

**Agenda For The Meeting of Otago Fish & Game Council
On 23rd March 2023
At 120 Scotland Street, Roxburgh Council Rooms
Starting 11.45am**

Timetable	Council Meeting
11.45 am	Lunch
12.15 pm	Full council meeting begins
1:30pm - 2pm	Guest Speaker - Boffa Miskell and Niwa on Lagarosiphon
2:45pm	Afternoon Tea
3:00pm	Public Forum
3:45 pm	Full council meeting
5.00 pm	Meeting Ends

Contents

1.0	Present and Apologies	3
2.0	Matters to be raised not on the agenda.....	3
3.0	Declarations of Interest	3
4.0	Confirmation of Previous Minutes.....	4
5.0	Matters Arising from the Minutes	13
5.1	Council Investments	13
6.0	Health and Safety Report.....	15
7.0	Items Requiring Decisions.....	16
7.1	Draft Operation Workplan and Budget 2023/24	16
7.2	Change To OF&GC Governance Policy	31
8.0	Public Excluded Items	32
8.1	Draft minutes Public Excluded 18 th February Meeting	32
8.2	Habitat Enhancement Fund Application – Bendigo Wildlife Reserve	32
8.3	Bullock Creek Stormwater	32
8.4	Wanaka Subdivision Update.....	32
8.5	Contact Energy Trust Update	32

9.0	Financial Report	33
10.0	Chief Executives Report	45
11.0	RMA Planning and Consents Report	49
12.0	Committee & Delegate Reports.....	50
12.1	CFT	50
12.2	NZC.....	50
12.3	Ngai Tahu	50
12.4	Conservation Board	50
13.0	Correspondence.....	51
13.1	NZC to Otago	51
13.2	Otago to NZC	54
13.3	General Correspondence In.....	55
13.4	General Correspondence Out.....	56
14.0	Items to be Received or Noted	57
14.1	Lagarosiphon Programme – Concern of Councillors.....	57
14.2	Summer Advocates 2022-23	64
14.3	Lake Onslow Gillnetting March 2023	69
15.0	General Business.....	84

1.0 Present and Apologies

2.0 Matters to be raised not on the agenda

3.0 Declarations of Interest

4.0 Confirmation of Previous Minutes

**Minutes for the Meeting of Otago Fish & Game Council
On 18th February 2023
At Otago Fish and Game Council Boardroom
Cnr Hanover and Harrow Streets, Dunedin**

1.0 Present and Apologies

Present: Colin Weatherall (Chair), Mike Barker, Ian Cole, John Highton, Ray Grubb, Vicky May, Blair Trevathan.

Present via Zoom: Richard Twining (Ngai Tahu).

In attendance: Ian Hadland (CE), Corina Jordan, (CE New Zealand Fish & Game Council), David Priest (Central Otago operations manager), Bruce Quirey (communications officer).

Apologies: Rick Boyd.

Before the meeting opened, the Chair Cr Weatherall noted his other commitments in recent months providing governorship support at Central South Island F&G Council. Cr Grubb, the former NZC Chair, expressed thanks to Cr Weatherall who had done a personal favour by agreeing to be an interim Chairperson at CSI.

Cr Weatherall called the meeting to order at 9.45am. He welcomed Fish & Game New Zealand chief executive Corina Jordan. He also acknowledged Ngai Tahu representative Richard Twining and Cr McIntyre, who attended via video conference. Cr McIntyre apologised that he could not attend in person, and attended only part of the meeting via Zoom.

Moved (Cr Weatherall/Cr Cole)

That apologies be received, and a quorum be declared.

Carried unanimously.

2.0 Matters to be raised not on the agenda

Cr May tabled an email to councillors for discussion in the public-excluded session regarding hatchery regulation legal advice.

Cr Barker asked that low levels at Lake Onslow be added to the agenda. Cr Weatherall agreed the matter would be discussed in general business.

3.0 Declarations of Interest

The Chair reminded Councillors to update and sign Declarations of Interest. Declarations were tabled. See attachment.

4.0 Confirmation of Previous Minutes

Moved (Cr Highton/ Cr May)

That the minutes of the Council Meeting of Otago Fish & Game Council held on 1st December 2022 be confirmed as a true and correct record, subject to amendments tabled by Cr May.

Carried unanimously.

5.0 Matters Arising from the Minutes

Cr Highton said he wished to discuss Clutha Lagoon, the proposed guides licence, and the council's position on control of lagorasiphon.

Regarding Clutha Lagoon, the CE said Otago Regional Council had agreed to a wider project. The ORC no longer considered the culvert a liability and wanted to work alongside Fish & Game to improve the lagoon. Cr Highton asked if the ORC would establish a management plan for the lagoon. He said the lower Clutha catchment had been treated with neglect. The CE undertook to get an update from the Otago Fish & Game environmental officer.

The CE said there was support for the guides licence to be implemented in the next fishing season. Ms Jordan said the guides licence was a priority and she was not aware of any reason why its implementation would be delayed.

Regarding lagorasiphon, Cr Highton said there needed to be realistic aims between elimination and management. Councillors expressed a range of views about aquatic weed management and the use of the herbicide diquat, in particular at Paddock Bay.

The CE undertook to write to Toitū Te Whenua/LINZ and raise councillors' questions about the use of anti-weed matting, diquat and monitoring. He cautioned there were risks in challenging a programme designed to control an invasive weed species.

Moved (Cr Highton, Cr Barker)

That the CE drafts a letter to Toitū Te Whenua/LINZ raising questions about lagorasiphon control, including monitoring and the use of matting and diquat.

Carried unanimously.

Cr May asked if the CE had followed up on an undertaking in the previous minutes to ensure councillors were covered under its health and safety policy. The CE made a note to come back to the Council on that matter. Cr Grubb asked the CE and Ms Jordan about legal protection of councillors from liability for actions undertaken in pursuit of their duties. Ms Jordan said the NZC was investigating that matter and would make that information available to Otago councillors.

6.0 Health and Safety Report

The CE drew to councillors' attention the annual healthy and safety audit checklist which demonstrated the organisation was meeting its obligations. Cr Grubb asked the CE to report if OF&GC was receiving an ACC discount for having health and safety processes in place. The CE said he would check. Cr Highton encouraged further health and safety training opportunities for administration. There was discussion about minimum requirements for boat training. Cr May suggested references to "Covid 19" in the H&S checklist be broadened to "epidemics", and that there be checks for adequate controls against "risk of contagion".

Moved (Cr Highton/Cr Barker)

That the Health & Safety report be received.

Carried unanimously.

7.0 Items Requiring Decisions

7.1 Election of Officers

Cr Weatherall vacated the Chair and the CE called for nominations for Chairperson.

Crs Cole and Barker nominated Cr Weatherall as the Chair.

The CE noted no further nominations. The Council welcomed Cr Weatherall back to his role as Chair.

Cr Weatherall thanked councillors for their support and acknowledged difficulties of the past 12 months as he provided governorship support to the Central South Island Fish & Game Council. He was confident of significant progress for the Fish & Game regions that were willing to move, and he was committed to doing his best for the next 12 months.

The Chair called for nominations for the Executive Committee, currently Crs Weatherall, Barker, May, and McIntyre.

Crs May/Cole nominated Cr Barker.

Crs Trevathan/Cole nominated Cr McIntyre.

Crs Barker/McIntyre nominated Cr May.

CE called for any further nominations for the Executive.

Crs Trevathan/May nominated Cr Grubb.

The Chair sought clarification from standing orders regarding how many members could be on the Executive Committee.

The meeting adjourned at 10.20am.

The meeting resumed at 10.45am.

The CE confirmed the standing orders allowed for not less than three members and not more than five members on the Executive Committee. The Executive could thereby be comprised of four nominated members plus the Chair. The Council asked the CE to amend the Governance manual so that the NZC appointee be included in the executive.

The Chair moved the above nominations to the Executive Committee.

Carried unanimously.

The role of Deputy Chair will be considered at the March meeting.

7.2 Gamebird Habitat Trust Board Nominations

The CE noted that nomination forms had been circulated twice to councillors for distribution. The Council had received only one application, from Chantal Whitby, a current member of the GHTB seeking the OF&GC nomination to return. Board appointments were made by the Minister of Conservation, with the Fish & Game nominations being put forward by NZ F&G Council. Cr McIntyre, a former GHBT member, expressed disappointment he had not been nominated. The CE noted it was not his role to generate the nominations. Councillors discussed general support for nominating both Ms Whitby and Cr McIntyre to the board.

(Cr McIntyre departed from the meeting via Zoom.)

