tidal reaches to SH1	11.5
	3	SH1 to gorge bridge	46.2
	4	Above gorge bridge	3.8
	5	Not specified by angler	15.4
<i>Waimakariri</i>	1	Mouth and tidal reaches	80.0
	2	Above tidal reaches to SH1	0
	3	SH1 to gorge bridge	0
	4	Above gorge bridge	0
	5	Not specified by angler	20.0
Central South Island			
River	Reach	Description	Harvest (%)
<i>Rangitata</i>	1	Mouth and lagoon	12.5
	2	Above lagoon to SH1	0
	3	SH1 to Arundel Bridge	12.5
	4	Arundel to bottom of gorge	12.5
	5	Gorge and above	25.0
	6	Not specified by angler	37.5
<i>Waitaki</i>	1	Mouth and lagoon	5.5
	2	Above lagoon to SH1	50.0
	3	SH1 to Stonewall	39.0
	4	Above Stonewall	0
	5	Not specified by angler	5.5

2.3.7 Size of Salmon

On average, the size of salmon harvested was similar between all four of the major sea-run salmon fisheries ($F_{3,42} = 0.8$, $p = 0.49$). The average length of harvested salmon was larger on the Waimakariri and smaller on the Rakaia than the reported average length from the 2024-25 season. Average reported lengths were similar between the two years for the Rangitata and the Waitaki Rivers.

Table 2.3. Mean, maximum, and 1st-3rd quartile length (cm) of sea-run salmon harvested during the 2025-26 fishing season in North Canterbury and Central South Island Regions of Fish & Game, as reported by anglers. Values are provided for all fish reported, and by river for the four major sea-run salmon fisheries.

Length (cm)	All Rivers	Rakaia	Rangitata	Waimakariri	Waitaki
<i>N</i>	52	26	8	5	18
<i>Mean</i>	64.5	62.7	63.8	67.8	67.1
<i>Maximum</i>	82.0	76.0	82.0	76.0	72.0
<i>Most Common</i>	60 - 71	65 - 70	52 - 71	62 - 71	68 - 70

2.3.8 Fin Clips

Out of the 67 reported fish, only 2 fin clipped fish were reported – one in the Rakaia and one in the Rangitata (Table 4). The number of fin clips reported is similar to the number reported during the 2024-25 fishing season (2 fish) and the 2023-24 season (3 fish).

Table 2.4. The number of fin-clipped sea-run salmon harvested during the 2025-26 fishing season in North Canterbury and Central South Island Regions of Fish & Game, as reported by anglers. Values are provided for all fish reported by survey stratum, and by river for the four major sea-run salmon fisheries.

	Rakaia	Rangitata	Waimakariri	Waitaki
<i>Voluntary</i>	1	0	0	0
<i>Known Success</i>	0	1	0	0
<i>No Known Success</i>	0	0	0	0
<i>Total</i>	0	0	0	0

3.0 Sea-run salmon escapement

3.1 Introduction

Central South Island and North Canterbury Fish & Game regions have been conducting monitoring of sea-run salmon returns since 1993. Salmon entering rivers to spawn are either harvested by anglers (and therefore removed from the spawning population) or avoid anglers and continue upriver to spawn (escapement). Over the decades a steady decline in escapement has been observed, particularly in the late 90s and early 00s. This information has previously been used alongside angler harvest in setting daily bag limits.

Following further declines in population the mid-late 2010s, the Adaptive Management Strategy (Webb & Terry, 2020) was developed and resulted in the adoption of a season bag limit for sea-run salmon in the Central South Island and North Canterbury regions at the start of the 2021-22 season. This system continues to be adopted by both Councils. The main aim of the season bag limit was to increase the proportion of the run that escaped to the headwaters and spawned; before the season bag limit, historic escapement proportions² reached as low as 35% in the Rakaia River, 54% in the Rangitata River, and 33% in the Waimakariri River.

The season bag limit for each season is determined using the 'Threshold Management Strategy', which depends on the previous three season's escapement estimates for the three 'indicator' rivers (Rakaia River, Rangitata River, and Waimakariri River). Following its introduction, the season bag limit in the 2021-22 to 2024-25 seasons was two salmon; in general, this resulted in a marked decline in the total proportion of the total run estimate being harvested by anglers on the Rakaia and Waimakariri rivers compared to pre-bag limit harvest rates. Harvest proportions on the Rangitata River have not dropped as dramatically but have achieved some of the lowest harvest proportions since 1993. The season bag limit for the 2025-26 season was reduced to one salmon. The expectation was that, with the bag limit decrease, the harvest proportion for this season would be lower than previous seasons with a two salmon season limit.

3.2 Methods

3.2.1 Three indicator rivers

Historically, the 'area under the curve' (AUC) has been used to calculate estimated escapement. The AUC method estimates total escapement based upon multiple periodic spawning counts and the residency time (RT) of the spawning fish (English et al., 1992). This method was used on all main sea-run salmon rivers from when counts began in 1993 through to 2013. Between 2013 and 2020, the AUC method continued to be used in Rangitata River estimates. However, financial constraints in the North Canterbury region meant multiple spawning counts could not take place on the main sea-run salmon rivers (including Rakaia and Waimakariri rivers), and the AUC method could not be used. Instead, between 2013 and 2020, the 'peak count' method was used to estimating escapement on North Canterbury rivers. This method was developed using

² The percentage of total estimated run of salmon harvested by anglers throughout the season.

previous seasons' data and, while not as accurate as AUC methodology, allowed a spawning estimate to be made based off a single count at the time of peak spawning. The resumption of multiple aerial counts in 2021 in the North Canterbury region allowed for the resumption of the AUC method for all rivers.

Five aerial counts were carried out on designated spawning streams in the Rangitata and four counts on spawning streams in the Rakaia and Waimakariri rivers in 2026 (Table 3.1). Aerial counts follow standardised methods developed by NIWA (Unwin, 1994) on the same known spawning streams each year to maintain consistency. Staff flew over each of the spawning streams, counting all visible salmon in the waterway from the designated starting point. Dead salmon are also counted in the first aerial count. Some streams (e.g., Bush Stream Inner) require staff to do foot counts as it is not possible to count from the air due to vegetation. While a tributary to the Rakaia River, Mellish Stream is counted at the same time as the Rangitata River counts as it lies within the Central South Island region. Three counts of the stream and surrounding lake edge are conducted. Due to its unique nature, Mellish Stream estimates cannot be made using AUC, and instead 'peak count' methodology is used to estimate spawning numbers (as was used for North Canterbury spawning streams mentioned above).

Table 3.1. List of designated spawning streams in the Rakaia, Rangitata and Waimakariri catchments counted via aerial survey used in escapement estimates.

<i>Catchment</i>		
<i>Rakaia River</i>	<i>Rangitata River</i>	<i>Waimakariri River</i>
Double Hill Flats	Deep Creek	Bealey Spring
Double Hill Stream	Deep Stream	Bush Stream (inner and outer)
Glenariffe Stream	Black Mountain Stream	Cass Hill Stream
Goat Hill Stream	Potts Fan	Cora Lynn Stream
Hydra Waters	Brabazon Fan	Lower Casey Stream
Manuka Point Stream	Erewhon Stream	One Tree Swamp
Mellish Stream		Sawmill Stream
Wilberforce Swamp		Thompson Stream
		Turkey Flat Stream
		Winding Creek

Once all aerial counts were completed, escapement estimates were made for each spawning stream using the Salmon AUC programme in Matlab (Version 1.0, NIWA). For each river catchment, estimates for each stream were added together to give the total escapement estimate.

3.2.3 Total run size and harvest/escapement proportions

Escapement estimates are added to harvest estimates to calculate a total estimated run size, i.e., how many salmon were estimated to be in the whole season's spawning run, regardless of

whether they were harvested by anglers or made it to the spawning streams. Expanding on this, the harvest proportion can be calculated for each river by dividing the estimated harvest by the estimated total run. Conversely, the “escapement proportion”, i.e., the proportion of the run that successfully made it to the spawning streams, can be calculated in the same way by dividing the population index by the total estimated run.

3.3 Results

3.3.1 Rakaia River

The escapement estimate for the Rakaia River in the 2025-26 season is **969** salmon. For individual stream estimates, refer to Appendix Table 7.1. This is higher than the 2024-25 season estimate (608 salmon) and the 2023-24 season estimate (878 salmon). Adding harvest, the total estimated run size for the Rakaia River is **998** salmon (Figure 3.1). The estimated escapement proportion is **97%** which is an eight percent change from the previous season, and the highest escapement proportion since recording began in 1993. (Figure 3.2).

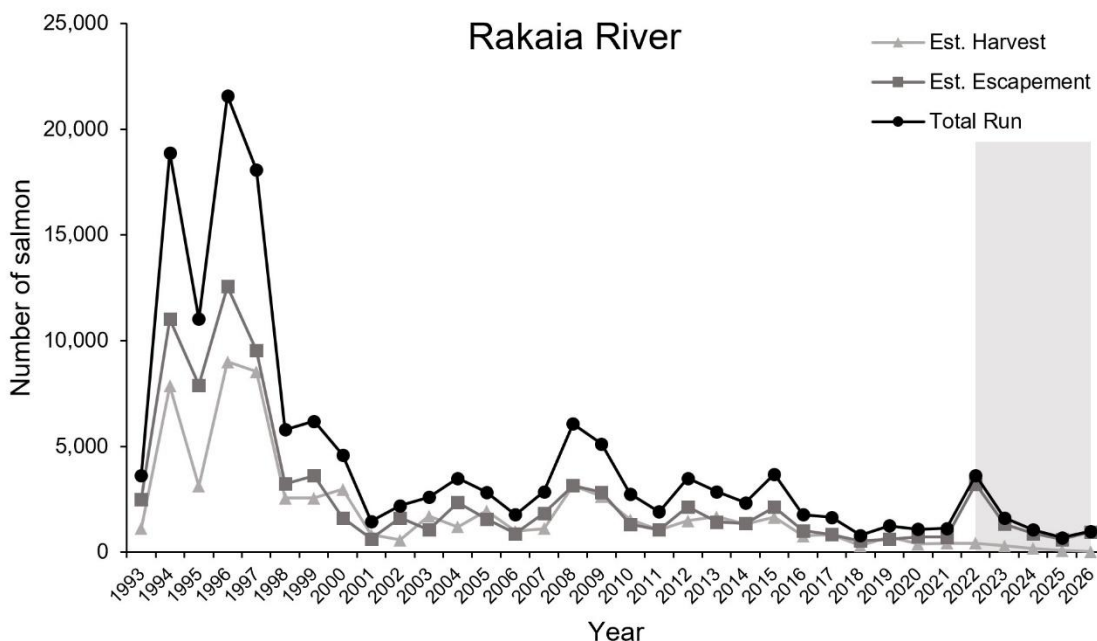


Figure 3.1. Estimated sea-run salmon escapement, angler harvest and total run on the Rakaia River, 1993-2026. Grey shaded area indicates years in which the sea-run season bag limit system was in place.

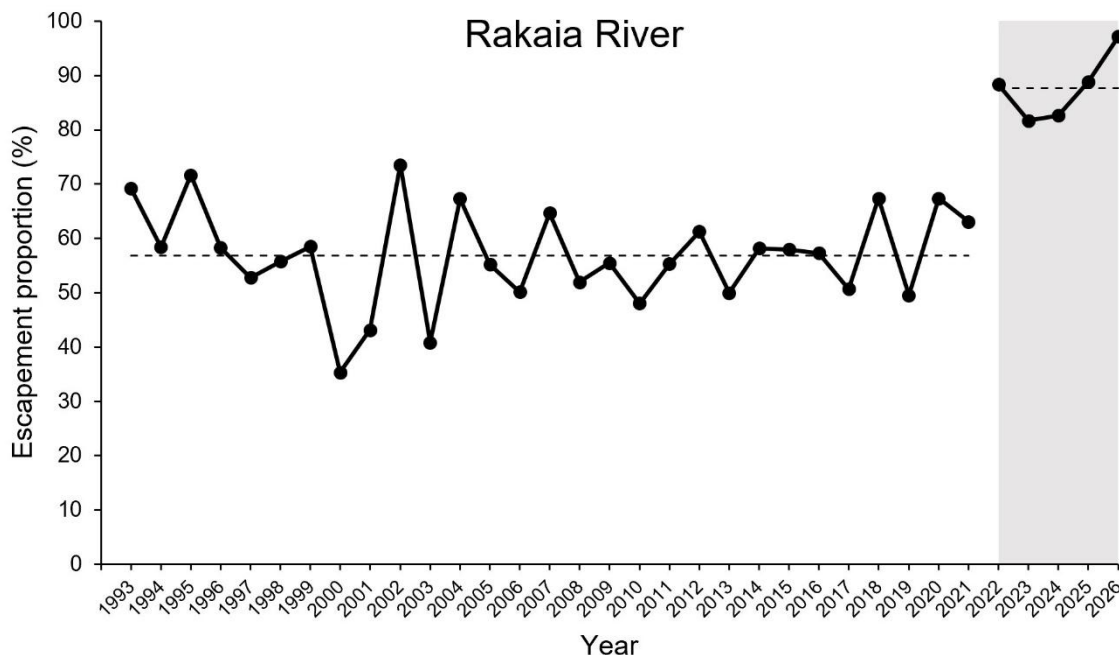


Figure 3.2. Escapement proportion of the total run on the Rakaia River, 1993-2026. Grey shaded area indicates years in which the season bag limit system was in place. Black dotted lines indicate the average escapement proportions for before and after the season bag limit introduction during the 2021-22 season.

3.3.2 Rangitata River

The escapement estimate for the Rangitata River in the 2025-26 season is **222** salmon, substantially higher than the 2024-25 season estimate (Figure 3.3). For individual stream estimates, refer to Appendix Table 7.2. Adding harvest, the total run for the Rangitata River in 2024-25 is estimated at **239** sea-run salmon. Of this run, **93%** successfully reached the spawning grounds (Figure 3.4).