Moved (Cr Grubb/Cr Trevathan)

- **That Council agree to nominate Chantal Whitby to a trustee role with the New Zealand Gamebird Habitat Trust Board.**
- **That Council agree to nominate Adrian McIntyre to a trustee role with the New Zealand Gamebird Habitat Trust Board, subject to receipt of a suitable application.**

Carried unanimously.

Moved (Cr May/Cr Cole)

That the meeting move into public excluded items.

Carried unanimously.

8.0 Public Excluded Items

8.1 Public Excluded Minutes for Meeting 1st December 2022

Moved (Cr Barker/ Cr Trevathan)

That the public excluded minutes of the meeting on 1st December 2022 be confirmed as a true and correct record.

Carried unanimously.

8.2 Contact Energy Trust Update

Moved (Cr Barker/Cr May)

- **That the CE's update on the trust be received.**
- **That Council defer a decision on F&G councillors to be appointed as initial trustees until its March 2023 meeting.**
- **That Contact Energy be updated on the hatchery legal advice as soon as possible.**

Carried unanimously.

Moved (Cr May/Cr Cole)

That the CE propose to Contact Energy a media release regarding the establishment of the trust once formed.

Carried unanimously.

8.3 Risk Management Report 2023-24

Moved (Cr Grubb/Cr Cole)

1. **That the schedule of priority risks identified be adopted for the 2023/24 financial year.**
2. **That risk mitigation options be brought into the 2023/24 operational workplan where they can be funded and implemented.**

Moved (Cr Grubb/Cr Cole)

That the Council authorise the CE to use delegated authority to commission an engineering review of Bullock Creek stormwater flows, and access historical property records for research with the objective to prevent increased flooding in Bullock Creek.

Carried unanimously.

9.0 Financial Report

The CE invited questions regarding the report. Councillors agreed that F&G could be getting higher returns on its investments and recommended longer terms. In response to a question from Cr Highton, the CE said F&G had ordered a Kia Niro electric vehicle with capacity for a return trip from Dunedin to Central Otago.

Following a question from Cr May about salmon endorsement liabilities, the CE said OF&GC collected the \$5 fee for sea-run salmon cards purchased through Otago and the money would be returned to Central South Island and North Canterbury F&G regions.

The CE said licence sales were lower this year for whole season family and adult. Non-resident licences had increased for the early part of the season with the increase in tourism.

Moved (Cr Cole/Cr Highton)

That the finance and licencing report be received.

Carried unanimously.

10.0 Chief Executive's Report

Acoustic surveys of Hawea, Wakatipu, Wanaka and Dunstan had been completed, and a media release issued, the CE said. A hot water incident had occurred at the Macraes hatchery but there had been no fish losses. Game regulations had been completed. A report on the paradise shelduck moult count was tabled and there was no change to the paradise shelduck bag limit. The CE and Central Otago operations manager would review the recently completed summer advocates programme. Otago F&G was recruiting a replacement compliance support officer following a resignation.

The CE was congratulated on the weekly fishing report, and it was described as excellent for relationships with licence holders. There was also a discussion about progress on the F&G website development and an app.

Moved (Cr Highton/Cr May)

That the CE's report be received.

Carried unanimously.

The Chair thanked the CE for a good report.

11.0 RMA Planning and Consents Report

Councillors congratulated the Environmental Officer on an excellent submission to the Land and Water Regional Plan. The Chair discussed ensuring the necessary staffing support for RM matters, given alterations to staff working hours, personnel levels, and a commitment to the NZC. There was a suggestion to train or recruit an RM staff member to work across both Otago and CSI regions.

Moved (Cr Cole/Cr Grubb)

That the RMA Planning and Consents Report be received.

Carried unanimously.

12.0 Committee & Delegate Reports

12.1 CFT

Cr Cole , the CFT Chair, gave a verbal update. Work had been undertaken to study the interaction between indigenous and introduced fish species in Cardrona River. A masters student would write the report. The work had required significant funding but was a matter of particular interest.

CFT funded the Lake Dunstan section of the acoustic survey. CFT, Upper Clutha Tracks Trust and F&G were looking at selective willow control to improve visibility and lake access at Bendigo Wildlife Management Reserve. Work on the cycle track in the area had not begun.

Moved (Cr Grubb/Cr Cole)

Moved that CFT report be received.

Carried unanimously.

12.2 NZC

Cr Barker, the Otago representative to NZC, said the NZC elected a new Chair, Barrie Barnes, and Executive Committee. NZC resolved the non-resident levy would be included in general licence income from 2023-24, primarily to reduce resident licence fees.

NZC had decided on a one-year phase-out of lead ammunition in .410 calibre shotguns. Ms Jordan added the Minister for Conservation had said .410 lead shot would be banned immediately unless F&G gave good reasons why not. The Minister would consider a one-year extension at most. It remained for the Minister to approve of the decision.

Otago councillors expressed disappointment that the decision would discourage junior participation. It would be important to communicate to licence holders it was a decision from the government, not F&G.

Among other matters discussed were funding decisions for the NBA environment campaign, a social licence campaign, and development of practice notes for RM work; a future finance working group to consider the organisational funding model; the Ministerial Review implementation working group; and a research strategy committee.

Moved (Chair/Cr Cole)

That the NZC report received.

Carried unanimously.

12.3 Ngai Tahu

Mr Twining said he little to report from Ngai Tahu due to health reasons. The Chair wished Mr Twining well. Mr Twining said he hoped to bring more information to the next Council meeting at Roxburgh in March. He briefly discussed work by students on freshwater mussels in the Waipahi River. Mr Twining said he would attend via Zoom the Council's strategy meeting.

Moved (Cr Highton/Cr Cole)

That the Ngai Tahu report be received.

Carried unanimously.

12.4 Conservation Board

No report.

13.0 Correspondence

Feedback was tabled from Otago to NZC on the **.410 caliber exemption for lead shot** and the **NZC Three Year Strategy**.

Moved (Cr May/Cr Trevathan)

That the correspondence be noted.

Carried unanimously.

The meeting adjourned at 3pm. The meeting reconvened at 3.10pm.

14.0 Items to be Received or Noted

Moved (Cr Grubb/Cr May)

That the Game Bird Moulting Count January 2023 report be received.

There was a discussion why drones were not used instead of fixed-wing aircraft. The CE said bird movement between ponds particularly in Central Otago was also causing issues with counts. Paradise shelduck numbers were down in the short term but the long-term numbers remained high.

Carried unanimously.

15.0 General Business

Councillors discussed anglers' concerns about the low level of Lake Onslow. Fish condition was poor and the Teviot River had almost lost contact with the lake. It was noted the power company Pioneer Energy was operating legally within its consent to draw down the lake level and could lower it further. Anecdotal reports from anglers

suggested water was being over-extracted, impacting the health of the lake, and breeding streams were inaccessible to fish. It was suggested angling clubs, with support from F&G, should engage with Central Lakes Trust, the owner of Pioneer Energy, and appeal to its sense of community for better outcomes.

The CE said F&G staff last year attended a consent hearing over the drawdown on Lake Onslow. The power company was acting within its authority to lower the lake and it could get worse over autumn as the variation to consent they were granted allows for a much quicker draw down.

The CE said F&G staff would shortly survey fish at Lake Onslow in relation to the proposed Battery Project and would also assess stream access and confirm lake levels.

Resolved (Cr Barker/Cr Grubb)

That Council support initiatives from local fishing clubs on the excessive drawdown of Lake Onslow to the detriment of angling.

Carried unanimously.

The Chair declared the Council meeting closed at 3.40pm.

The meeting was followed by:

- The CE's presentation for the Council's strategic planning meeting.
- A presentation by conservationist Charles Rangely-Wilson on restoration of English chalk streams.

5.0 Matters Arising from the Minutes

5.1 Council Investments

Purpose

Councillors have asked staff to report back on options to achieve better returns on investments and bank cash deposits.

Current situation

We currently split two term deposits (totalling \$880,746) that have a staggered maturity dates to ensure we always have cash available for operating. These are usually held in different banks to reduce exposure to any bank failure.

Our current process for (re)investment in bank term deposits is to;

1. Review rates at two banks (ASB & ANZ) for 3 and 6 month term deposits
2. Review cash position and forecast available funds to invest or reinvest – Taking a conservative approach to meet cashflow
3. Choose the best option, considering timing and return.

Are there better options than bank term deposits?

We are subject to the Public Finance Act which has restrictions on where investments can be made. In short, it is basically limited to banks approved by the Minister or in public securities. Presently they are ASB, ANZ, BNZ, Citibank and Westpac. Our general banking is with ANZ.

Staff have canvassed other F&G regions and they have largely limited their investing activity to term deposits with the approved banks. There are some cases of restricted reserves being handled by Trusts.

Our accountant agrees that this is prudent and correct use of surplus funds held by the Council and I have confirmed this being the case with our own BDO Auditor.

Its worth noting that the Council is exempt from Resident Withholding Tax so achieves a larger real rate of return on funds than general investors.

Improvements in returns

Interest rates are on the rise again so the present strategy has been to roll over term deposits on shorter terms to allow better rates to take effect.

One area that we could improve is closer monitoring of cash and cashflow. The working accounts vary over the year from between \$350,000 and \$950,000. Those working accounts are interest bearing but at 1.95%. A greater proportion of that cash could be invested in better returning term deposits. There may be shorter windows of opportunity when the

Council receives larger amounts of revenue (such as at the start of the fishing and game seasons)

The other issue is the quarterly levy payments (presently \$300,020 per quarter) which pull hard on cash reserves, sometimes at parts of the year where there is little income coming in. This Issue could be partly solved by making the levy payments on a monthly basis. This would have the effect of smoothing out monthly costs and a better picture of monthly cashflow.

Recommendations

1. Invest a greater portion of available cash into term investments but still ensuring there is sufficient to maintain positive cashflow at all times.
2. Move to monthly instalments for levies and any other significant fixed costs to better smooth to cashflow over the year.

Ian Hadland
Chief Executive
8.3.2023

6.0 Health and Safety Report

Health and Safety Report – February March 2023

Pandemic Response -Covid 19

- Staff agreed to continue relaxed covid policy for work and meetings, and to work from home if potentially infectious.

Events/ work Requiring OHS Planning

- Acoustic lake surveys – Job Safety Analysis complete. Ran without incident

OHS Audits

Completed audits:

- Office Hazard audits
- Vehicle Hazard and safety equipment
- Council policy

Next audits:

- Workshops, field equipment and PPR gear check

Incidents/Accidents/Near Misses/New Hazards

- Near miss with rocks at Poolburn. GPS logged and being marked with buoys soon
- Lake Onslow road dangerous after rain. Staff turned back without harm.
- Fog on lakes while out boating was raised for discussion. Noted in hazard list
- A post fell from a moving truck narrowly missing a staff member traveling behind in a vehicle. Staff to watch loads ahead when traveling behind open bed trucks on the open road.

Training Completed

- One new casual employee inducted into Otago Fish and Game Dunedin
- Three staff members have started Boatmaster training course
- First aid training for OHS representative booked
- One staff first aid refresher booked
- CERT course for rangers completed in Dunedin
- Level 2 H&S training booked for H&S officer

Recommendation

That this report be received

Sharon Milne
Administration Officer
March 2023

7.0 Items Requiring Decisions

7.1 Draft Operation Workplan and Budget 2023/24

Overview

Attached is the draft workplan and budget for the Councils consideration. If approved this will be fed into the New Zealand Councils (NZC) budgeting and licence fee setting process with the final 2023/24 workplan (subject to final bulk fund) being adopted at our July meeting.

NZC guidance on budgets

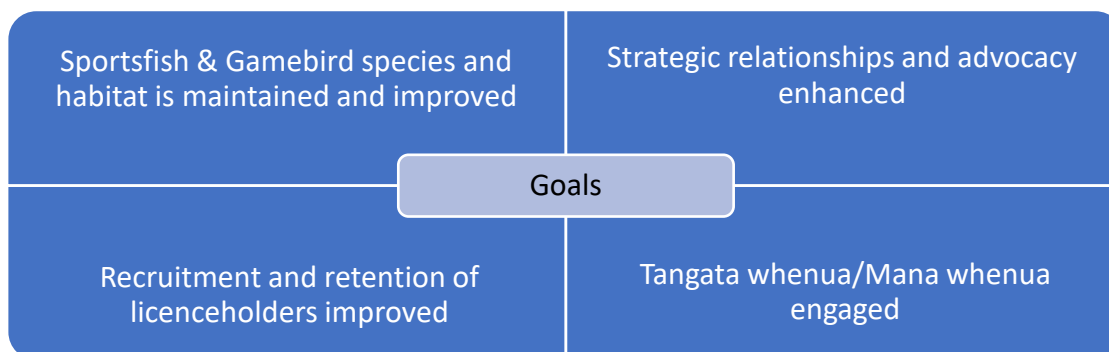
New Zealand Council has provided some financial guidance explaining that they wish any licence fee to increase to be modest and they expect regions to consider using accumulated reserves to buffer increases in costs and pay for any new projects. There is also an expectation to work up budgets based on the bulk funds approved last year. Any additional spending above that needs to go through the **contestable funding process** at a national level.

It is impossible to undertake even the core activities with the same bulk fund as last year. Costs for nearly everything has risen and the consequence of that will be having to make cuts to project expenditure to maintain a balanced budget.

DRAFT 2023-2026 Strategic priorities

At its February planning meeting, Council formulated a broad list of priorities and objectives. This was very hard to distil down into to a coherent shortlist of priorities because it all could be considered important. Thank you to Councillors who provided feedback on the early drafts. That was helpful.

The high level goals could be broken into four areas:



There was a fifth area related to **organisation** but many of the objectives under this heading were simply good business practice - tasks that the organisation should be doing as matter of course such as promoting diversity, looking after staff, and implementing parts of the review. Those will still be prioritised, but at an operational level.

To follow is the full list of objectives against those priorities. Council will be able to tweak and clarify at the meeting but Council should resist the urge to add any objectives – unless it decides to drop one or two off. The final set of priorities and objectives will need to be adopted in May to help future budgeting and work planning.

Draft Strategic Priorities 2023-2026

Sportsfish/gamebird species and habitat maintained and improved

- Understand climate change impacts on critical habitat and species abundance and distribution.
- Long-term monitoring programmes are established for sensitive sportsfish and gamebird species/populations
- RMA/NBEA planning documents recognise fish and game bird values and protect and restore the habitats that they depend upon.

Strategic relationships and advocacy enhanced

- Public and stakeholder perceptions (social licence) of Otago Fish & Game as a valid and respected organisation are improved.
- Alliances are formed with like-minded bodies for mutual benefit. (eg Industry groups, Game Animal Council)
- Landowners see F&G Otago as a valuable partner organisation in habitat protection, species management, and in fostering access to those resources.
- General public understand and value trout, salmon and game birds as public resource, and how angling and gamebird hunting contributes to people's wellbeing and kiwi way of life.

Recruitment and retention of licence holders improved

- Increased knowledge of Otago F&G role and activity by licence holders results in improved perceptions of value for money in a licence.
- Barriers to participation such as cost, regulation complexity, skill level and access are managed or reduced as far as possible.
- Licence holders see tangible 'evidence of service' through regular communication from the organisation.

Tangata Whenua/Mana whenua engaged

- Iwi and Otago F&G aspirations agreed and shared to achieve greater protection of freshwater and wetland values through RMA/NBEA processes
- Enduring and meaningful partnership formed with tangata whenua
- Conservation Act Section 4 responsibilities (treaty responsibilities) are understood, acknowledged and met.

DRAFT 2023/24 OWP activity related to priorities

Species and Habitat– The hours have remained the same but the external budget reduced as a consequence of bringing the lakes acoustic monitoring programme in house.

There is very little change in other outputs at this point but if some key contestable funding bids are approved there may need to be a slight shift in staff focus to ensure those projects are coordinated properly and completed. That can be adjusted before the OWP is finalised.

Communications – Strategic communications with other stakeholders has been covered in previous workplans and time has been allocated to this work area again this current year including a survey of stakeholders (underway at present). The budget has been increased slightly this year to cover weekly river reports and other direct email communications to our members.

Boosting the organisations profile is critical at present so additional hours have been allocated to stakeholder liaison with a particular focus on catchment group work.

A contestable fund application has been made to fund a consultant to generate a Strategic Communications Plan as we do not have these expertise in house.

Increasing the Councils profile

You will see this coming through the workplan in the form of increased effort on angler and hunter contacts in the field (compliance and lakes surveys) and also through a greater emphasis on our wetland work at both Takitakitoa and in Bendigo Reserve.

Climate Change

A new project has been created in the workplan related to climate change (1240). It has outputs in two areas. Firstly, to report on the potential impacts of climate change on Otago sportsfish and gamebird populations and their habitat, and secondly to report on ways to reduce our own carbon footprint.

Other activities

There are a number of other tasks which are outside of those priorities which might be regarded as core business (gamebird monitoring counts, hatchery operations) in our annual operational work plan and those have been included in the budget. I doubt the Council wants any of this to be stopped altogether to pursue only those goals above.

Risk management

Some of the projects are obviously linked to addressing risks identified in the risk management plan which was agreed at the February meeting. A funding application for salaries is there to address the risks around staff retention.