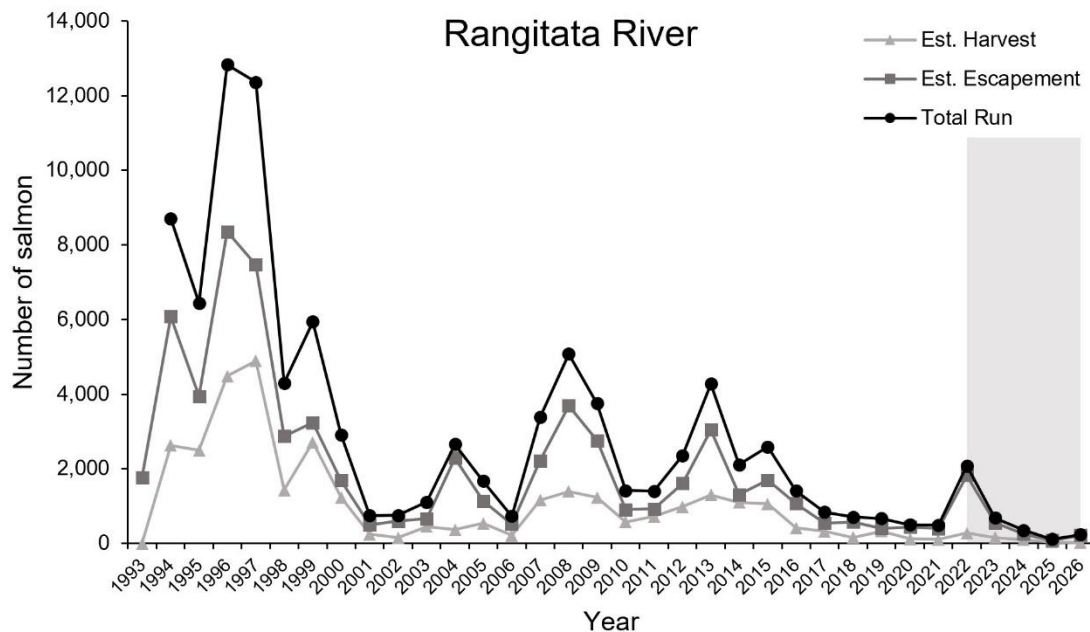


Figure 3.3. Estimated sea-run salmon escapement, angler harvest and total run on the Rangitata River, 1993-2026. Grey shaded area indicates years in which the sea-run season bag limit system was in place.

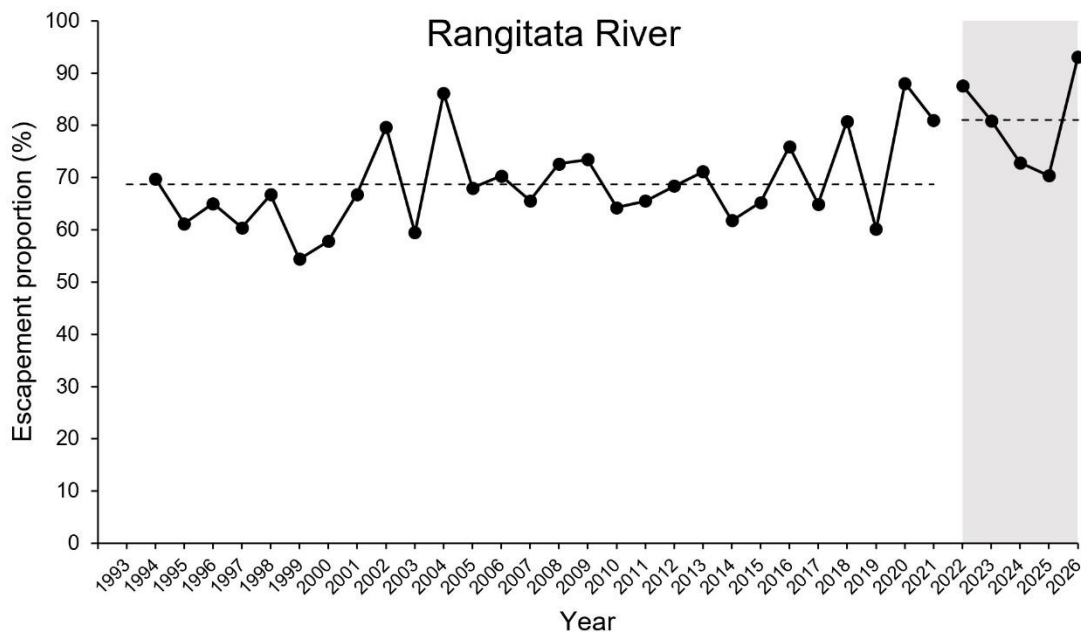


Figure 3.4. Escapement proportion of the total run on the Rangitata River, 1994-2026. Grey shaded area indicates years in which the season bag limit system was in place. Black dotted lines indicate the average escapement proportions for before and after the season bag limit introduction during the 2021-22 season.

3.3.2.1 McKinnon's Hatchery returns

In the 2025-26 season, one McKinnon's-origin fin-clipped salmon was reported to have been caught by an angler in the Rangitata River and 14 hatchery origin salmon returned to the hatchery. Surveys and salmon sampling work on the upper Rangitata River spawning grounds did not find any fin-clipped salmon in the spawning grounds. It is estimated that 13 of these returned fish are from the 2023 release of 58,350 fin clipped juveniles, a survival rate of 0.02%.

3.3.3 Waimakariri River

The escapement estimate for the Waimakariri River in the 2025-26 season is **278** salmon (see Appendix, Table 7.3 for individual stream estimates). This run is larger than the 2024-25 season estimate of 213 salmon. Adding harvest, the total estimated run size for the Waimakariri River is **283** salmon (Figure 3.5). The estimated escapement proportion is **98%**, ten percent higher than the previous season and the highest escapement proportion since recording began in 1993 (Figure 3.6).

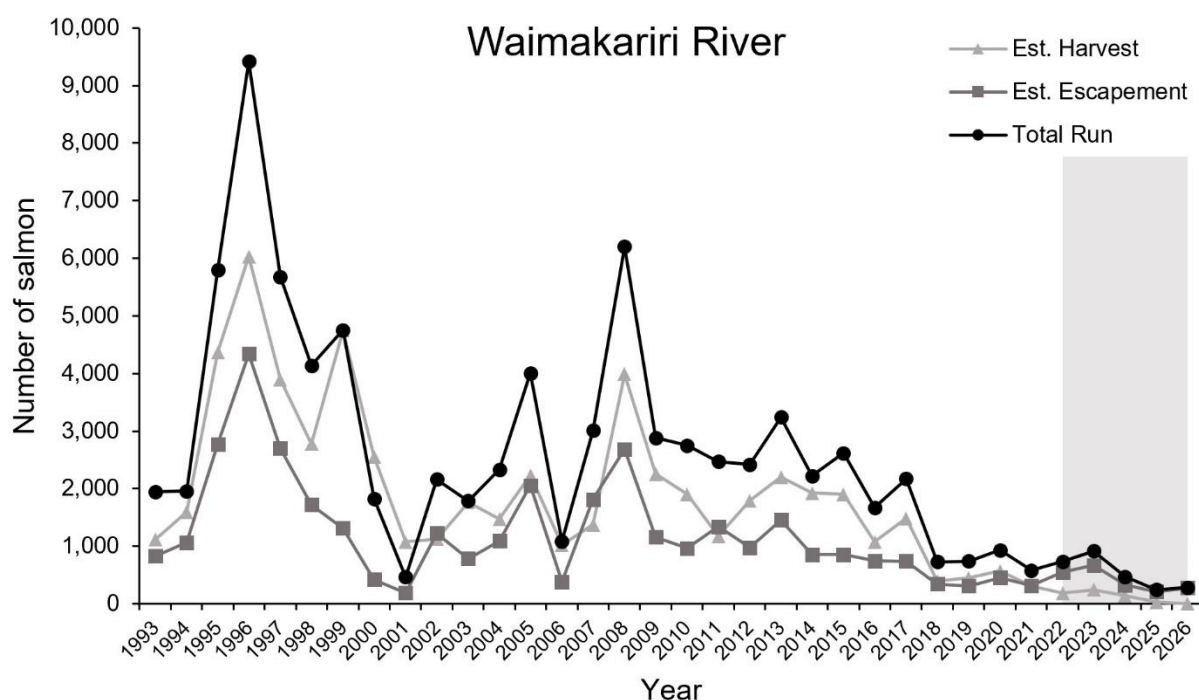


Figure 3.5. Estimated sea-run salmon escapement, angler harvest and total run on the Waimakariri River, 1993-2026. Grey shaded area indicates years in which the sea-run season bag limit system was in place.

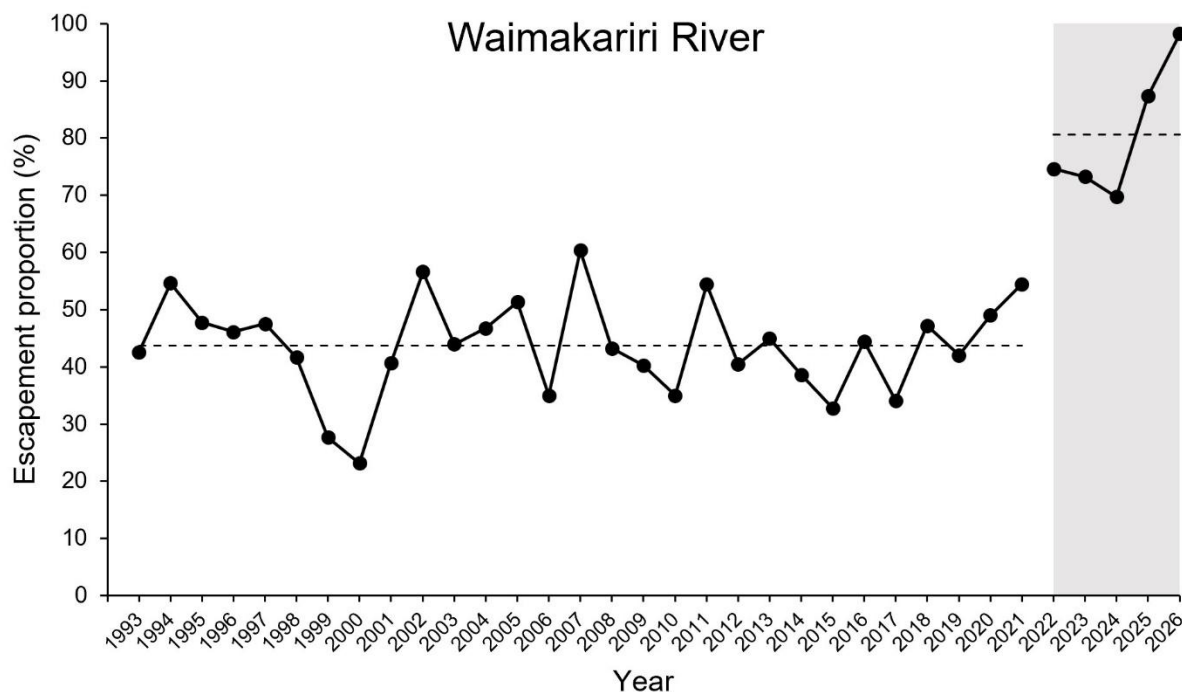


Figure 3.6. Escapement proportion of the total run on the Waimakariri River, 1993-2026. Grey shaded area indicates years in which the season bag limit system was in place. Black dotted lines indicate the average escapement proportions before and after the season bag limit introduction in the 2021-22 season.

4.0 Adaptive management

4.1 Introduction

Historically, approximately three-quarters of all South Island sea-run salmon caught by anglers are taken from the Waimakariri, Rakaia and Rangitata rivers. Based on these rivers' contributions to the South Island East Coast sea-run salmon fishery, their shared population trends, and their on-going population monitoring programmes, in 2020 the CSIFG and NCFG Councils adopted a joint Threshold Management Strategy across the three rivers for setting sea-run salmon fishing regulations in the two regions. The strategy aimed to manage angler catch to ensure adequate sea-run salmon spawn each year and to work towards providing a healthier wild recreational sports fishery.

If practicable in the future, monitoring to the required standard in other CSIFG and NCFG salmon fisheries (in particular the Waitaki River), will enable further salmon runs to be added to the sea-run salmon management strategy.

The strategy targets the spawning population size of wild salmon since it is from the spawning population in any year that the next generation of adult returns are generated. Annual spawning population monitoring results are also the earliest available measure of the salmon population.

Using spawning population size as the guide for harvest management ensures decisions are made on the most up-to-date information.

4.1 Methods

When CSIFG and NCFG Councils were considering how to rebuild the sea-run salmon fishery, priority was assigned to identifying a minimum acceptable spawning population size for the combined annual spawning estimates for the Waimakariri, Rakaia and Rangitata fisheries.

Four spawning population bands were identified that would characterise the health of the spawning populations with the upper band being the level at which the fishery would be considered 'healthy' and where minimum harvest conditions would apply. The second and third bands would be subject to increasing restrictions on harvest to help prevent the fishery falling below the third band. The fourth band would have maximum harvest restrictions without closing the fishery and this level has been determined to be just below the sum of the lowest recorded spawning population sizes in each of the rivers over the long-term monitoring record.

Following identification of spawning population targets CSI and NC regions considered how angler harvest would be managed to achieve spawning targets. At that time both regions had a one fish daily bag limit and a range of detailed season length and area conditions. Introduction of a season bag limit was recommended by scientific advisors as the favoured method to reduce harvest and rebuild spawning numbers. A season bag limit offered a simple and consistent method to achieve staged population targets. The simplicity came from the need to change only the size of the bag limit to reach a target rather than a range of different season, area and timing conditions. Consistency would be achieved from its equal application to all salmon anglers fishing all rivers.

Using the 26-year record of harvest and spawning population sizes that existed in 2020, significant modelling of the impact of different season bag limits on population sizes was completed. Overall, the scenario that assigned a 5% reduction in harvest to the healthy band, 20% reduction to the moderate band and 40% reduction to the low band had the least impact on anglers of the scenarios modelled and generated significant long-term increases in spawning, angling, and total run population sizes. Reductions in harvest of 5%, 20% and 40% could be achieved with season bag limits of 10, 4 and 2 fish respectively (Table 4.1). In the severe band (less than 1,200 spawning salmon), while the fishery may not be closed, restrictions would be more severe e.g., a one-fish season bag limit, and possible introductions of a shorter season length and closed area restrictions.

Table 4.1. Current Threshold Management Strategy combined escapement bands for the Rakaia, Rangitata and Waimakariri rivers and the season bag conditions triggered from these.

<i>Management band</i>	<i>Combined escapement</i>	<i>Season bag applied</i>
<i>Healthy</i>	Greater than 7,800	10
<i>Moderate</i>	5,101 to 7,800	4
<i>Low</i>	1,200 to 5,100	2
<i>Severe</i>	Less than 1,200	1

In the situation where the spawning population declined through a threshold from a stronger population band to a lower population band, the management strategy provided for immediate increase in restriction in harvest by reduction of the season bag limit for the following fishing season. This enables Fish & Game to cautiously manage harvest ahead of a possible multi-year declining population trend.

In the opposite situation, where the spawning population rises above a threshold and into a healthier population band, the management strategy requires the spawning population to remain in a higher band for a minimum of three years before the season bag is changed to allow for increased harvest. The delay in relaxing the season bag limit is to ensure that the spawning population increase is a true reflection of a stronger population trend that is able to sustain higher harvest and not a single-year anomaly where allowing increased harvest would be detrimental. Increasing harvest on the strength of a single year's increase in the spawning population could lead to yoyoing of the population in reaction to annual changes in harvest conditions.

4.2 Results

The 2025-26 combined Waimakariri, Rakaia and Rangitata rivers wild salmon spawning count was **1,469** salmon, placing the status of the fishery in the low management band (Figure 4.1). This is slightly lower but still somewhat consistent with estimates made at both regions' May 2026 Council meetings for setting the season bag limit in the 2026 Angler's Notice.

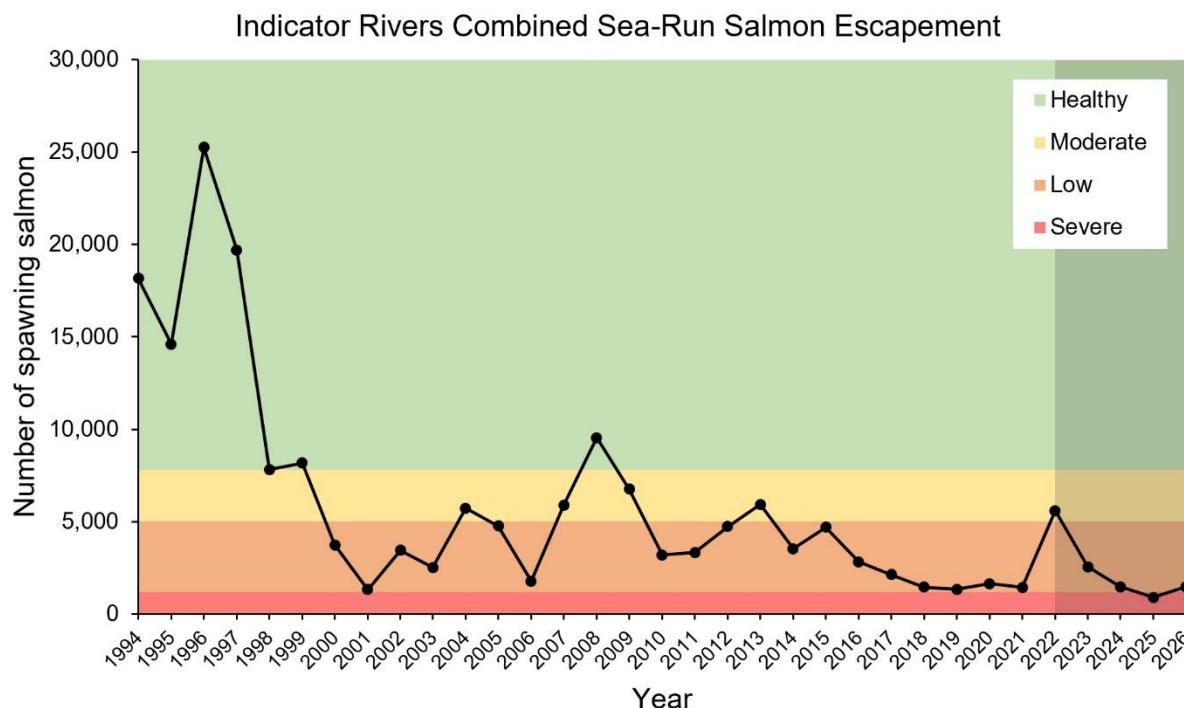


Figure 4.1. Combined estimated escapement across the three indicator rivers (Rakaia, Rangitata, Waimakariri) used for threshold management in comparison to the management band thresholds, 1993-2026. Grey shaded area indicates years where season bag limit system was in place.

5.0 Discussion

Monitoring of wild salmon in the Waimakariri, Rakaia and Rangitata rivers provides a record of annual angler catch, spawning population size, total run size and trends across the last 30 years. These fisheries, plus the Waitaki River across its shorter period of record, show very similar population trends, either increasing or decreasing together on an annual basis and they all share the current critically low state. Similar trends can also be seen in salmon spawning rivers of the other Fish & Game regions; salmon spawning counts in 2026 on the tributaries of the Wairau and Clarence rivers in Nelson/Marlborough region remained low, though were marginally better than the 2024-25 season (Nelson/Marlborough Fish & Game, 2026).

The similarity in trends across the four main east coast rivers (and particularly for the Waimakariri, Rakaia, and Rangitata rivers for their longer periods of record) indicate the significance of the reduction in salmon numbers that occurred around 1998 to 2001. The trends also show the absence of improvement since that time and strongly suggest that salmon survival in these rivers is very likely controlled by common influences when salmon are in a common environment. This provides strong support for continuing consistent management and consideration of them as one harvest management unit.

The observed escapement proportions over the last several years suggest that implementation of the season bag limit (SBL) has contributed to higher escapement proportions than the historical average on both the Rakaia and Waimakariri rivers. Average escapement proportions on the Rakaia River increased from 57% pre-SBL to 88% post-SBL, while on the Waimakariri River increased from 44% pre-SBL to 81% post SBL. Prior to introduction of the SBL, escapement proportions had only reached above 70% on two occasions for the Rakaia River (1995 and 2002) and had never reached above 60% of the total run on the Waimakariri River since recording began in 1993. While, for the Rangitata River, escapement proportions have historically been higher than the Rakaia and Waimakariri rivers, the very high escapement proportion this year has raised the post-SBL average to 81%, 12 percentage points higher than the pre-SBL average. More years of data will be required to draw meaningful conclusions; however, this year's increase suggests the reduction of the bag limit to one fish has improved the effectiveness of the SBL on escapement proportions in the Rangitata River. Overall, the higher escapement proportions seen again this season on all three rivers suggest that the season bag limit for sea-run salmon is a valuable management tool that Fish & Game can utilise when other environmental and non-environmental factors fall outside of Fish & Game's statutory management capabilities.

Estimated harvest has declined relative to the 2024-25 season; however, angler success has not changed. The observed decline in harvest is instead driven by reduced angler participation. This season only 36% of voluntary returns and 23% of phone surveys reported having gone fishing for sea-run salmon, compared to 44% and 31% during the 2024-25 season – a decline in participation of roughly 10%. Additionally, approximately 2,000 fewer anglers purchased a sea-run salmon licence in 2025-26 than during the 2024-25 season. Participation may have been influenced by the change in sea-run salmon regulations between the two seasons and by inclement weather during the early 2025-26 season resulting in unsuitable fishing conditions.

Fewer aerial counts were carried out on spawning streams in the Rakaia and Waimakariri catchments than during previous years. After the fourth count, AUC calculations indicated the spawning estimate for the two rivers would be sufficient to exceed the threshold for the severe

management band. Due to budgetary constraints, and because additional flights would not change the management outcome, the decision was made not to proceed with the fifth aerial count. While this decision does not affect any management outcomes, it will be important to note that the 2025-26 spawning estimates for the Rakaia and Waimakariri rivers are conservative estimates – the estimated run size if the fifth flight had been conducted would likely have been slightly higher.

The Threshold Management Strategy requires the spawning population to remain in a higher band for a minimum of three years before the season bag is increased. The move to the severe band at the end of the 2024-25 season means three consecutive seasons in the low, moderate or healthy population bands are required before an increase would be made to the season bag limit. The 2025-26 season constitutes the first of these three seasons. If the combined estimated escapement remains similarly high or increases during the next two seasons, the Management Strategy would call for an SBL increase to two fish for the 2028-29 fishing season.

5.1 Future management

The 2024-25 season represented the completion of a full three-year salmon life cycle following the introduction of the sea-run salmon season bag limit. It was anticipated that, following this period of time, Central South Island and North Canterbury regions would consider additional harvest restrictions if sea-run salmon populations continued to remain at critically low levels. Given the move of the population into the severe management band and subsequent reduction of the season bag limit to one fish in the 2025-26 season, this consideration became increasingly important. In light of this further decline, North Canterbury and Central South Island regions undertook a consultation process with anglers and the wider public between December 2025 and January 2026 to examine angler preference for different management options. Consultation feedback, alongside data, was provided to both Councils, who made decisions on what, if any management options be integrated into severe band of the adaptive management strategy. Both councils voted to implement closure limits within the severe band; Central South Island sea-run salmon waters will close to salmon fishing if the Rangitata River spawning estimates are fewer than 200 salmon. Likewise, North Canterbury sea-run salmon waters will close to salmon fishing if the combined Rakaia and Waimakariri rivers' spawning estimates are fewer than 200 salmon. Additional restrictions (season length or area restrictions) were deferred for both regions and will be considered once further harvest data has been collected under a one-salmon season bag limit, potentially operating under a "tier" system within the severe band.

Similar to the declines seen in Central South Island and North Canterbury regions, other South Island Fish & Game regions with historic runs of Chinook salmon (West Coast, Nelson/Marlborough and Otago regions) that do not utilise a season bag limit are seeing similar patterns of decline, and have come to similar conclusions about the potential causes of these declines (J. Couper, B. Kersten, & J. Lucas, personal communication, 18 August 2026). While there are likely a number of contributing factors behind the decline in the sea-run salmon population, changing marine environmental conditions could be a key factor and would explain the similar trends seen across the wider South Island Chinook salmon populations. This can also be seen in the very low (0.02%) smolt-to-adult survival rates of salmon released from McKinnon's Creek hatchery that returned for their spawning run in 2026. Across the Pacific,

decreasing population declines and salmon size has also been seen in Alaskan Chinook salmon populations (Siegel, McPhee & Adkinson, 2017). A Northern USA study modelling future survival in relation to SSTs also showed “populations rapidly declined in response to increasing sea surface temperatures and other factors across diverse model assumptions and climate scenarios” (Crozier & *et al*, 2021). Long term trends in sea surface temperature (SST) have seen higher rates of increase in SSTs on the east coast compared to other areas of the South Island, most notably south of Banks Peninsula immediately off the coast of the Rakaia and Rangitata rivers, between 1981 and 2017 (Sutton & Bowen, 2019). Assuming these trends have continued, it is likely the declines in the east coast salmon population seen in recent years could be a consequence of these environmental changes. Central South Island and North Canterbury Fish & Game regions therefore contracted Earth Sciences New Zealand (formerly NIWA), to explore relationships between ocean conditions and declining sea-run salmon numbers. Primary points of interest for Fish & Game for this report include:

- Population estimates and trends (where available) of marine species that comprise the bulk of the salmon diet (based on previous NZ Chinook salmon diet studies).
- Reports on marine temperature changes and how they compare to salmon temperature thresholds related to growth and survival
- Analysis of marine primary productivity and determine if that has changed, and if so, consider what influence it might have.
- Comparison of biophysical factors (including temperature and chlorophyll a) to salmon run estimates for key salmon rivers and determine if the relationships are significant.
- Identifying other structural changes in marine populations that may be influencing run size, e.g., predator and prey abundance, and how these changes may impact salmon populations.

Findings from this report may aid in future management of the fisheries and help the regional Fish & Game Councils make management decisions for the future of this species.

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7.0 Appendix

*Table 7.1 Total population indices of the Rakaia River tributaries calculated using AUC. *Mellish Stream estimates made using Peak Count method.*

<i>Rakaia River</i>	
<i>Spawning stream</i>	<i>Spawning estimate</i>
<i>Double Hill Flats</i>	27
<i>Double Hill Stream</i>	147
<i>Glenariffe Stream</i>	43
<i>Goat Hill Stream</i>	10
<i>Hydra Waters</i>	300
<i>Manuka Point Stream</i>	81
<i>Mellish Stream*</i>	360
<i>Wilberforce Swamp</i>	1
<i>Total</i>	969

*Table 7.2. Total spawning populations/escapement in the Rangitata River as estimated using AUC method. *Other includes Black Mountain Stream, Potts Fan, Brabazon Fan & Erewhon Stream*

<i>Rangitata River</i>	
<i>Spawning stream</i>	<i>Spawning estimate</i>
<i>Deep Stream</i>	104
<i>Deep Creek</i>	102
<i>Other*</i>	16
<i>Total</i>	222

*Table 7.3. Total population indices of the Waimakariri River tributaries calculated using AUC. *Poulter streams include Lower Casey Stream, Bush Stream (inner and outer) and Thompson Stream. **Upper Waimakariri streams include Bealey Spring, Sawmill Stream and Turkey Flat Stream.*

<i>Waimakariri River</i>	
<i>Spawning stream</i>	<i>Spawning estimate</i>
<i>Cass Hill Stream</i>	125
<i>Cora Lynn Stream</i>	15
<i>One Tree Swamp</i>	29
<i>Poulter River*</i>	68
<i>Upper Waimakariri**</i>	5
<i>Winding Creek</i>	36
<i>Total</i>	278

2026 Game Bird Report

North Canterbury Fish and Game Council Meeting - 16 September 2026

Prepared By: M. Garrick

1. Kōrero taunaki - Summary of Considerations

a) Purpose:

To provide Council with the annual game bird monitoring report for 2025-2026 FY.

2. Whakarāpopoto - Executive Summary

Staff completed standard population monitoring surveys of game birds in North Canterbury.

Monitoring data is used to inform and justify hunting seasons and regulations. Current population and harvest monitoring programmes do not warrant any governance concerns regarding game bird management.

3. Takena mai – Background

North Canterbury Fish and Game has statutory responsibilities regarding game bird population and harvest monitoring. Each year, staff carry out a summer paradise shelduck moult/black swan population survey, Canterbury Plains dabbling duck survey, summer season hunter harvest monitoring, winter season harvest monitoring, and participate in a national shoveler population survey.

4. Risk

☒ Low ☐ Medium ☐ High ☐ Extreme

Risk is considered low, while statutory functions are being fulfilled (i.e., monitoring completed annually).

5. Kōrerorero – Discussion

There has been little change year on year with population indices and harvest estimate. Full details can be found in the Appendix 4 2026 Game Bird Report which is attached.

6. Ngā mahinga e whai ake nei - Next Actions

Staff will be compiling South Island harvest data for development of the annual South Island Harvest report. Additionally, they are preparing for the 2026-2027 game bird monitoring cycle.



2026 Game Bird Annual Report

2025-2026

PREPARED FOR THE NORTH CANTERBURY FISH AND GAME COUNCIL

September 16th, 2025

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Appendix 4: Summer duck hunting season harvest and participation in North Canterbury

Executive Summary

North Canterbury Fish and Game (NCFG) annually conduct trend counts of native and introduced game birds. These population indices inform harvest management within the region by assessing and monitoring population trends.