Budget

Weaving this all together into a coherent OWP and budget is no easy task and despite efforts to simplify, the wider budget system is still stubbornly overcomplicated.

As you are aware around 85% of our budget is overheads (mostly salaries) with only around \$90,000 available to externally fund projects and other activities. As savings have been made in overhead costs (leases, technology savings etc) I have been shifting these across to fund external projects. Unfortunately as costs rise this is doing little more than maintaining the project expenditure.

Contestable Funding bids

At the bottom of the Budget spreadsheet (attached) you will see that a number of contestable funding bids are proposed. These have been split into two sections; funding from the licence fee pool, and funding from Otago's own reserves.

Applications from national contestable pool (from the licence fee):

1. ***Salaries up to market rates plus CPI (7.2%) - \$174,330.*** NZC have recently expressed a desire to have all staff brought up to market rates based on Strategic Pays remuneration assessment completed mid last year. Our Council has previously requested that NZC do just that exercise. Thanks to an unhelpful delay in distribution of the results, the figures that were provided didn't include a CPI adjustment for the current year.
2. ***Office and general expenses - \$11,500.*** Insurance, rates, and other office expenses have risen dramatically in the last 18 months and these can no longer be absorbed.

Spending from Otago Reserves

3. ***Communications Strategy Development - \$24,000 - one-off spending from general reserve.*** Funds from general reserve to pay for a consultant to bring together our primary data from stakeholders and licence holders into a coherent communications plan.
4. ***Wanaka hatchery site maintenance \$15,000 (over 2 years) notification only of spending from Historic Property Reserve.*** The costs for Wanaka Hatchery site maintenance is rising and can also no longer be absorbed. Given the property is being prepared for subdivision then its an appropriate source of funding rather than via the licence fee.

Asset replacement

We have budgeted for the replacement of the Dunedin Stabicraft boat (which is nearly 30 years old) from the asset replacement fund. The changeover cost is around \$20,000 and does not require notification to NZC. That will however have to be endorsed by the Council closer to time.

Recommendations

That the Council;

1. Endorse the draft three year strategic plan priorities and objectives
2. Agree to the draft 2023/24 draft operational workplan and budget
3. Confirm the contestable funding bids from the national pool and notification of the proposed spending from reserves.

Ian Hadland
Chief Executive
 15th March 2023

OTAGO F&GC ANNUAL WORK PLAN 2023/24

Approved:

Yellow denotes links with Council priorities

OUTPUT 1 - SPECIES MANAGEMENT

1110 Population monitoring

Monitor regional fish and game populations to ensure sustainable population trends

Code	Task	Activities (Operational)
1111	Complete annual waterfowl trend counts and report results to Council.	<p>Coordinate aerial flights and report along with other species by February meeting. Report contributes to Game Gazette Notice deliberations.</p> <p>Aerial flights for mallards using established protocol completed and results reported to May meeting. Results distributed via social media and media release written</p> <p>Undertake ground pukeko surveys alongside Shoveler counts in early August using current methodology. Add in additional transects across Otago.</p>
1112	Monitor trout and salmon spawning in priority catchments	<p>Priority given to key Freshwater Management Unit catchments - Pomahaka tributaries</p> <p>Add historic and new spawning data to GIS database.</p> <p>Monitor Salmon spawning in southern lakes tribs - Priority Wanaka tribs. Aerial spawning survey for salmon (subject to Contact funding)</p>
1113	Establish long term monitoring method for Southern Lakes fisheries	Conduct repeat acoustics survey in southern lakes (lease equipment)
1114	Monitor key fisheries	<p>Electric fishing and habitat surveys of Waiwera and Lower Taieri tribs</p> <p>Fisheries and habitat surveys in coordination with ORC or catchment groups.</p>
1115	Species interaction	<p>Report on options for improved inanga passage in and out of Takitakitoa wetland. Implement any changes (subject to funding)</p> <p>Contribute to mapping of critical habitat for freshwater fish species to highlight interaction zones in cooperation with other agencies</p>

1120 Harvest Assessment

Monitor Game Harvest and Hunter and Angler Success.

	Task	Activities (Operational)
1121	Monitor annual gamebird harvest by hunters via telephone surveys	Coordinate telephone game bird harvest survey during the hunting season.
1122	Conduct angler surveys on southern lakes	Conduct random angler surveys on Lake Hawea at a frequency of at least 4/month and at other lakes during peak use periods.

1140 Hatchery Operations and Fish Transfers

Maintain Trout Supply to Put-and-Take Fisheries

	Task	Activities (Operational)
1141	Rear rainbow trout to supply Otago put-and-take fisheries	Manage hatchery, including stock, feeding and hygiene control for 8000 trout to supply put-and-take fisheries
1161	Maintain Otago put-and-take fisheries by releases in accordance with restocking schedule.	Deliver hatchery raised stock to put and take fisheries around Otago according to approved schedule Capture and assess growth rates/survival of marked fish from reserviors

1170 Regulations

Set Hunting and Fishing Season Conditions Annually.

	Task	Activities (Operational)
1171	Recommend 2024 draft Game Gazette to Council by November 2023 and forward to NZFGC by 31 January 2024 for Minister's Approval.	Draft Game Gazette report to Council by November 2023 and forward draft Game Gazette after consultation with iwi, Southland and CSI Councils to align regulations (amended in the light of trend counts if required) to NZFGC by 31 January 2024 for Minister's Approval.
1172	Report and recommend draft Anglers Notice to Council by March 2024 after consultation with licenceholders and other stakeholders.	Report to Council on Anglers Notice by March 2024. Implement Designated waters regime if sufficiently advanced.
1173	Improve understanding of regulations by licenceholders	Continue to simplify layout of regulations and make web/app ready

1180 Gamebird Management and Control

Minimise conflict between game birds and agriculture.

	Task	Activities (Operational)
1181	Log and respond to complaints about game birds on crops and follow up promptly	Respond to complaints within 48 hours where necessary and log and report on outcomes

OUTPUT 2 - HABITAT PROTECTION & MANAGEMENT

1210 Resource Management Act and Planning

Advocate fish and game habitat protection through resource consent and planning processes so that relevant law, policies and plans reflect OFGC input.

	Task	Activities (Operational)
1211	Screen resource consents and make submissions where necessary.	Undertake meaningful consultation with RMA consent applicants with a view to reaching a resolution on conditions ahead of consent lodgement. Make submissions on consents provided through regional and district councils
1212	Make submissions on fish and game matters including access in all relevant planning processes, and participate in implementation of plan provisions where required.	Make submissions on Regional and District Council plans and policy changes.
1213	Achieve high level of understanding by other statutory authorities of F&G interests via increased liason and partnerships	Regular interaction by staff, CE and Governors with statutory agencies staff and governors. Pre circulation of submissions to key stakeholders to find alignment.
1214	Manage Contact Energy Lower Clutha Sportsfish Management Plan and its implementation.	Unless covered by a Trust, coordination of SFMP and some delivery undertaken by field staff. Trust established and operational by years end.

1220 Works and Management

Effectively manage wildlife management reserves and F&G wetland reserves.

	Task	Activities (Operational)
1221	Implement works on Council owned or managed reserves including Bullock Creek and Takitakitoa Wetlands	Continue Takitakitoa and Bullock Creek Wetland restoration, monitoring and planting. Plant pest removal and revegetation of Bendigo Wetland Reserve with priority given to cycle trail margins and smaller islands for nesting (subject to external funding)

1230 Assisted Habitat

Promote habitat protection and/or enhancement on private land with the aim of increasing recreational opportunity.

	Task	Activities (Operational)
1231	Provide prompt advice to landowners on wetland creation and advocacy for habitat protection as required.	Respond to landowner wetland enquiries and arrange site visits within 2 weeks.
		Review consenting arrangements for wetland development and seek to streamline process with Regional Council and reduce costs to landowners.
1232	Implement Habitat Enhancement and Research Fund programme	Applications prepared for Council review and funding. Grant application prepared for indigenous fish project.

1240 Climate Change

Understand climate change impacts on critical habitat, species abundance and distribution.

	Task	Activities (Operational)
1241	Report on risks and opportunities related to climate change in Otago	Literature review of potential climate change outcomes for Otago and assess and report on how these relate to critical freshwater habitat and wetlands. Report on options for reducing the organisations own carbon footprint. Implement changes where necessary.

OUTPUT 3: USER PARTICIPATION & SATISFACTION**1310 Access**

Maintain and improve access for anglers and hunters to Otago's fish and game resources.