The paradise shelduck and black swan indices for 2026 totalled 8,507 black swans and 10,325 paradise shelducks counted. This was the third year of the mixed mode survey with some sites being counted from the ground and others from helicopter. Helicopter counts allowed flying all sites at lower altitude, which will have increased detection probability of birds. The paradise shelducks count was 14% above the long-term average while the black swan count was 39% above the long-term average. The black swan population is still within the 'liberal' harvest regime, which allows for more flexibility with permitting. See appendix 1 for more details.

The dabbling duck survey was conducted late summer across the Canterbury Plains over two days on March 10th and March 11th. The average number of dabbling ducks per transect was 47.1, which is not significantly different than last year or the long-term average of 41.5. See appendix 2 for more details.

The shoveler survey was completed in 2026 on August 3rd and August 6th in North Canterbury. This national coordinated effort is written up by Eastern Region typically in late September. The 2025 report showed a stable national population across sites that have been counted every year. Counts at sites that have been counted every year was the fourth lowest since 2000. The ratio of females to males was 0.60. See appendix 3 for more details.

The participation rate of NC licence holders in the mallard season was 1.8%, with a total estimated harvest of 121 mallards in North Canterbury. The participation rate for known summer hunters was 15.7% during the first half of the summer paradise shelduck season and 9.4% during the second half of the summer season. The participation rate of hunters who had not previously reported hunting the summer season was 1.3% during the first half of the summer paradise shelduck season and 3.3% during the second half of the summer season. Total estimated harvest during the six-week season was 2,981 paradise shelduck. See appendix 4 for more details.

The nationally coordinated harvest survey data has not been analysed yet to produce a regular season (May-July) harvest estimate.

Appendix 1: Population Index of paradise shelduck and black swans in North Canterbury Region 2026

Matthew Garrick, North Canterbury Fish and Game
Heather Sanders Garrick, North Canterbury Fish and Game



Executive Summary

NCFG conducted annual aerial summer surveys of moulting paradise shelducks and black swans on January 27th, 2026. There were 10,325 paradise shelducks and 8,507 black swans counted.

Introduction

North Canterbury Fish and Game Council (NCFG) is charged with the management of sports fish and game bird resources in the recreational interests of anglers and hunters. Under the Conservation Act 1987, the functions of each Fish and Game Council shall be to manage, maintain, and enhance the sports fish and game bird resource in the recreational interests of anglers and hunters, and in particular—

- 1) *to assess and monitor—*
 - a. *sports fish and game bird populations*

NCFG staff conducted annual aerial surveys in 2026 to

- 1) Assess the population status of paradise shelducks and black swans

Methods

Aerial flights were conducted via helicopter January 27th with one observer. Flights were conducted between 300-500ft AGL. There were six sites across the region counted from the ground with binoculars and spotting scopes. There were a total of 14 locations surveyed (Figure 1).

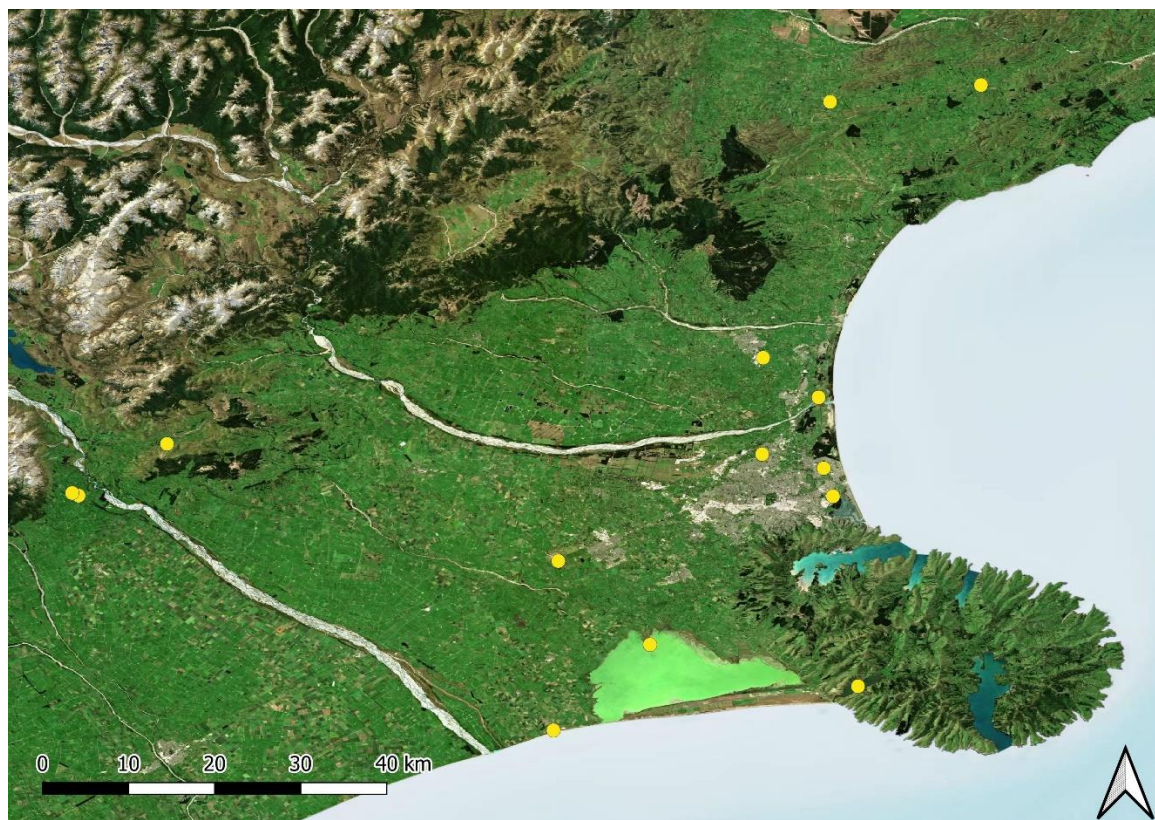


Figure 1. Paradise shelduck and black swan survey locations in North Canterbury, 2025.

Results

There were 10,325 paradise shelducks counted, 14% above the long-term average (Figure 2). A total of 8,507 black swans were counted, 39% above the long-term average (Figure 3).

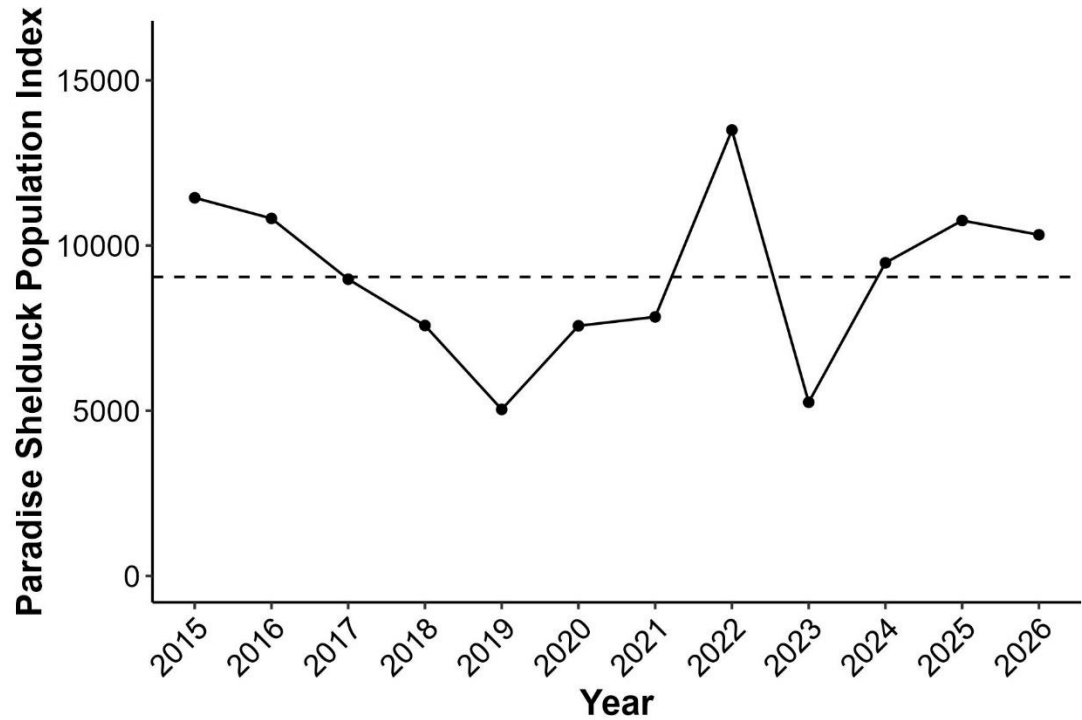


Figure 2. Paradise shelduck population counts of moulting birds 2015-2026.

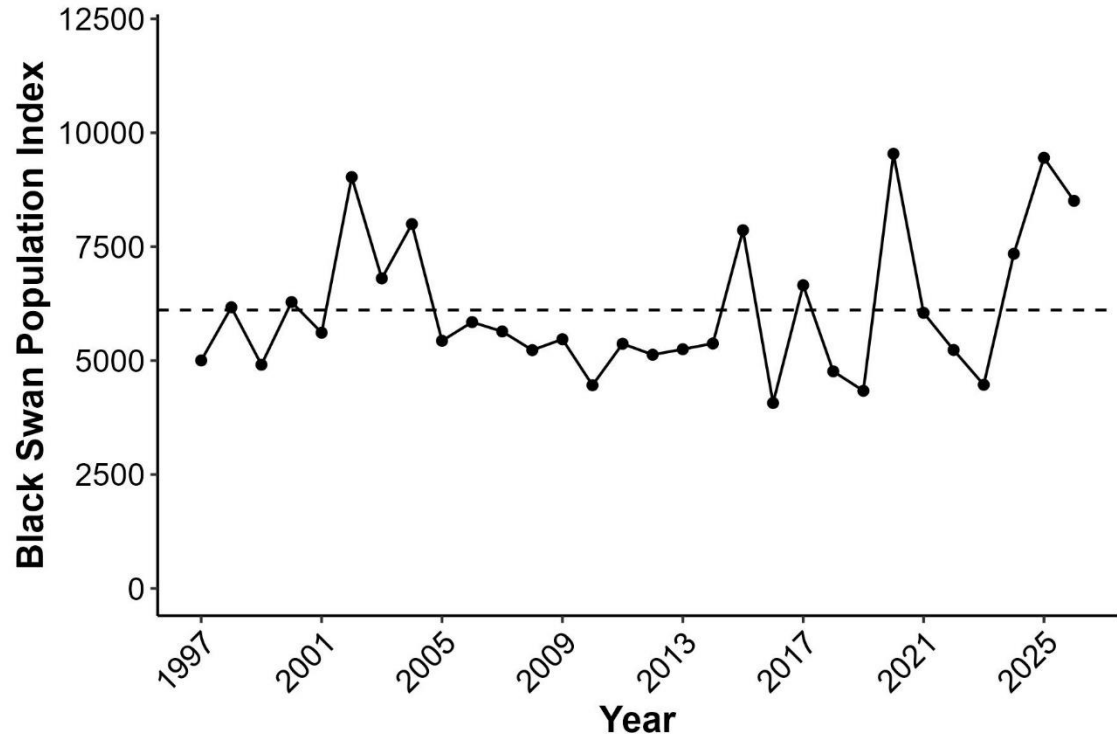


Figure 3. Black swan population index for North Canterbury 1997-2026.

Discussion

Population indices can provide important information for management; however, objectives and methodology must be clearly defined (Engeman 2003). The primary issue surrounding population monitoring is appropriate versus inappropriate experimental design and data analyses to achieve the investigators' objectives (Engeman 2003).

The number of moulting sites surveyed decreased from 110 locations to 26 locations in 2020. It has been further reduced again in 2024 to 14 sites that have been consistently monitored over the life of the survey. When 110 locations were surveyed, the numbers of paradise shelduck counted were between 9,000 and 15,000. Estimates of paradise shelduck harvest in the region during the May-July season are typically between 10,000 and 15,000 birds (Garrick and Sanders Garrick 2025), with another 5,000 harvested during the summer season in February (Garrick and Sanders Garrick 2023). Assuming harvest rate is somewhere between 10% and 20%, the population of paradise shelduck in North Canterbury may be between 75,000 and 200,000 birds. It is a “leap of faith” to make generalisations to the greater population when the survey counts such a low proportion of the population, and also relies heavily on assumptions around population distribution and site fidelity (Mackenzie and Royle 2005, Barker et al. 2010).

Paradise shelduck have also been monitored during the March dabbling duck flights since 2007. These flights are composed of 62 randomly selected 10 km transects across the Canterbury Plains. The robust design of this survey allows inference of the status of the paradise shelduck population in the Canterbury low country. While the high-country area, an important area for paradise shelduck, is not included in this survey, this data indicates the paradise shelduck population is increasing (Figure 4). This trend coincides with anecdotal observation with the extensive development of irrigation and dairying on the Canterbury Plains. These types of developments are generally beneficial to paradise shelduck populations (Williams 1979).

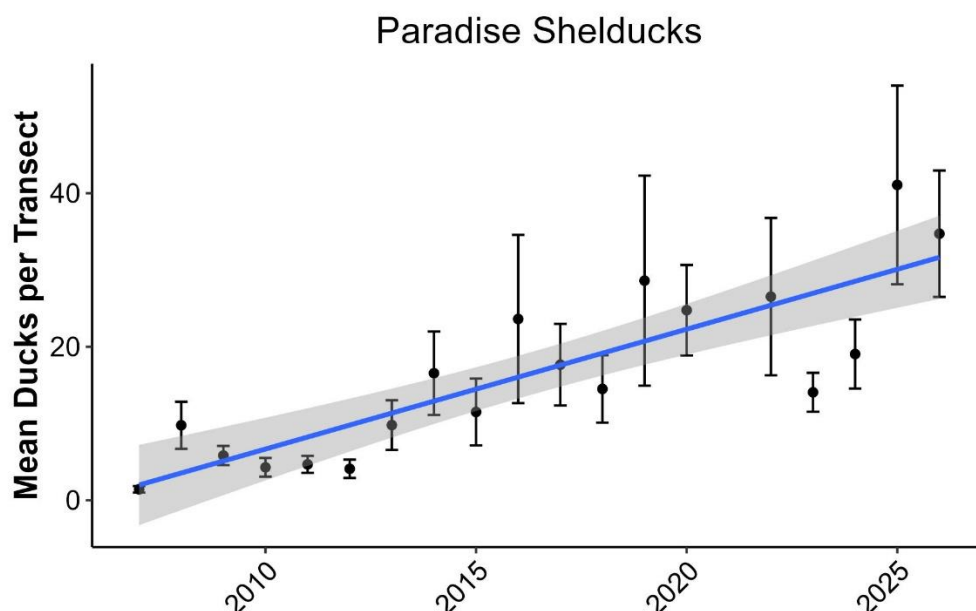


Figure 4. Mean number of paradise shelduck counted per 10 km transect during the March Canterbury Plains dabbling duck survey 2007-2026.

Management Implications

Black swan populations are slightly down on last year, but are still above the threshold number of 7,500 swans. This maintains the management regime that allows shooting of swans over decoys for depredation permits outside of the main swan nesting season.

In light of the challenges surrounding assumptions with the current methodology for moult counts of paradise shelduck, consideration should be put into transitioning to the March survey data to inform management frameworks.

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Williams, M. 1979. The social structure, breeding and population dynamics of paradise shelduck in the Gisborne-East coast district. *Notornis* 26:213-272.

Appendix 2: Canterbury Plains Dabbling Duck Survey 2026

Matthew Garrick, North Canterbury Fish and Game
Hamish Stevens, Central South Island Fish and Game
Heather Sanders Garrick, North Canterbury Fish and Game



Photo credit: Richard Cosgrove

Executive Summary

North Canterbury Fish and Game and Central South Island Fish and Game conducted late summer aerial surveys of dabbling ducks across the Canterbury Plains over two days on March 10th and March 11th. The average number of dabbling ducks per transect was 47.1, which is not significantly different from 2025 or the long-term average of 41.6.

Introduction

Fish and Game Council staff are charged with the management of sports fish and game bird resources in the recreational interests of anglers and hunters. Under the Conservation Act 1987, the functions of each Fish and Game Council shall be to manage, maintain, and enhance the sports fish and game bird resource in the recreational interests of anglers and hunters, and in particular—

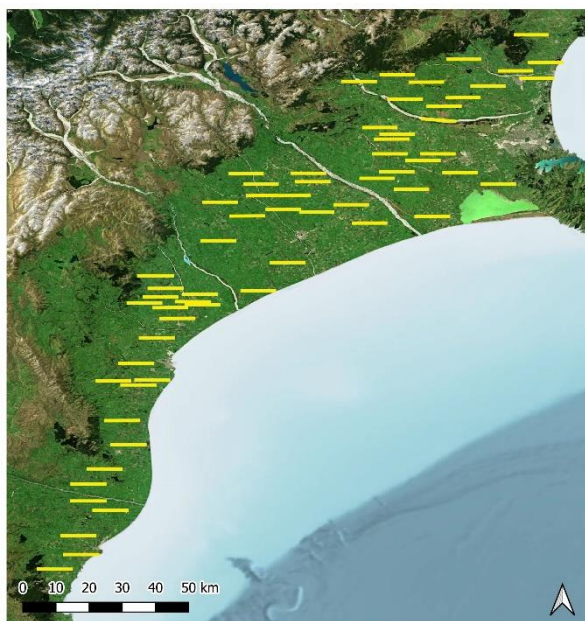
- 2) *to assess and monitor—*
 - a. *sports fish and game bird populations*

North Canterbury Fish and Game (NCFG) and Central South Island Fish and Game (CSIFG) staff conducted annual aerial surveys in 2026 to

- 1) Assess the population status of dabbling ducks across the Canterbury Plains
- 2) Inform hunting harvest regulations

Methods

Aerial flights were conducted on March 10th and March 11th, with two observers counting ducks along 10 km transects. Transects were randomly selected within four areas: between Amberley to the Waimakariri River, Waimakariri River to the Rakaia River, Rakaia River to the Rangitata River, and Rangitata River to Herbert. In 2026, there were 62 east-west transects and eight river transects flown (two per river –



Rakaia, Rangitata, Waimakariri and Waitaki, Figure 1). Each observer counted all ducks within 150 meters perpendicular to the transect on either side of the plane. The transects are flown 450 feet above ground level from east to west, with river transects being flown upriver.

Count data was log-transformed and analysed using a generalized linear model (GLM) on a Poisson distribution with transect ID as a random effect. The glmer function from package lme4 in program R was used for analyses. Log-transformed transect counts were set as the dependent variable, year as the

independent variable, and transect ID was coded as a factor and set as a random effect.

Figure 2. Aerial transects were flown across the Canterbury Plains during the 2026 dabbling duck survey.

Results

Between 2006 and 2026, the log of the mean number of ducks per transect increased, on average, by 0.022 per year ($X^2 = 726$, $P < 0.001$). The mean number of dabbling ducks per transect has increased by 0.90 dabbling ducks per year on average (Figure 2).

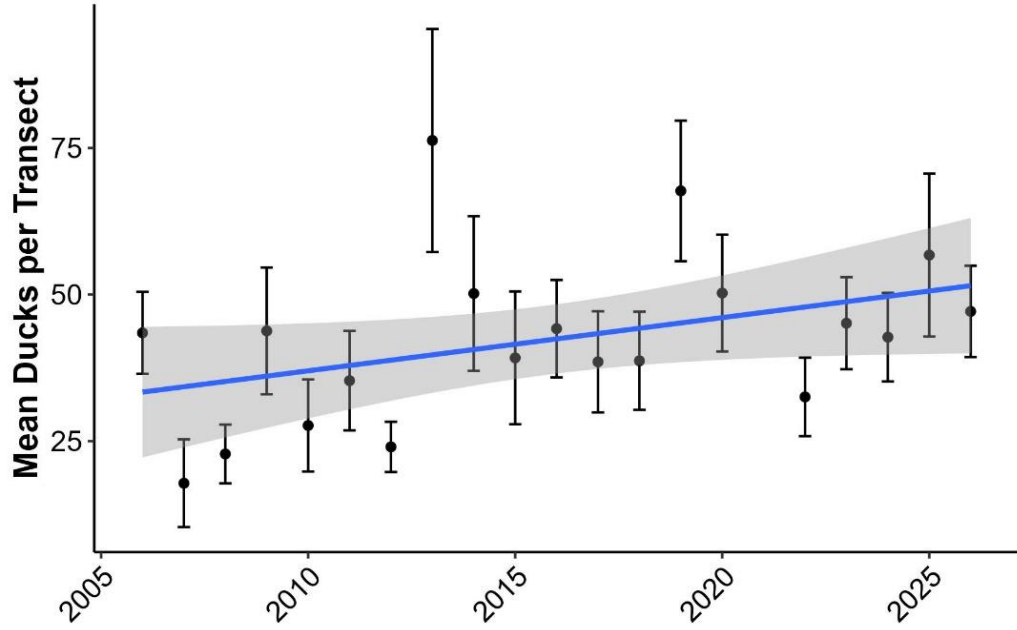


Figure 3. Mean number of dabbling ducks observed per transect during the Canterbury Plains dabbling duck surveys between 2006 and 2026. Error bars indicate standard error, and the trend line represents an approximation of the GLM.

The mean estimate of 47.1 (+/- 7.8) dabbling ducks counted per transect in 2026 is not meaningfully different from the long-term average of 42.2 dabbling ducks per transect, as the margin of error overlaps the average (Figure 3).

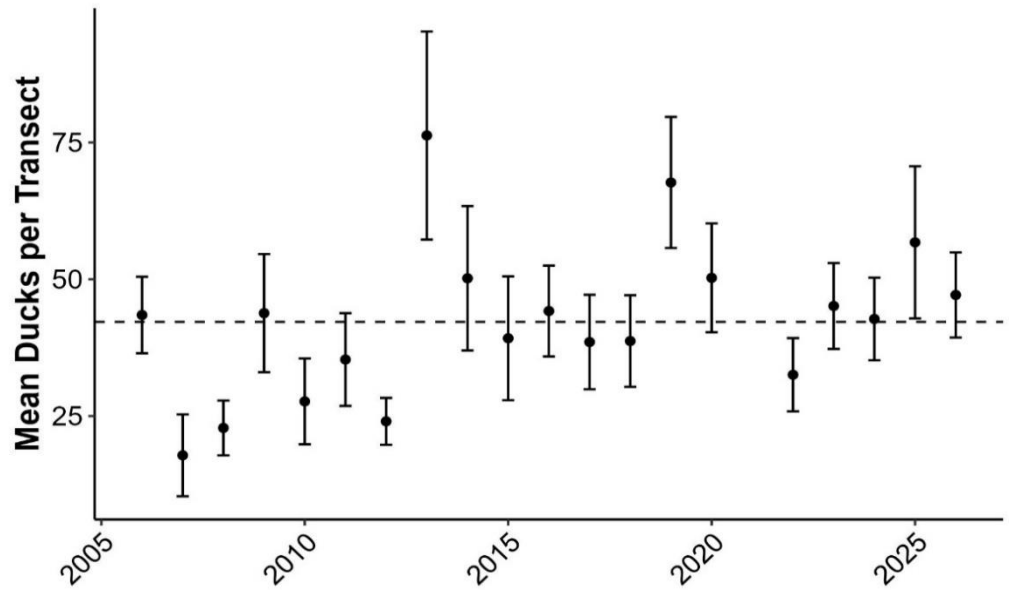


Figure 4. The mean number of dabbling ducks counted per transect in the Canterbury Plains between 2006 and 2026, with the long-term represented by the dashed line.

Discussion

Population indices can provide important information for management; however, objectives should be clearly defined (Engeman 2003). The primary issue surrounding population monitoring is appropriate versus inappropriate experimental design and data analyses to achieve the investigators' objectives (Engeman 2003).

NCFG and CSIFG staff have developed an adaptive harvest strategy for dabbling ducks, which can be used to guide hunting regulations in a similar way to the Flyway system in the U.S. (USFWS 2022). The strategy has been drafted in a way to allow each Fish and Game region to determine their own regulatory harvest packages (i.e., liberal, moderate, and restrictive packages, which encompass different bag limits, special seasons, and season lengths). For NCFG, these packages will be selected based on a combination of population status and hunter success. The development of CSIFG harvest frameworks is ongoing. This process will help guide Council decision-making in a consistent, scientifically defensible, and pre-emptive manner and reduce post-hoc decisions on season regulations.

Literature Cited

Engeman, R.M. 2003. More on the need to get the basics right: population indices. *Wildlife Society Bulletin* 31:286-287.

U.S. Fish and Wildlife Service. 2022. Adaptive Harvest Management: 2023 Hunting Season. U.S. Department of Interior, Washington, D.C. 77 pp.

Appendix 3: A trend count of Kuruwhengi, the Australasian Shoveler Duck - 2025

By Matthew M^cDougall

Fish and Game New Zealand,
Eastern Region, Private Bag 3010 Rotorua New Zealand.

3 October 2025

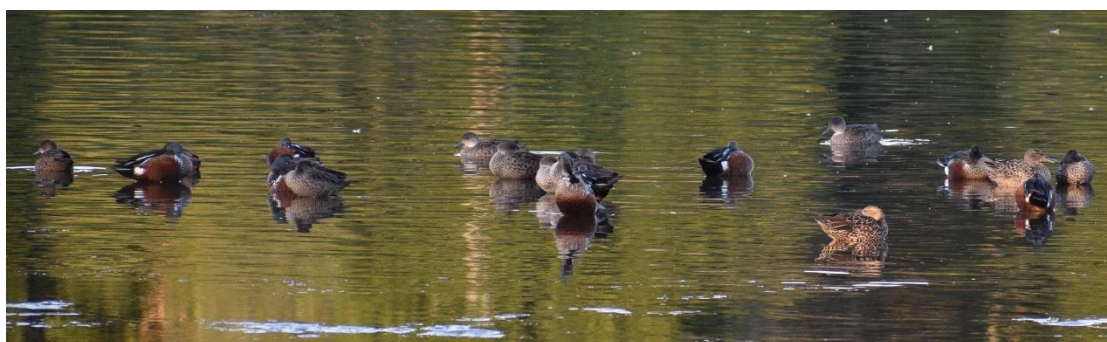


Photo: Allen Stancliff

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Summary

Fish and Game New Zealand conducted a national count of kuruwhengi, Australasian shoveler duck (*Spatula (Anas) rhynchotis*) on 4 August 2025. This is the 26th annual count (2000 – 2025) to monitor change in the New Zealand shoveler duck population.

Five indices were examined:

- total national count ($n=273$ survey sites),
- the sum of counts from sites that have been counted every year ($n=72$),
- the number of shoveler counted per site,
- a two-year trend of each site (2024–2025; $n=264$) and,
- a 26-year trend of each site (2000–2025; $n=273$).

Population trends are derived from a regression line, i.e., a linear slope, fitted to the annual log count for each site and then the average of the regression coefficients is back transformed.

The 2025 total count (12,250, $n=273$ sites counted) was the 19th highest ranked count in the 26 years and similar to last year's count of 12,514 ($n=278$ sites counted).

The long-term trend indicates a stable population across sites counted (average regression coefficient = -0.02; 95 CI -0.061 – 0.022) and no consistent change over the last two years (average regression coefficient = 0.09; 95 CI -0.09 – 0.26).

A linear regression line fitted to the 72 sites that have been counted every year (26 years) suggest no change in the shoveler population ($\beta_{Year} = -20.04$; $P = 0.627$). Nevertheless, the observed population at these sites was the second to lowest (3,932) over the last 26 years and about 40% of the highest count in 2017 (9,636). Counts at these sites peaked about 2014 – 2017 followed by a gradual decline.

Sex ratios were examined using a chi-squared test. Reported observations of females were significantly fewer ($P<0.0001$) than males with a ratio of 0.60 females to males. This sex imbalance is consistent with ratios from previous years (0.63 females to males; $P<0.001$).

The national survey is an index of population change at surveyed sites. However, count sites are not randomly selected so inference about national and regional shoveler populations must be made with caution.

All indices, and counts, point to a relatively stable shoveler population at surveyed sites. Regional game bird regulations of shoveler duck therefore are assessed as currently sustainable.

Introduction

Two species of extant shoveler duck are recorded in New Zealand, the northern shoveler (*Spatula clypeata*), a rare arctic vagrant, and the Australasian shoveler (*S. rhynchotis*) or kuruwhengi, a common native (Heather and Robertson 1996), referred to henceforth as shoveler.

Shoveler are filter feeders (Crome 1985; Potts 1977) that extract relatively fine seeds, planktonic animals (e.g. cladocerans, copepods, rotifers, and ostracods), and small snails by

sifting water through lamellae on their bills (Marchant and Higgins 1991; Potts 1977). Shoveller are considered a bird of lowland fertile wetlands (Heather and Robertson 1996; Williams 1981b) but also frequent sheltered estuaries (Marchant and Higgins 1991).

Shoveler are classified as a game bird under Schedule 1 of the Wildlife Act 1953 and are managed by Fish and Game. The species can be hunted subject conditions published in the annual Game Bird Gazette Notice.