	Task	Activities (Operational)
1311	Identify and quantify current angling and hunting access points	Identify and describe all access points in Otago separating these by public land, legal road and private (negotiated access) with priority given to the latter.
1312	Maintain and improve angling and hunting access signage throughout the region. Update online portal/website.	Survey existing signs and repair or replace as required. Digitise new access points and add into online mapping system.

1320 Satisfaction Surveys

Manage fisheries for angler satisfaction

	Task	Activities (Operational)
1321	Backcountry/Designated waters and Controlled fishery management regime implemented for season.	Ensure Backcountry/Designated waters licencing and Controlled fishery allocation systems are ready ahead of season. Monitor and troubleshoot. Implement Pressure sensitive fishery regime (if Regs approved)

1330 Newsletters & Licence Sales Promotions

Promote fishing and hunting and licence sales through client communications and advertising

	Task	Activities (Operational)
1331	Prepare pre-fish and game season magazine supplements for distribution in the Fish & Game Magazine	Articles prepared before the end of June for Fish mag and the end of Jan for gamebird magazine. Tight focus on helping licenceholders understand our role.
1332	Implement (R3) marketing campaigns to retain new and reactivated licenceholders	Development of local "how to-where to" video content for uploading to web.

1333	Develop and maintain online and social media communications pathways	At least two posts per week to social media channels on a variety of issues and opportunities. Distribute weekly river reports mid September to mid May. Distribute monthly ezines
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1340 Publications and Client Support

Provide support publications and information for anglers, hunters, the public and licence agents

	Task	Activities (Operational)
1341	Convert all access brochure stock to web friendly digital versions	High resolution scan all access pamphlets and load to new website.
1342	Maintain and update Otago pages of the Fish and Game website	Website information forwarded to NZC for loading or loaded directly on a bimonthly basis.

1350 User Training

Encourage participation and improved angling and hunting technique

	Task	Activities (Operational)
1351	Support club, youth group or agent sponsored angling/hunting events.	Attend preseason hunting and angling events and also support club and agent sponsored events.
1352	Hold TAKF events and additional training events targeting novice anglers	Run two TAKF events in Dunedin and one in Central Otago. Also run two introductory spin/softbait clinics
1353	Issue group angling licences to appropriate groups on request and support with loan equipment if required.	Issue group licences and provide supporting material, instruction and equipment if required
1354	Manage novice hunter recruitment based on Fish and Game wetland reserves	Ballot or organise novice hunters to utilise opportunities on Fish and Game wetland reserves.

1360 Club & Guide Relations

Maintain liaison with Guides and rod and gun clubs

	Task	Activities (Operational)
1361	Liaise with rod and guns clubs and other shooting organizations	At least 6 visits to Angling and Hunting clubs throughout the year by staff, preferably speaking on F&G matters.
1362	Liaise with guides and professional guiding associations during the year over matters of interest including the guides licence.	Regular contact with guides via email list and produce one pre season newsletter
1363	Engage with organisers of major fishing competitions to ensure data is collected and rules are applied to encourage sustainability of the fishery.	Obtain data and/or attend major competitions, in particular Dunstan, Glenorchy, Luggate, and Hawea. Aim to obtain catchrate and fish data, and otoliths where necessary. Update database.

OUTPUT 4 - PUBLIC INTERFACE

1410 Liaison

	Task	Activities (Operational)
1411	At least one meeting at either governor or CE level annually with relevant statutory agencies and other organisations.	At least one meeting at either governor or CE level annually with DoC, Otago University, Otago Conservation Board, Walking Access Commission, Clutha Fisheries Trust, Aukaha, Ngai Tahu and local bodies over fish and game matters.
	Proactively engage with Ngai Tahu with a view to developing a productive ongoing relationship	Not less than two hui with Ngai tahu and Aukaha staff. Specific hui held on cultural harvest of gamebirds.
1412	Maintain strong connections with Otago catchment groups by regular attendance at meetings and field days.	Attend catchment group meetings and participate in activities where required.

1420 Communication

Enquiries and complaints received and dealt with promptly.

	Task	Activities (Operational)
1421	Respond to client and public enquiries and complaints promptly	Respond to email enquiries or complaints within 48 hours

1430 Advocacy

Raise public awareness of and support over fish and game issues

	Task	Activities (Operational)
1431	Make at least 40 media releases	Media releases regularly submitted to print media with supporting video content where possible.
1432	Initiate public advocacy and support national advocacy on Access, RMA and Cons Act reform and other central Govt initiatives	Use RMA network of staff to formulate a nationally consistent response to issues or legislative amendments
1434	Engage with stakeholders and other groups on areas of common interest via a communications strategy	Communications strategy, aligned to NZC direction, developed by third party and adopted by Council.

1440 Public Promotions

Support the national campaigns on water and habitat

	Task	Activities (Operational)
1441	Support any national campaigning on rivers lakes or wetlands at a local level.	Contribute to local World Wetlands Day activities. Takitakitoa Wetland Event. Feb 2024

OUTPUT 5 - COMPLIANCE

1510 Ranging

Coordinate activities of rangers in carrying out compliance activities

	Task	Activities (Operational)
1511	Carry out compliance activities with priority given to times of peak angler and hunter use.	Plan and implement peak season ranging including opening weekend game season ranging in Otago. Aim for 15% of adult whole season fish licence holders and 10% game holders contacted annually with a better than 97% compliance
1512	Maintain adequate liaison between rangers and field staff and run ranger activity return system Assess new ranger applications and review status of current rangers annually	Adequate liaison maintained with rangers through personal contact, sub regional meetings, and pre angling and game seasons newsletters. Analysis of ranger activity for previous year included in annual report Review based on performance including licence checks, training attendance and assistance with F&G events.

1520 Ranger Training

Provide rangers with ongoing training relevant to compliance activities

	Task	Activities (Operational)
1521	Conduct regional rangers training course in August 2023 in Roxburgh	Organise and deliver a one day ranger training event in August at Roxburgh

1530 Prosecutions

Prosecutions taken where desirable when fish and game or environmental offences are detected.

	Task	Activities (Operational)
1531	Process offence reports and prepare cases for prosecution action.	Assemble file including offence report and any evidence and confirm prosecution action with CE. Pursue diversions for less serious matters.

OUTPUT 6 - LICENCING**1610 Licence Production & Distribution**

Provide an accessible online licence purchasing facility to the general public via a third party provider

	Task	Activities (Operational)
1611	Monitor licence sales including non-resident licence sales	Download and review spreadsheets for sales and revenue and report to two monthly Council meetings

1620 Agent Servicing

Maintain good working relationships with agents and support their sales of licences

	Task	Activities (Operational)
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1621	Liaise with licence agents	Produce and distribute two preseason newsletters. Content to include regulations, pricing and category changes. Staff visits to agents where required.
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OUTPUT 7 - COUNCIL

1710 Council Elections

Maintain election database and conduct Council election in accordance with regulations.

	Task	Activities (Operational)
1711	Promote Council elections (Oct 2024) and call for candidates (Aug 2024).	Promotion of election via media and other channels. Maintain electoral role list on preparation for election.

1720 Council Meetings

Provide efficient and effective servicing of the Council

	Task	Activities (Operational)
1721	Hold six council meetings during the year and executive meetings as required.	Organise 6 council meetings, half to be held in locations other than Dunedin. Convene Executive and other committee meetings as required. Generate agenda for meetings, and minutes from meetings, and circulate not less than 7 days in advance. Circulate other material as required.

OUTPUT 8 - PLANNING AND REPORTING

1810 Management/ Strategic Planning

Develop and maintain resource inventory and database,

	Task	Activities (Operational)
1811	Further develop Sharepoint and migrate electronic files to the cloud.	Transfer documents to Sharepoint and make some available to public via portal

1820 Annual Planning

Fulfil annual planning requirements in a timely manner

	Task	Activities (Operational)
1821	Hold planning meeting in February 2024 and present draft OWP and budget for 2024/2025 by March 2024 meeting.	Organise planning meeting in Cromwell. Adjust three-year strategic direction as necessary.

1830 Annual Reporting

Fulfill annual reporting requirements in a timely manner

	Task	Activities (Operational)
1831	Complete 2022/2023 Audit and Annual Report prior to 2023 AGM	Complete Audit and write statement of service performance and prepare for printing.

1840 National Liaison

Liaise with the NZFGC and other Regional FGC's on fish and game matters.