The effective monitoring of game birds was set as a high priority by the New Zealand Fish and Game, Game Bird Research Committee. It was proposed to monitor shoveler duck, within a national framework (Rodway 1999) as this species is very mobile and tends to disperse nationally (Barker, Caithness, and Williams 2005; Sutton et al. 2002; Williams 1981b) compared with other more sedentary game species in New Zealand such as the mallard (*Anas platyrhynchos*) (Balham and Miers 1959; M. McDougall 2012) or the paradise shelduck (*Tadorna variegata*) (Barker 1990; Williams 1981a).

Method

Survey Design

The aim of the shoveler survey is to detect an annual change in the population of shoveler duck at pre-breeding sites (Figure 5) and to monitor long-term changes at these sites.

The survey date was Monday 4th of August 2025 to coincide with pre-breeding flock formations (Williams 1981b). Chosen sites were visited and the number of male and female shoveler and total number of grey teal were recorded. Where sex could not be determined due to light conditions, distance, or large numbers, shoveller were recorded as unidentified sex.

Survey Sites

Shoveler prefer lowland fertile waterways such as ponds and lakes (Williams 1981b). Fish and Game did not have data on this type of habitat to allow us to randomly select count sites so in 2000 staff were asked to select a minimum of 10 count sites in each region where shoveler are known to congregate prior to breeding. Over the 26 years, 446 different survey sites (annual range = 202–291 in 2009 and 2001 respectively; Figure 5) have been counted but some are not surveyed every year due to several factors including, loss of access, detectability and difficulty conducting an accurate count. New count sites have been added to offset some of these sites.

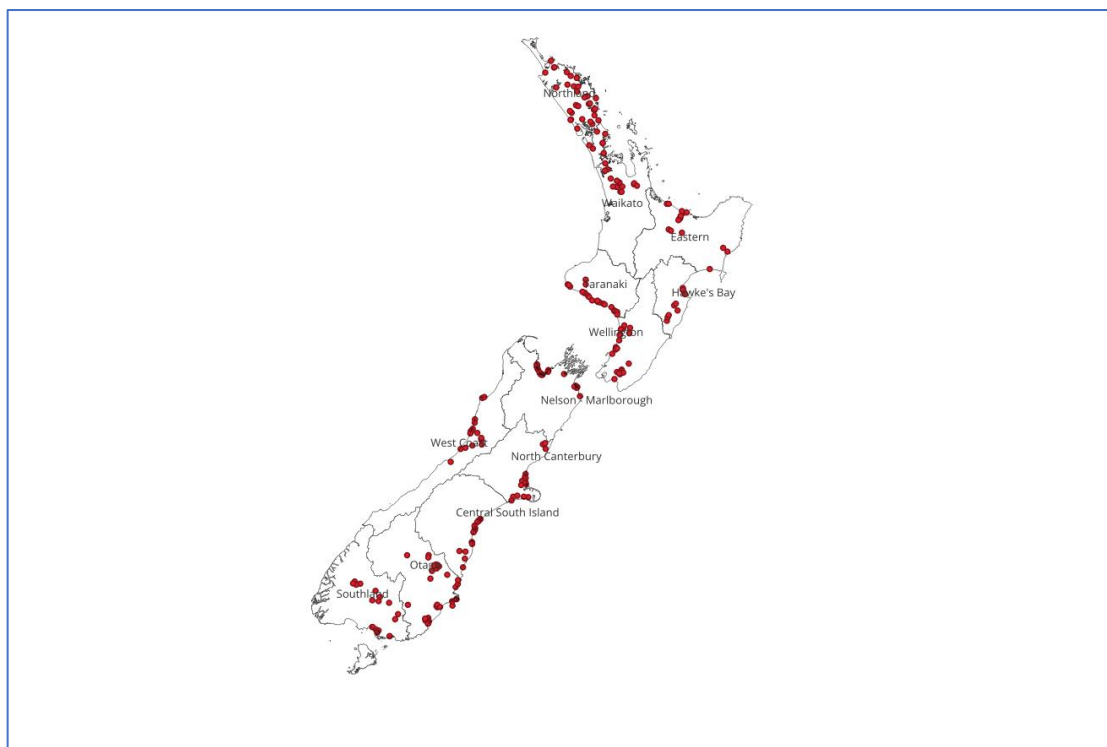


Figure 5. Shoveler 2025 count locations (red dots). Black lines are regional Fish and Game boundaries.

Survey forms

Count location information is kept on an MS Access database. Survey forms were printed using MS Access and mail merge in MS Word. Each form was pre-printed with site specific information including site name, grid references, the name of last year's observer (to try and ensure observes are paired with the same sites each year to minimise observer bias) and site access details. Comments and weather conditions from the preceding year were also included.

Analysis

Count data was examined using two different methodologies; (1) sites that have been counted for the 26 years were summed ($\sum C_t$) and, (2) a variant on the route regression method (Geissler and Sauer 1990) where counts were converted to their natural log ($\ln C_{ij} + 1 = y_{ij}$) and a temporal regression line was fitted to each site then the average regression coefficient across all sites was estimated to provide the long-term trend.

The average of the regression coefficient i.e., population change (lambda), was derived as the exponent of the mean regression coefficient:

$$\hat{\lambda} = (e^{\bar{b}} - 1) \text{ (Rosenberg 1998).}$$

Managing null data with natural log of zeros in regression models lacks consensus (Bellégo, Benatia, and Pape 2022). Here, 1 was added to the count data given the natural log of 1 is zero.

The back transformation of the natural log estimate can be biased. A possible correction is (Geissler and Sauer 1990):

$$\hat{\lambda} = \exp\{\ln(\bar{b}) - 0.5\widehat{variance} [\ln(b)]\}$$

Male:Female Ratio

The chi-square goodness of fit test was used to test whether the expected ratio of 50:50 males to females was observed.

$$\chi^2 = \sum_{i=1}^k \frac{(O_i - E_i)^2}{E_i}$$

Where:

E_i = The expected frequency of the i th class

O_i = The observed frequency of the i th class

Degrees of freedom; $v = k-1 = 2-1 = 1$

The Hypothesis is:

H_0 : That the ratio of males to females is 50:50,

H_A : The ratio of males to females is not 50:50.

Results

Sites

In 2025 a total of 273 sites were counted throughout New Zealand (Table 2; **Error! Reference source not found.**), 72 of which have been surveyed for the past 26 years. The number of sites counted in each region varied from 11 – 44.

Count Spread

Of the 273 sites 82% of sites were counted on the 4th of August 2025 (Table 1). The remainder were counted between 29 July and 6 August 2025.

Table 1. Count date by Region

REGION	TOTAL	29/07/2025	3/08/2025	4/08/2025	5/08/2025	6/08/2025
AUCKLAND/WAIKATO	22	1		21		
CENTRAL SOUTH ISLAND	22			22		
EASTERN	17			17		
HAWKE'S BAY	11			11		
NELSON/MARLBOROUGH	21			21		
NORTH CANTERBURY	15			12	3	
NORTHLAND	33			29	4	
OTAGO	44			44		
SOUTHLAND	17			12	5	
TARANAKI	27		24	3		
WELLINGTON	25			25		
WEST COAST	19			6	5	8
TOTAL	273	1	24	223	17	8

Count Results

Total annual counts: 12,250 ($n = 273$ sites) shoveler were counted throughout the country, similar to the 2024 count of 12,514 ($n = 277$ sites; Figure 6, Table 3). The fitted regression line indicates no long-term change in the total annual shoveler count ($\beta_{Year} = 65.42$; $P = 0.133$).

Shoveler counted per site ($\text{mean}_{(2025)} = 44.91$) has shown no long-term change ($\beta_{Year} = 0.1809$; $P = 0.303$).

Long- and short-term trends: The trend (average regression coefficient of the log transformed data for each count site) over the 26 years indicates no change in the shoveler population at the sites counted (average change -0.02 ; 95 CI $-0.061 - 0.022$; $n=273$; Figure 7).

The estimate of the average regression coefficient (log transformed data) for the last two years (2024 – 2025) was positive but the confidence interval spans zero (average change = 0.09 ; 95% CI $-0.09 - 0.26$).

North and South Island trends: Both the North (-0.39 ; 95%CI $-0.117 - 0.039$) and South (-1.9^5 ; 95%CI $-0.034 - 0.034$) Islands show no discernible trend over the 26 years.

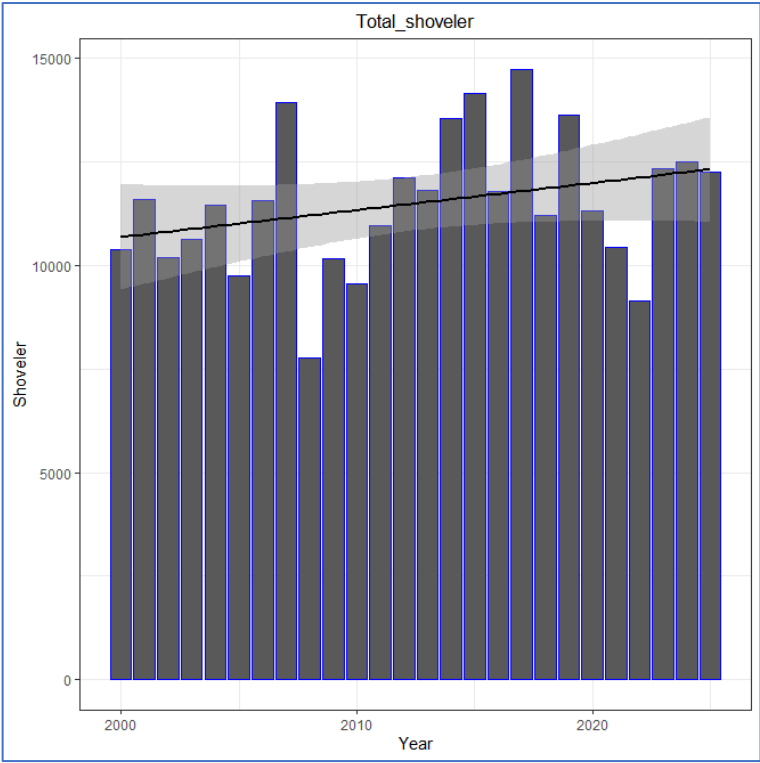


Figure 6. Total shoveler counted throughout New Zealand 2000–2025. The solid black line is the regression line.

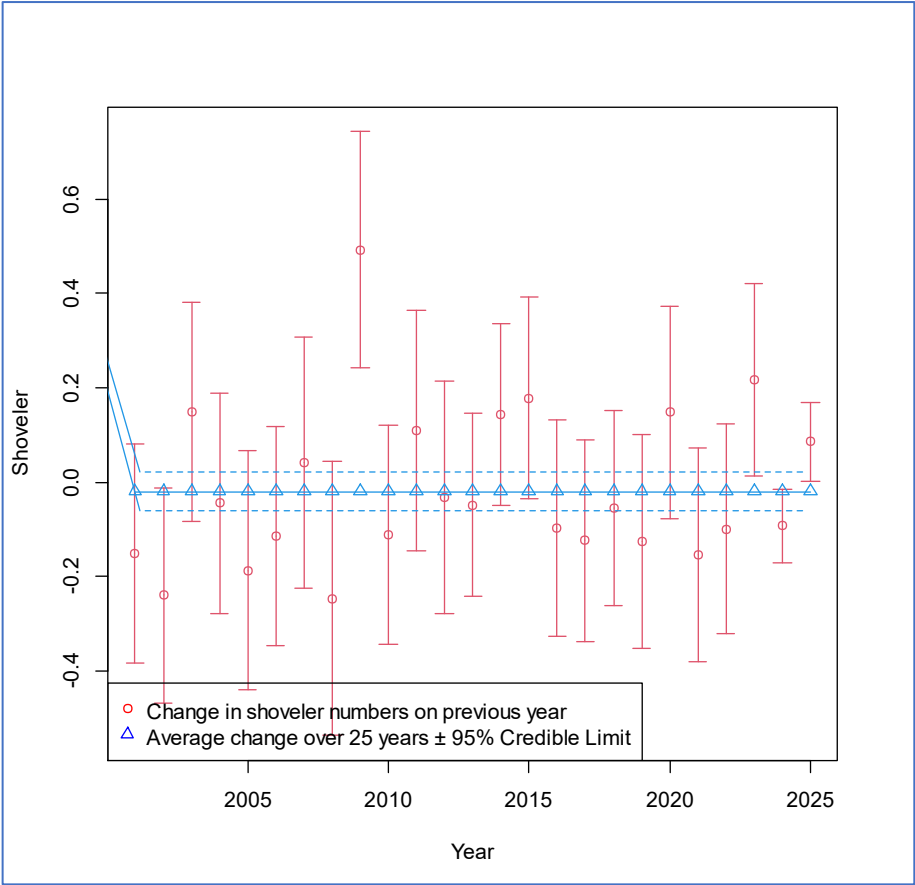


Figure 7. Annual change in shoveler count (red point estimates $\pm 95\%$ CI). Blue line is change over the 26 years ($\pm 95\%$ CI; $n=273$).

For sites that had been counted every year ($n=73$; Figure 8) there is no indication that the counts at these sites are increasing or decreasing ($\beta_{year} = -20.04$; $P = 0.627$).

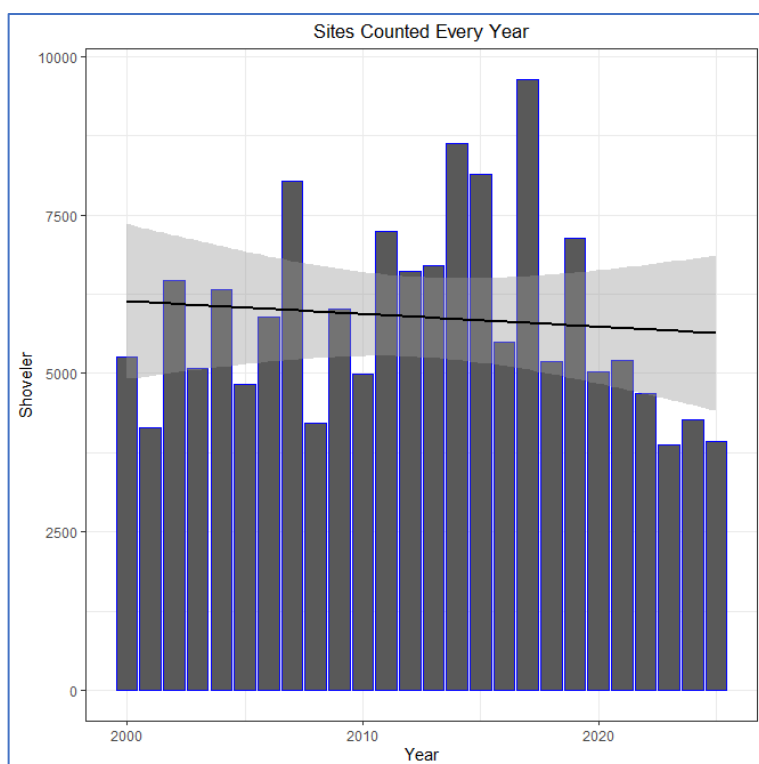


Figure 8. Total shoveler count of the sites that have been counted every year (26 years; $n=72$). The black line is the regression line.

Male Female Ratios

The 2025 female: male ratio was 0.60 which differs from the 50:50 ratio hypothesised ($\chi^2 = 429.76$; $P < 0.0001$). The observed imbalance in the female: male ratio in 2025 is similar to previous years (**Error! Reference source not found.; Error! Reference source not found.**). Over the 26 years the average ratio of recorded females to recorded males is 0.63 ($\chi^2 = 6971.2$; $P < 0.0001$).

Table 2. Number of sites counted by year and region

Year	Northland	Auckland/Waikato	Eastern	Taranaki	Hawke's Bay	Wellington	Nelson/Marborough	West Coast	North Canterbury	Central South Island	Otago	Southland	Total
2000	19	47	17	23	10	18	63	10	7	16	42	16	288
2001	20	48	17	23	10	22	67	11	8	17	32	16	291
2002	23	27	17	15	9	20	45	12	9	20	30	15	242
2003	21	26	16	16	9	22	43	14	8	20	30	16	241
2004	18	17	18	16	9	23	44	13	9	20	29	16	232
2005	21	22	18	23	9	23	56		7	20	31	16	246
2006	16	21	18	18	11	23	55	12	9	20	27	16	246
2007	22	20	18	22	11	23	42	12	9	20	29	16	244
2008	12	20	19	11	10	23	33	12	9	22	21	16	208
2009	10	21	17	11	11	24	26	12	9	22	23	16	202
2010	12	21	19	21	11	29	26	12	8	22	25	16	222
2011	12	20	16	22	11	32	26	12	5	22	26	16	220
2012	13	20	16	22	10	32	26	12	7	22	31	17	228
2013	15	20	19	23	10	32	26	13	8	22	32	12	232
2014	15	20	20	25	10	32	26	13	8	22	31	17	239
2015	15	20	20	25	12	32	26	13	9	22	34	17	245
2016	19	21	19	25	11	31	26	13	9	22	35	17	248
2017	21	21	17	25	11	31	24	13	9	22	38	17	249
2018	26	21	17	25	9	30	23	13	9	22	38	17	250
2019	29	22	18	26	9	30	21	14	9	22	38	17	255
2020	30	20	17	25	9	21	21	14	9	21	36	16	239
2021	26	22	17	25	9	22	19	14	9	22	38	16	239
2022	27	21	17	26	10	23	19	15	16	22	38	17	251
2023	28	21	17	26	11	23	20	19	16	22	38	18	259
2024	36	22	17	27	11	21	24	19	15	22	45	18	277
2025	33	22	17	27	11	25	21	19	15	22	44	17	273

Table 3. Shoveler and grey teal counts for the last ten years (2015–2025) by region (previous years are in *Error! Reference source not found.*)

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Auckland/Waikato											
Sum of Shoveler Males	614	355	272	253	417	377	311	169	224	335	230
Sum of Shoveler Females	406	258	161	143	193	194	212	92	140	204	151
Sum of Shoveler Unknown Sex	1751	1450	1826	1695	2239	2632	2880	622	810	455	948
Sum of Total Shoveler	2771	2063	2259	2091	2849	3203	3403	883	1174	994	1329
Sum of Grey Teal	293	187	424	505	301	203	190	164	328	394	247
Central South Island											
Sum of Shoveler Males	442	352	450	178	99	391	116	339	552	496	407
Sum of Shoveler Females	243	191	328	110	63	245	74	253	360	286	180
Sum of Shoveler Unknown Sex	38	125	147	53	188	47	7	156	195	54	88
Sum of Total Shoveler	723	668	925	341	350	683	197	748	1107	836	675
Sum of Grey Teal	2573	2395	3731	1182	3383	3991	456	2533	3081	5560	1833
Eastern											
Sum of Shoveler Males	189	112	64	68	87	140	131	73	126	72	51
Sum of Shoveler Females	166	86	37	44	61	99	87	44	82	47	26
Sum of Shoveler Unknown Sex	41	265	53	112	180	69	12	47	94	52	57

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Sum of Total Shoveler	396	463	154	224	328	308	230	164	302	171	134
Sum of Grey Teal	300	57	131	86	187	181	75	64	120	82	84
Hawke's Bay											
Sum of Shoveler Males	91	621	1395	140	246	209	198	104	279	230	190
Sum of Shoveler Females	76	280	595	60	321	149	186	54	174	156	199
Sum of Shoveler Unknown Sex	2830	703	2377	1662	1515	52	252	1462	17	1797	575
Sum of Total Shoveler	2997	1604	4367	1862	2082	410	636	1620	470	2183	964
Sum of Grey Teal	18	382	1667	5	0	62	65	13	337	2240	162
Nelson/Marlborough											
Sum of Shoveler Males	134	181	167	176	138	290	111	93	101	134	124
Sum of Shoveler Females	58	143	102	63	77	120	44	28	43	59	59
Sum of Shoveler Unknown Sex	1714	1525	1108	2213	1507	1944	1676	956	1653	1607	2020
Sum of Total Shoveler	1906	1849	1377	2452	1722	2354	1831	1077	1797	1800	2203
Sum of Grey Teal	77	350	347	207	166	329	166	71	1131	1202	1118
North Canterbury											
Sum of Shoveler Males	128	217	561	188	88	156	40	421	1194	1429	1149
Sum of Shoveler Females	88	184	568	132	67	138	29	263	680	806	565

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Sum of Shoveler Unknown Sex	164	240	0	86	2046	155	0	7	754	262	242
Sum of Total Shoveler	380	641	1129	406	2201	449	69	691	2628	2497	1956
Sum of Grey Teal	445	640	880	589	2253	153	20	276	3863	2314	3184
Northland											
Sum of Shoveler Males	67	14	57	116	64	133	44	63	64	147	86
Sum of Shoveler Females	36	8	42	58	44	61	45	42	38	82	49
Sum of Shoveler Unknown Sex	0	0	0	6	0	10	81	0	0	0	0
Sum of Total Shoveler	103	22	99	180	108	204	170	105	102	229	135
Sum of Grey Teal	99	56	42	67	58	127	39	72	63	148	72
Otago											
Sum of Shoveler Males	183	391	1412	300	487	392	1055	1008	904	884	1228
Sum of Shoveler Females	128	346	982	183	378	332	793	532	577	506	810
Sum of Shoveler Unknown Sex	1387	354	23	448	436	541	0	1	221	103	74
Sum of Total Shoveler	1698	1091	2417	931	1301	1265	1848	1541	1702	1493	2112
Sum of Grey Teal	800	735	1256	871	1053	628	776	1483	1299	1276	2627
Southland											
Sum of Shoveler Males	393	782	460	487	614	516	551	465	534	305	181

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Sum of Shoveler Females	240	457	155	219	213	196	192	241	651	291	117
Sum of Shoveler Unknown Sex	22	63	50	26	49	4	17	334	60	408	429
Sum of Total Shoveler	655	1302	665	732	876	716	760	1040	1245	1004	727
Sum of Grey Teal	271	448	344	246	298	770	296	353	374	343	292
Taranaki											
Sum of Shoveler Males	326	194	198	190	199	178	266	167	286	218	204
Sum of Shoveler Females	161	88	80	66	75	69	110	73	111	80	97
Sum of Shoveler Unknown Sex	692	16	47	268	218	54	14	82	25	161	196
Sum of Total Shoveler	1179	298	325	524	492	301	390	322	422	459	497
Sum of Grey Teal	397	55	171	286	196	125	153	82	118	236	92
Wellington											
Sum of Shoveler Males	491	979	459	674	215	533	297	329	420	229	340
Sum of Shoveler Females	289	623	335	682	169	567	166	186	304	151	283
Sum of Shoveler Unknown Sex	419	88	135	51	827	135	318	292	510	172	654
Sum of Total Shoveler	1199	1690	929	1407	1211	1235	781	807	1234	552	1277
Sum of Grey Teal	354	374	226	321	832	643	185	389	413	303	803
West Coast											

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Sum of Shoveler Males	34	50	42	27	62	128	74	98	106	194	139
Sum of Shoveler Females	22	40	36	24	35	69	47	43	46	102	67
Sum of Shoveler Unknown Sex	85	0	9	0	0	0	0	0	0	0	35
Sum of Total Shoveler	141	90	87	51	97	197	121	141	152	296	241
Sum of Grey Teal	278	446	121	405	377	337	212	295	516	424	562
Total Sum of Shoveler Males	3092	4248	5537	2797	2716	3443	3194	3329	4790	4673	4329
Total Sum of Shoveler Females	1913	2704	3421	1784	1696	2239	1985	1851	3206	2770	2603
Total Sum of Shoveler Unknown Sex	9143	4829	5775	6620	9205	5643	5257	3959	4339	5071	5318
Total Sum of Total Shoveler	14148	11781	14733	11201	13617	11325	10436	9139	12335	12514	12250
Total Sum of Grey Teal	5905	6125	9340	4770	9104	7549	2633	5795	11643	14522	11076

Discussion

Fish and Game staff and volunteers conducted the 26th annual national shoveler duck count in July and August 2025 with 82% of sites (n=223) surveyed on August 4th. Although termed national, the sites were not randomly selected, so the survey is considered an index of population status at these pre-breeding flocking sites only and not a national population count *per se*.

Count Results

All long-term indices indicate that the shoveler population at surveyed sites is stable and has therefore been sustainably managed by Fish and Game. The two-year population change from the last year (2023 to 2024) suggest a small decrease however the upper confidence interval is approaching zero. This year the two-year trend (2024 – 2025), possibly indicates a small increase. Nevertheless, sites that have been counted every year recorded a small decrease on last year's count (~264).

The issue of comparing total count between years is compromised by the annual change in the number of sites that are counted (due to issues such as loss of access). A better approach may be to look at the average count per site (total annual shoveler count at surveyed sites/number of sites counted in that year) however this has issues as well. Surveyors have dropped sites that have historically had low numbers and picked up new better sites. This introduces a possible upward bias. Nevertheless at this stage shoveler per site has not changed over time.

Count design

There are issues with a single annual count providing an indication of population change (Johnson 2008). For example, the shoveller survey does not account for detectability or observer bias. Detectability is influenced by the distance from the observer to the birds, cover, weather, light and the conspicuousness of the animal being observed (male shoveler plumage is more recognisable than that of the female and so are more easily identified). Moreover, observer bias is influenced by experience, skill, and the type of binoculars/ spotting scope surveyors use. To address some of this bias survey sheets are circulated prior to the count with details of the observer in the preceding year, to try and ensure that the same person counts the same sites each year with instructions on where to count the birds from (i.e., standardise the observation point and the observer).

Detectability is difficult to accurately assess and may bring its own set of bias and inaccuracy (depending on the surveyor). In some larger wetland complexes detectability may also change due to wetland water levels and or weather as birds may be more concentrated or widely dispersed depending on habitat availability, particularly in tidal areas. Shoveler, however, generally appear to occupy the same areas of the wetlands from year to year (pers. obs.), perhaps reducing the consequences of not recording detectability. Weather is also a contributing factor to detectability. Observers regularly make a comment on the weather if the conditions are not conducive to counting. Nevertheless, when count data (2000 – 2021) was modelled against weather covariates the results were counter intuitive. It was hypothesised that wind strength and rain would decrease the count, however the covariate estimates suggest otherwise. The only meaningful covariate was the count decreasing when there was a southerly component in wind direction (a southerly is usually associated with a cold weather pattern across Aotearoa). Part of this anomaly may be explained by the large number of low counts, almost 40% of counts were 1 or 0. But it is unclear why the covariates fit the data so well ($P < 0.001$) and yet do not make sense (M. B. McDougall 2021).

Sites

The non-random selection of survey sites is another weakness of this monitoring programme when attempting to make inference for a national population of highly mobile individuals. Ideally a random sample would be taken from all shoveler habitat but as shoveler habitat has not been mapped nationally and changes with land use change, this cannot be easily completed. Ideally, a stratified sampling regime should be developed. Staff should be encouraged to record the location/habitat when they encounter shoveler during their normal activities to enable the development of a shoveler habitat GIS layer. Additionally, hunters could be canvassed during the gamebird harvest survey to help identify areas that hold shoveler. A third option is to assess the representativeness of these sites is to compare them to the E-Bird (OSNZ) mapping scheme showing known shoveler sites.

The consequence of non-random habitat selection is that no formal inference about the status of the national population can be made. Readers will have to judge for themselves if counts from 273 sites are a fair representation of the national shoveler population.

Sex ratios

The consistent imbalance of females: males in the count data may be due to the ease of distinguishing male shoveler from other waterfowl at this time of the year. Alternatively, the result may occur because males were identified as males and females as unidentified sex, or it may be a true reflection of the population balance. This imbalance is very similar to mallards trapped for banding in the Eastern Region (0.66 juvenile females: juvenile males; 0.74 adult females: adult males) (M. McDougall 2010) and many other dabbling duck populations globally which is largely attributed to sex specific mortality. Shoveler banding data (Department of Conservation band schedules 1971 – 1986; $n=3284$ adults) further corroborates these observations with an imbalance of 0.42 shoveler females to males (McDougall unpublished data). Nevertheless, it is likely that the imbalance is a combination of a sex imbalance *and* observers identifying a higher proportion of the males as males.

Count Date

The 4th of August was chosen as count date. This date coincides with the end of the waterfowl season and the pre-breeding flocks that begin to gather at the end of July (Williams, 1981a). The timing of the count is a compromise between females moving away to nest and the end of the waterfowl season. The date is also consistent between years for the past two decades which removes another factor of variability with the census counts.

Analysis technique

A regression estimate of the natural log of the count data over time was calculated and the average of these slope estimates were back transformed to indicate annual percentage population change (termed a variant on the route regression method). Using the route regression method is useful where counted sites are not consistent from year to year. In addition:

- New sites can be included.
- Small sites are comparable to large sites.
- Sites that are disturbed or missed do not affect the estimate (but may affect the error of the estimate).
- The estimate is an estimate of the change in population with an associated error.