	Task	Activities (Operational)
1841	<p>Make submissions to NZC (and other regions as required) on policy being developed and on other matters impacting on the Council.</p> <p>Hold Council to Council meeting with one neighbouring region during the year for liaison purposes</p>	<p>Make submissions as required on policy and provide feedback on the licence fee and licence categories.</p> <p>Hold Council to Council meeting with a neighbouring F&G Council</p>
1842	Contribute resources to Fish and Game's national decision-making, projects, sub-committees and working parties as far as possible.	Staff act as members of national working parties including RMA, Compliance and Ministerial review implementation. Maintain involvement with Licence working party

SCHEDULE B : PROJECT SUMMARY : BUDGET 2023-2024							
Code	Project/Category Item	External Costs	Hours	Internal Costs	Income	Net Cost	%
1110	Population Monitoring	\$ 14,000	1500	\$ 101,465	\$ -	\$ 115,465	50.4
1120	Harvest Assessment	\$ 3,500	540	\$ 36,527	\$ -	\$ 40,027	17.5
1130	Fish Salvage	\$ -	40	\$ 2,706	\$ -	\$ 2,706	1.2
1140	Hatchery	\$ 9,000	500	\$ 33,822	\$ -	\$ 42,822	18.7
1150	Game Farm	\$ -	0	\$ -	\$ -	\$ -	0.0
1160	Releases	\$ 1,000	200	\$ 13,529	\$ -	\$ 14,529	6.3
1170	Regulations	\$ -	160	\$ 10,823	\$ -	\$ 10,823	4.7
1180	Control	\$ -	40	\$ 2,706	\$ -	\$ 2,706	1.2
	Species Management Expend	\$ 27,500	2980	\$ 201,576	\$ -	\$ 229,076	
1210	RMA	\$ 1,000	2700	\$ 182,636	\$ -	\$ 183,636	72.6
1220	Works/Management	\$ 5,000	700	\$ 47,350	\$ -	\$ 52,350	20.7
1230	Assisted Habitat	\$ -	250	\$ 16,911	\$ -	\$ 16,911	6.7
1240	Assessing/Monitoring	\$ -	0	\$ -	\$ -	\$ -	0.0
	Habitat Protection & Management	\$ 6,000	3650	\$ 246,897	\$ -	\$ 252,897	
1310	Access	\$ 2,500	260	\$ 17,587	\$ -	\$ 20,087	12.9
1320	Satisfaction Survey	\$ -	200	\$ 13,529	\$ -	\$ 13,529	8.7
1330	New sletters	\$ 5,000	600	\$ 40,586	\$ -	\$ 45,586	29.4
1340	Other Publications	\$ -	250	\$ 16,911	\$ -	\$ 16,911	10.9
1350	Training	\$ 2,000	610	\$ 41,262	\$ -	\$ 43,262	27.9
1360	Club Relations	\$ 1,000	220	\$ 14,881	\$ -	\$ 15,881	10.2
1370	Huts	\$ -	0	\$ -	\$ -	\$ -	0.0
	Angler/Hunter Participation	\$ 10,500	2140	\$ 144,756	\$ -	\$ 155,256	
1410	Liaison:Consv.Bds/DoC	\$ 1,000	750	\$ 50,732	\$ -	\$ 51,732	31.5
1420	Communication int. Organisations	\$ -	600	\$ 40,586	\$ -	\$ 40,586	24.7
1430	Advocacy	\$ 1,000	1000	\$ 67,643	\$ -	\$ 68,643	41.8
1440	Public Promotions	\$ 500	40	\$ 2,706	\$ -	\$ 3,206	2.0
1450	Visitor Fac/Education/Interpretation	\$ -	0	\$ -	\$ -	\$ -	0.0
	Public Interface	\$ 2,500	2390	\$ 161,667	\$ -	\$ 164,167	
1510	Ranging	\$ 2,500	800	\$ 54,114	\$ -	\$ 56,614	55.9
1520	Ranger Training	\$ 3,000	250	\$ 16,911	\$ -	\$ 19,911	19.7
1530	Compliance	\$ 5,000	300	\$ 20,293	\$ 500	\$ 24,793	24.5
	Compliance	\$ 10,500	1350	\$ 91,318	\$ 500	\$ 101,318	
1610	Licence Prod/Distribution	\$ -	0	\$ -	\$ -	\$ -	0.0
1620	Agent Servicing	\$ 500	100	\$ 6,764	\$ -	\$ 7,264	100.0
	Licensing	\$ 500	100	\$ 6,764	\$ -	\$ 7,264	
1710	Cncl Elections	\$ 250	40	\$ 2,706	\$ -	\$ 2,956	5.0
1720	Cncl Meetings	\$ 15,000	600	\$ 40,586	\$ -	\$ 55,586	95.0
	Councils	\$ 15,250	640	\$ 43,292	\$ -	\$ 58,542	
1810	Management/Strategic Planning	\$ -	390	\$ 26,381	\$ -	\$ 26,381	30.4
1820	OWP/Budget/Lic Fee setting	\$ -	100	\$ 6,764	\$ -	\$ 6,764	7.8
1830	Annual/Other Reporting	\$ 16,000	100	\$ 6,764	\$ -	\$ 22,764	26.2
1840	National Liaison	\$ 500	450	\$ 30,439	\$ -	\$ 30,939	35.6
	Planning/Reporting	\$ 16,500	1040	\$ 70,349	\$ -	\$ 86,849	
	PROJECT BUDGET	\$ 89,250	14290	\$ 966,620	\$ 500	\$ 1,055,370	
OVERHEADS							
		External Costs			Income	Net Cost	%
1910	Salaries	\$ 809,007			\$ -	\$ 809,007	83.7
1920	Staff Expenses	\$ 24,500			\$ -	\$ 24,500	2.5
1930	Staff Houses	\$ -			\$ -	\$ -	0.0
1940	Office Premises	\$ 104,399			\$ 56,386	\$ 48,013	5.0
1950	Office Equipment	\$ 2,500			\$ -	\$ 2,500	0.3
1960	Communications/Consumables	\$ 20,700			\$ -	\$ 20,700	2.1
1970	General	\$ 4,600			\$ -	\$ 4,600	0.5
1980	Gen Equipment	\$ 3,300			\$ -	\$ 3,300	0.3
1990	Vehicles	\$ 54,000			\$ -	\$ 54,000	5.6
	Administration	\$ 1,023,006			\$ 56,386	\$ 966,620	

REGION: 0							
SCHEDULE C : OUTPUTS BUDGET SUMMARY - 2023-2024							
Code	Output	External Costs	Hours	Internal Costs	Income	Net Cost	%
1	Species Management Expend	\$ 27,500	2980	\$ 201,576	\$ -	\$ 229,076	21.7
2	Habitat Protection & Management	\$ 6,000	3650	\$ 246,897	\$ -	\$ 252,897	24.0
3	Angler/Hunter Participation	\$ 10,500	2140	\$ 144,756	\$ -	\$ 155,256	14.7
4	Public Interface	\$ 2,500	2390	\$ 161,667	\$ -	\$ 164,167	15.6
5	Compliance	\$ 10,500	1350	\$ 91,318	\$ 500	\$ 101,318	9.6
6	Licensing	\$ 500	100	\$ 6,764	\$ -	\$ 7,264	0.7
7	Councils	\$ 15,250	640	\$ 43,292	\$ -	\$ 58,542	5.5
8	Planning/Reporting	\$ 16,500	1040	\$ 70,349	\$ -	\$ 86,849	8.2
9	Administration						0.0
	Total Overhead Staff Hours		0				
	TOTAL BUDGET	\$ 89,250	14290	\$ 966,620	\$ 500	\$ 1,055,370	
	Plus Asset Replacement Fund/Capital					\$ -	
	Plus other Capital items eg principle repayments on Loans					\$ -	
	Plus Reinstatement of Reserves						
	TOTAL APPROVED BUDGET					\$ 1,055,370	
	Made up from:						
	Bulk Funding				Last year	\$ 1,051,410	
	Contestable Pool Funding - Ongoing Salaries					\$ 174,330	
	Contestable Pool Funding - Ongoing Office costs					\$ 11,500	
	Contestable Pool Funding - One off						
	Regional Reserve Funding - One off Comms strategy					\$ 24,000	
	Regional Reserve Funding - One off Wanaka Mtce (over 2 years)					\$ 15,000	
						\$ -	
	Plus Reinstatement of Reserves						
	TOTAL BUDGET	2023-2024				\$ 1,276,240	

7.2 Change To OF&GC Governance Policy

Background

At the February 2023 meeting the Council agreed to include the New Zealand Council appointee on any Executive Committee from this point on. That needs to be endorsed by way of Council resolution.

Relevant section

Section 2.3 of the Governance Policy covers the rules around committees of Council.

It is proposed to adjust as follows: (underlined words added in)

- 2.3.4.2 An Executive Committee, which shall include the New Zealand Council appointee should not be less than three and not more than five members, and will be charged with the following:

1.6.1.6 of the Governance manual states that the Chair is automatically the chairperson of the Executive Committee so must be one of its membership.

Recommendation

That the Governance Policy document be updated as above to ensure the New Zealand Council appointee is a member of future Executive Committees.

Ian Hadland
Chief Executive
9th March 2023

8.0 Public Excluded Items

8.1 Draft minutes Public Excluded 18th February Meeting

8.2 Habitat Enhancement Fund Application – Bendigo Wildlife Reserve

8.3 Bullock Creek Stormwater

8.4 Wanaka Subdivision Update

8.5 Contact Energy Trust Update

9.0 Financial Report

Finance and Licence Sales 28th February 2023

9.1 Finance Reports

The financial Profit and Loss report and Balance sheet for the period from 1st September 2022 to 28th February 2023 are below.

Expenditure at the 28th February 2023 for the 2022/23 financial year is \$1,289,874 (including levies \$600,041, agent commission \$61,702, depreciation \$23,072.

This also includes \$79,508 of approved spending from our reserves.

The annual expenditure budget is \$2,505,806.

Budget and expenditure figures are exclusive of GST.

The draft accounts show a surplus at 28th December 2023 of \$55,392

Bank Funds Position at 28th February 2023

ANZ 00 account \$221,148.85

ANZ 70 account \$651,332.47

Term Investments as at 28th February 2023

ASB 0079 \$376,399.25 @ 4.55% Maturing 11th July 2023

ANZ \$507,013.76 @ 3.75% Maturing on 16th May 2023

Donations and Grants (not in budget)

Donation/Grant from	For	Amount GST excl
RICOH	Native Trees	1,000
Mt Aspiring Station	Bullock Creek Planting	60
Kaiwhakahaere Kaupapa Taiao	Bullock Creek Planting	300
Otago Community Trust	Take a Kid Fishing	2,900
W Houliston	Take a Kid Fishing	200
NZ Salmon Angers (Otago Branch)	Take a Kid Fishing	1,500
Total		\$5,960

Doubtful Debtors

nil

Capital Expenditure and Sales

The computer system is being updated following a failure of the main server.

Otago Fish and Game Reserves 28th February 2023

Otago Reserves Movements	Balance August 2022	Income (To) Reserve	Note	Outgoing (From) Reserve	Balance Feb 2023
Back Country Non-resident Levy	\$273,170	\$60,869	1	\$47,720	\$286,319
Habitat Enhancement & Research	\$20,642	\$3,820	2	\$3,000	\$21,462
Bullock Creek Reserve	\$3,121	\$360		\$2,583	\$898
Bendigo Reserve	\$2,039	\$	9	\$823	\$1,216
Mining Rights Reserve	\$17,537		3	\$	\$17,537
Priority Consents Reserve	\$41,697		7	\$	\$41,697
Historical Property Reserves	\$146,433	\$13,118	4	\$24,238	\$135,313
Regional Policy Statement Reserve	\$44,379		5	\$1,144	\$43,235
Priority Plan Changes	\$31,076		6	\$	\$31,076
Total	\$580,094	\$78,167		\$79,508	\$578,753
NZC RMA/Legal Funding					
Regional Policy Extra	60,000	\$	8	\$23,824	\$36,176

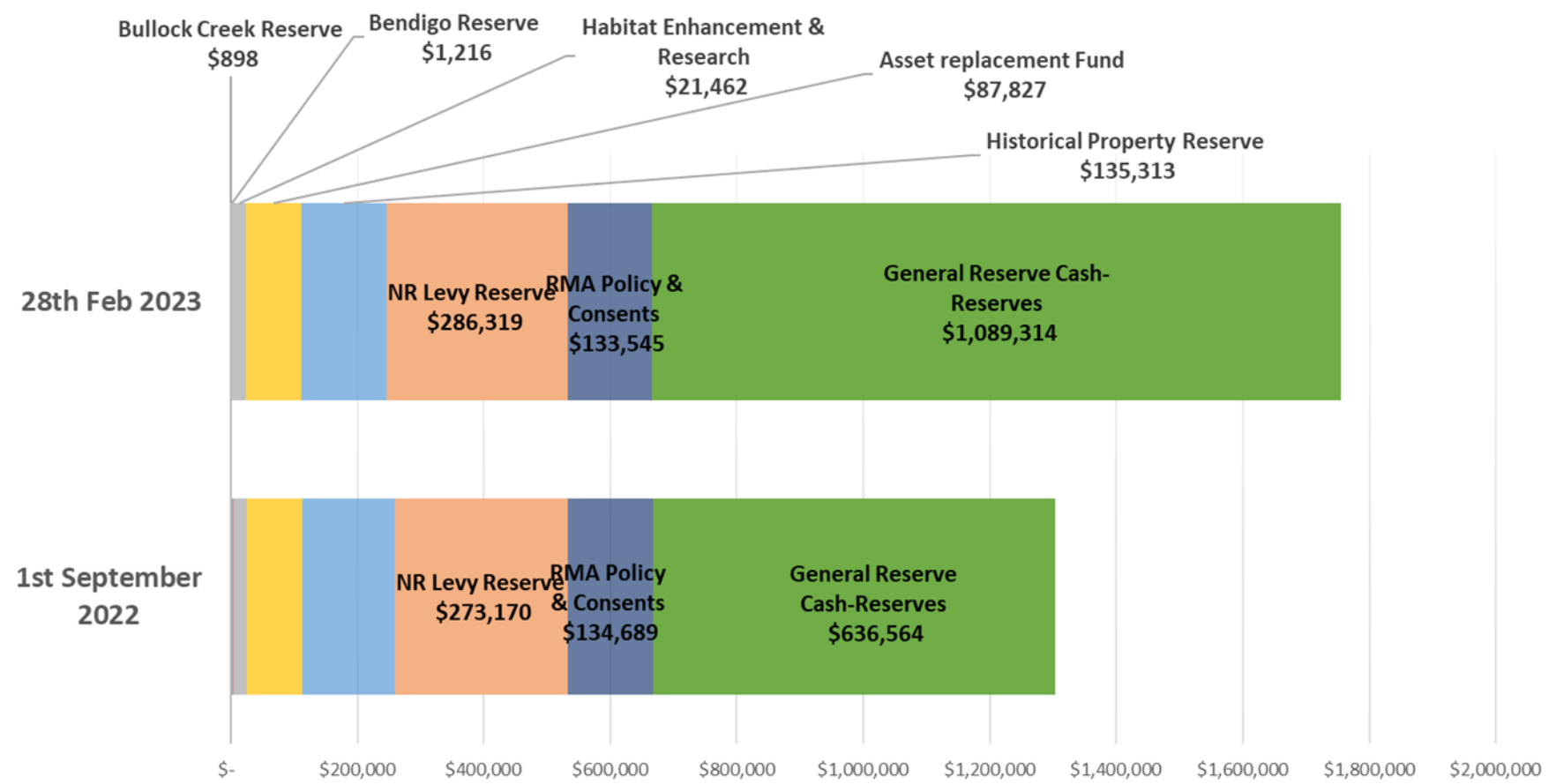
- Note 1 \$5000 a year for five years is to be taken from the Non resident fund for the Dr Donald Scott University Fund beginning. Agreed by Council May 2021. 2021/22 is year three. Budget for 2022/23 Acoustic Central lake surveys \$38,930 and Lakes summer advocacy \$24,000 from this reserve.
- Note 2 Balance is \$21,962. Less committed but not yet paid out of \$10,500 so balance of \$11462 is available for dispersal by way of grants.
- Note 3 \$150,000 (Mining Rights) approved prior to 2018 by NZC from our reserves. Includes \$80,000 of Lindis expenses, agreed by Council July 2019.
- Note 4 Historical Property Reserve, used on development of the Wanaka site
- Note 5 OF&GC agreed to \$60,000 May 2020. NZC notified.
- Note 6 OF&GC agreed to \$120,000 May 2020. NZC notified. \$81,000 agreed to be spent by council September 2020.
- Note 7 OF&GC agreed to \$60,000 May 2020. NZC notified.
- Note 8 August 2021 NZC approved the use of \$60,000 to be reimbursed by the Regional RMA legal fund towards our Regional Policy Planning Costs
- Note 9 May 2022 council agreed to Habitat Enhancement funds for Bendigo

Winding up of Mining Right Reserve**Otago Fish and Game Council Meeting 23rd March 2023**

Resource consents to replace mining rights now have a streamlined process through the Otago Regional Council meaning we are not involved to the same extent and so the need for funding has diminished.

As a matter of good house keeping, it is recommended that the Reserve be closed with the remaining balance being returned to the Councils General Reserve. Council resolution is required to do that.