Nevertheless, this method provides no insight on the total population size and, as alluded to above, is compromised by lack of randomisation in count site selection. Further the variance estimates shown in the graph do not account for the individual variance of each regression estimate nor detection probabilities. Therefore, the very narrow CI around the trend estimates is underestimating the true variability.

The 72 sites counted each year likely provide a good basis for a longitudinal study, however these sites might be preferred shoveler habitat and not reflect wider changes to regional landscapes, regional weather variations such as flooding and droughts or what is happening to the wider national population. The counts at these sites may in fact increase in years when other habitat has dried up or is sub-optimal and the population has decreased either within or across regions.

Conclusion and Recommendations

Shoveler duck abundance at the sites counted has fluctuated over the 26 years however the national average trend across monitored sites is stable. This suggests that long term harvest of this species has been sustainable.

Fish and Game should consider a review of the survey methodologies and implications resulting from results. The review could consider:

- Inclusion of randomly selected sites (some form of random stratified design). Alternatively, the review could consider establishing a new survey where count sites are randomly selected.
- Consider using E-Bird (OSNZ) database to establish reported shoveler habitat in New Zealand. This could form the basis for the random survey design
- The usefulness of knowing the size of the national population of shoveler duck (for example every five years), or density (shoveler km⁻²) nationally and regionally.
- If Fish and Game should agree on a national harvest strategy given the presumption that the population is monitored as such.

Acknowledgments

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Appendix 4: Summer duck hunting season harvest and participation in North Canterbury

2026

Matthew Garrick, North Canterbury Fish and Game
Heather Sanders Garrick, North Canterbury Fish and Game



Photo credit: Richard Cosgrove

Executive Summary

NCFG conducted stratified phone surveys of known and unknown summer duck hunters from North Canterbury game bird licence holders to estimate harvest and participation over two distinct periods. The participation rate for known summer season hunters during the mallard weekends was 9.8%, with a total estimated harvest of 121 mallards in North Canterbury. Hunters who had not previously reported hunting during the summer season did not report any participation during the summer mallard season. The participation rate for known summer hunters was 15.7% during the first half of the summer paradise shelduck season and 9.4% during the second half of the summer season. The participation rate of hunters who had not previously reported hunting the summer season was 1.3% during the first half of the summer paradise shelduck season and 3.3% during the second half of the summer season. Total estimated harvest during the six-week season was 2,981 paradise shelduck.

Introduction

Summer duck hunting seasons provide more opportunity for game bird licence holders to go harvest some game birds throughout the year. The mallard season allows hunting only on harvested crop fields and spanned the first two weekends in February, the 7th-8th and 14th-15th. The paradise duck season spanned February 7th – March 15th.

This is the fifth year of implementation of the summer mallard season, with the paradise shelduck season starting over 12 years ago. This was the third season that there was no mallard hunting in Area A in North Canterbury.

North Canterbury Fish and Game (NCFG) staff conducted a survey in 2026 to assess bird hunter sentiments towards and participation in the summer duck season. There are three objectives associated with the summer duck survey:

- 1) Estimate harvest of mallards and paradise ducks
- 2) Estimate participation rates of license holders in the two seasons

Methods

Survey tool: North Canterbury Fish and Game staff conducted phone surveys during two periods, February 16th-20th and March 16th-20th, with the intent of getting 200 responses per survey period. The first survey period included questions about participation and harvest of mallards and paradise shelducks between February 7th and February 15th, while the second survey period assessed harvest and participation of paradise shelducks between February 16th and March 15th.

Survey respondents: The North Canterbury game bird licence database was subset to hunters that had provided phone numbers and held a valid hunting license during the summer hunting season. A random sample of 500 hunters was pulled for each survey period using the sample function in program R. Survey questions are included in appendix 1.

Analysis: Harvest estimates were calculated for the each sample frame and then extrapolated across the total number of valid game bird licences in North Canterbury. Estimate methods were updated to reflect the methods of the South Island Hunter Harvest and Activity Report, using bootstrapping to produce harvest and participation estimates and a more consistent estimate of the margin of error (Garrick & Sanders Garrick 2025). Confidence intervals were calculated 95% levels. North Canterbury licence holders that hunted in the Central South

Island Fish and Game region (CSI) had data recorded and harvest estimates calculated in the same manner.

Results

There were 2,615 adult and junior game bird licence holders that held valid licences during the summer season: 230 known summer season hunters, and 2,385 hunters who had not previously reported hunting during the summer season.

Mallards: Staff successfully completed 200 surveys for the mallard season: 51 surveys of known hunters and 149 surveys of hunters who had not previously reported hunting during summer season. There was an estimated 9.8% (CI = 2.0-17.6%) participation rate amongst known summer season hunters during the summer mallard season. Hunters who had not previously reported hunting during the summer season did not report any participation during the summer mallard season. Total harvest was estimated to be 121 mallards (CI = 0-311) for the four-day season in North Canterbury (Figure 1).

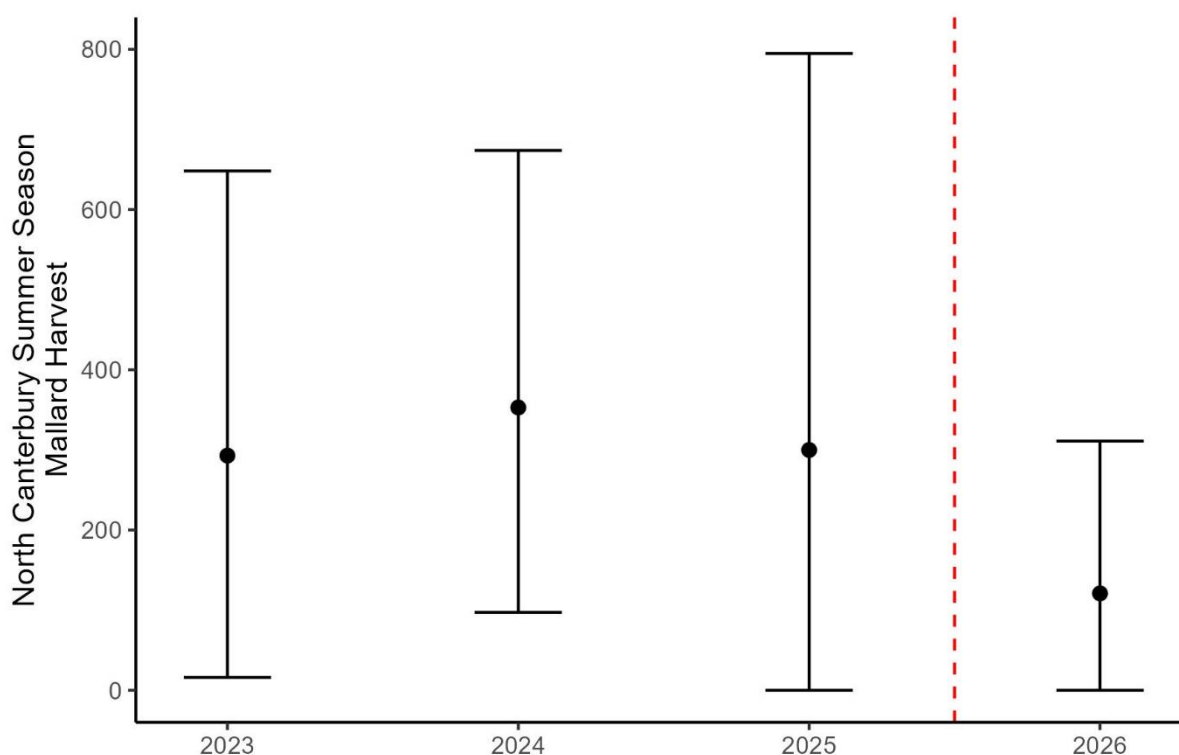


Figure 1. Mallard harvest (+/- 95% Confidence Interval) during the summer season in North Canterbury 2023-2026. The red dashed line indicates when North Canterbury Fish & Game initiated a stratified sampling strategy to improve the accuracy and precision of harvest estimates.

Paradise shelducks: There were 200 surveys completed in period one (Known Hunters: 51, Unknown Hunters: 149) and 203 completed in period two (Known Hunters: 53, Unknown Hunters: 150).

Known summer hunters had an estimated 15.7% (CI = 5.9 – 27.5%) participation rate during the first half of the summer paradise shelduck season and an estimated 9.4% (CI = 1.9 – 17.0%) participation rate during the second half of the summer season. Known summer hunters harvested an average of 17.5 birds per hunter (CI = 6.2 - 30) during the first half of the season and 21.6 birds per hunter (CI = 7.5 – 42.7) during the second half of the season.

Hunters who had not previously reported hunting during the summer season had an estimated participation rate of 1.3% (CI = 0 – 3.4%) during the first half of the summer paradise shelduck season and an estimated 3.3% (CI = 0.7% - 6.7%) participation rate during the second half of the summer season. They harvested an average of 24.5 birds per hunter (CI = 4 – 45) during the first half of the season and 13.8 birds per hunter (CI = 6.5 – 20.0%) during the second half of the season.

Total estimated paradise shelduck harvest was 2,981 (CI = 1,303-5,164) during the whole summer season in North Canterbury (Figure 3).

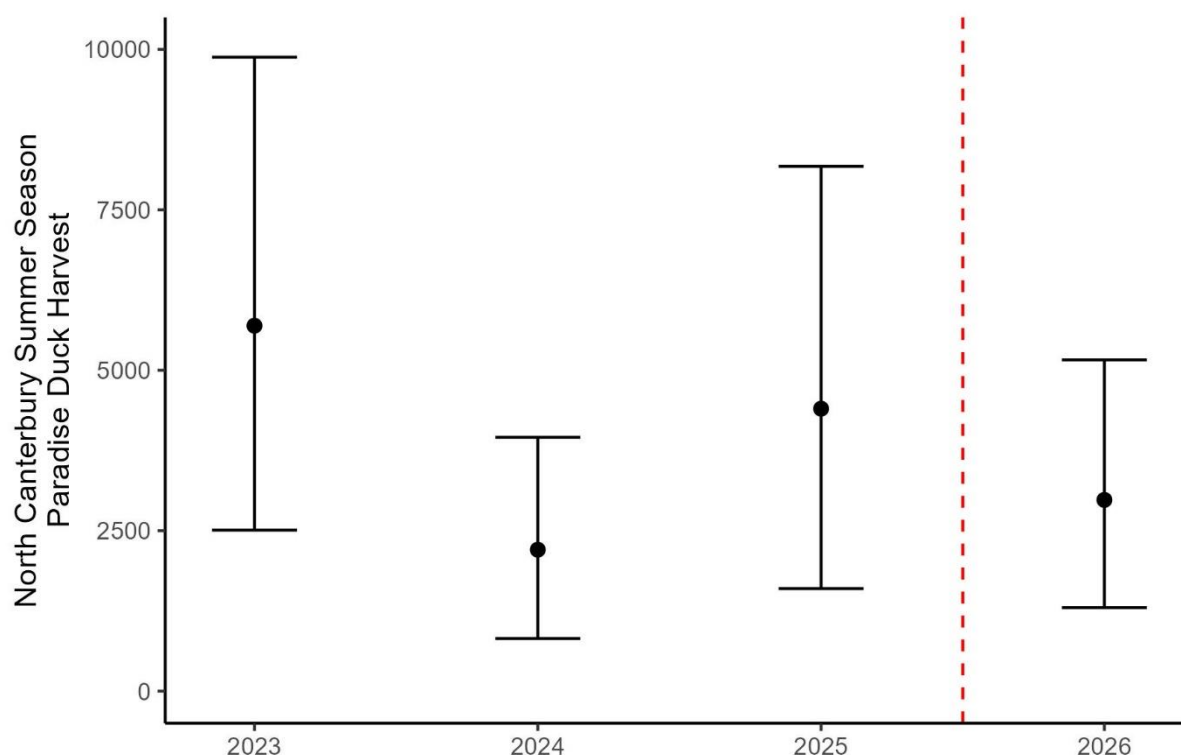


Figure 3. Paradise shelduck harvest (+/- 95% Confidence Interval) during the summer season in North Canterbury 2023-2026. The red dashed line indicates when North Canterbury Fish & Game initiated a stratified sampling strategy to improve the accuracy and precision of harvest estimates.

Discussion

Hunters in North Canterbury participate in the summer mallard seasons at a low rate, therefore, the two-weekend mallard season constitutes a small amount of harvest. However, this harvest estimate is bias low as the survey was limited to game bird licence holders who purchased their licence from North Canterbury, and it is likely that some hunters that purchase licences in other Fish and Game regions travel to participate in this opportunity that

is limited to the Canterbury Plains. That said, because the summer mallard season is limited to crop fields (i.e., no hunting over water), requires specialist hunting equipment (lay out blinds, full body decoys, etc.), and access to private property, it is unlikely that harvest is substantially higher than our estimates.

The summer paradise shelduck season has a slightly higher participation rate than the mallard season, and hunters have proven to be quite successful. Harvest in 2026 was similar to harvest over the last couple of seasons.

Previous work has shown there is strong support among licence holders for the summer seasons (Garrick and Sanders Garrick 2023). Additionally, these seasons remain an important management tool to disperse birds that may be causing nuisance damage on farmland, as well as adding extra value to the game bird licence by providing more opportunities to hunt. However, continued harvest monitoring is of utmost importance to ensure sustainability of game bird populations for the future hunters of the Canterbury Plains.

This was the first year of implementing stratified sampling of known and unknown summer season hunters in an effort to reduce uncertainty around harvest estimates. This proved successful in moderately reducing uncertainty in estimates this year – and will continue to be utilised in coming years.

Management Implications

North Canterbury has some of the most liberal duck seasons in the country. As a result, these seasons are likely utilised by out-of-region game bird licence holders. Currently there is no understanding of the extent of participation of non-licensed hunters (landowner-occupiers). It is of paramount importance to better understand the extent of participation from these non-licence holders and out-of-region hunters to provide better insight into harvest in the region.

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Appendix 1

Period 1 survey

- 1) Did you participate in the summer mallard season? (If yes, answer questions 2-4)
- 2) What was the nearest town?
- 3) How many days did you hunt?
- 4) How many mallards did you harvest?
- 5) Did you participate in the summer paradise duck season in North Canterbury between February 7th and February 15th? (If yes, answer questions 6-8)
- 6) What was the nearest town?
- 7) How many days did you hunt?
- 8) How many paradise shelducks did you harvest?

Period 2 survey

- 1) Did you participate in the summer paradise duck season between February 16th and March 15th? (If yes, answer questions 2-7)
- 2) What was the nearest town?
- 3) How many days did you hunt?
- 4) How many paradise shelducks did you harvest?