MOVEMENT IN RESERVES FROM 1ST SEPTEMBER 2022 TO 28TH FEBRUARY 2023



Balance Sheet

Otago Fish and Game Council As at 28 February 2023

	28 FEB 2023	31 AUG 2022
Assets		
Current Assets		
Bank	872,662	432,082
Receivables		
Accounts Receivable	189,851	77,117
Total Receivables	189,851	77,117
GST	9,637	42,695
Investments	880,748	872,159
Inventory	21,151	21,151
Accrued Interest	-	4,959
Total Current Assets	1,974,049	1,450,162
Fixed Assets		
Property Plant & Equipment	1,329,287	1,348,413
Total Fixed Assets	1,329,287	1,348,413
Credit Card SM 6180	(1,783)	(3,799)
Total Assets	3,301,553	2,794,777
Liabilities		
Current Liabilities		
Accounts Payable	52,671	74,951
Other Payables	192,143	192,806
Employee Entitlements	32,177	60,441
Rounding	-	-
Salmon Endorsement	2,683	91
Total Current Liabilities	279,673	328,289
Total Liabilities	279,673	328,289
Net Assets	3,021,880	2,466,488
Equity		
Accumulated Funds		
Accumulated Funds	1,622,094	1,607,045
Current Year Earnings	555,392	15,049
Transfer (To)/From Reserves	177,813	176,937
Total Accumulated Funds	2,355,299	1,799,031
Dedicated Reserves		
Non Resident Levy Reserve	286,319	273,170
Habitat Enhancement & Research	21,462	20,642
Priority Plan Changes Reserve	31,076	31,076
Priority Consents Reserve	41,697	41,697
Regional Policy Statement Reserve	43,235	44,379

Balance Sheet

	28 FEB 2023	31 AUG 2022
Mining Privileges Reserve	17,537	17,537
Historical Property Reserve	135,313	146,433
Renovation Reserve	-	-
Asset Replacement Funding	87,827	87,363
Total Dedicated Reserves	664,466	662,296
Restricted Reserves		
Bullock Creek Reserve	898	3,121
Bendigo Reserve	1,217	2,039
Total Restricted Reserves	2,115	5,161
Total Equity	3,021,880	2,466,488

Profit and Loss

Otago Fish and Game Council For the 6 months ended 28 February 2023

	JAN 2023	FEB 2023	YTD ACTUAL	YTD BUDGET	VARIANCE	% OF YTD BUDGET	ANNUAL BUDGET	LAST YEA
Income								
Licence Sales								
Fish Licence Sales	178,706	77,696	1,714,647	1,959,512	(244,865)	88%	1,959,517	1,750,88
Non-Resident Licence Revenue	18,756	16,737	77,605	-	77,605	-	-	10,36
Game Licence Sales	100	83	267	-	267	-	370,659	340,18
Total Licence Sales	197,562	94,517	1,792,519	1,959,512	(166,993)	91%	2,330,176	2,101,43
Other Income								
Contact Energy Mitigation Income	-	-	-	-	-	-	-	94,10
Reserves Mngt Income	-	-	-	648	(648)	-	1,300	
Govt Grants	-	-	-	-	-	-	-	1,21
Interest Income	4,330	1,535	9,476	7,656	1,820	124%	15,322	14,00
Fines - Fishing & Game Offences	20	35	109	1,004	(895)	11%	2,000	26
Rent Received	4,818	4,818	30,748	28,188	2,560	109%	56,386	60,32
Fishing Competitions	297	-	964	-	964	-	-	49
Profit on Sale of Fixed Assets	-	-	-	-	-	-	-	22,08
Donations & Grants	-	1,500	5,960	-	5,960	-	-	4,24
Merchandise Sales/Other	-	-	165	-	165	-	-	19
Sundry Income	-	-	1,503	-	1,503	-	-	7,58
Diversion - Habitat Enhancement and Research Fund	220	-	3,820	-	3,820	-	-	14,70
Total Other Income	9,685	7,888	52,746	37,496	15,250	141%	75,008	219,21
Total Income	207,247	102,405	1,845,265	1,997,008	(151,743)	92%	2,405,184	2,320,65
Gross Profit	207,247	102,405	1,845,265	1,997,008	(151,743)	92%	2,405,184	2,320,65

	JAN 2023	FEB 2023	YTD ACTUAL	YTD BUDGET	VARIANCE	% OF YTD BUDGET	ANNUAL BUDGET	LAST YEA
Expenses								
Species Management								
Population Monitoring	4,295	26,689	30,983	24,468	6,515	127%	48,930	12,84
Harvest Assessment	-	-	-	-	-	-	2,000	3,50
Hatchery Operations	-	-	7,051	4,500	2,551	157%	9,000	1,70
Releases	-	162	473	502	(29)	94%	1,000	91
Game Bird Control compliants	-	-	444	-	444	-	-	75
Total Species Management	4,295	26,850	38,951	29,470	9,481	132%	60,930	19,79
Habitat Protection & Mngt								
Contact Sports Fish Management Plan	2,156	-	2,156	-	2,156	-	-	53,40
Resource Mngt Act	-	-	-	498	(498)	-	1,000	57,01
Works & Management	143	-	811	2,500	(1,689)	32%	5,000	3,13
Habitat Enhancement Research Fund Grants	-	-	2,870	-	2,870	-	-	
Total Habitat Protection & Mngt	2,299	-	5,837	2,998	2,839	195%	6,000	113,62
Participation								
Access and Signage	128	896	1,379	1,250	129	110%	2,500	2,60
Back Country Surveys/Monitoring	-	-	116	-	116	-	-	
Publications and Web Site	-	2,050	2,900	-	2,900	-	-	
OF&G Training Events	-	-	1,264	1,752	(488)	72%	2,000	2,02
Club Relations and Grants	-	-	-	498	(498)	-	1,000	1,13
F&G Advocacy at Popular Fisheries	9,444	4,236	14,856	24,000	(9,144)	62%	24,000	
Total Participation	9,573	7,182	20,515	27,500	(6,985)	75%	29,500	5,83
PUBLIC INTERFACE								
World Wetlands	-	-	-	1,000	(1,000)	-	1,000	
Liaison	-	-	200	498	(298)	40%	1,000	50

	JAN 2023	FEB 2023	YTD ACTUAL	YTD BUDGET	VARIANCE	% OF YTD BUDGET	ANNUAL BUDGET	LAST YEA
Media Releases	-	4,666	4,680	7,496	(2,816)	62%	14,840	1,21
Total PUBLIC INTERFACE	-	4,666	4,879	8,994	(4,115)	54%	16,840	1,78
COMPLIANCE								
Ranger Training and Expenses	494	267	2,806	3,250	(444)	86%	5,500	6,54
Compliance	-	-	-	2,500	(2,500)	-	5,000	2
Total COMPLIANCE	494	267	2,806	5,750	(2,944)	49%	10,500	6,56
LICENCING								
Agent Servicing	-	-	106	254	(148)	42%	500	44
Commission/Fees	3,980	2,934	61,702	52,428	9,274	118%	104,858	85,7C
Total LICENCING	3,980	2,934	61,808	52,682	9,126	117%	105,358	86,15
COUNCIL								
Council Meetings and Agendas	-	3,864	7,449	7,500	(51)	99%	15,000	14,0E
Total COUNCIL	-	3,864	7,449	7,500	(51)	99%	15,000	14,08
PLANNING & REPORTING								
Reporting/Audit	-	-	15,990	16,000	(10)	100%	16,000	16,89
National Liason	-	105	233	1,000	(767)	23%	2,000	24
NZC Liaison	-	11	16	-	16	-	-	
Total PLANNING & REPORTING	-	116	16,239	17,000	(761)	96%	18,000	17,13
ADMINISTRATION								
Salaries	92,734	61,064	359,414	409,468	(50,054)	88%	818,935	745,0E
Staff Expenses	1,004	1,341	10,577	12,508	(1,931)	85%	32,000	20,91
Office Premices	11,641	6,328	67,049	52,410	14,639	128%	104,839	105,9E
Office Equipment	14	73	915	1,250	(335)	73%	2,500	2,8C
Communications	1,656	1,866	8,664	10,948	(2,284)	79%	21,900	20,3E
General Exp (incl Insurance)	54	106	3,189	2,650	539	120%	3,900	2,79
General Field Equipment	18	131	1,392	1,650	(258)	84%	3,300	2,9E

	JAN 2023	FEB 2023	YTD ACTUAL	YTD BUDGET	VARIANCE	% OF YTD BUDGET	ANNUAL BUDGET	LAST YEA
Vehicles	3,998	5,533	34,233	29,498	4,735	116%	52,000	55,11
Total ADMINISTRATION	111,118	76,442	485,433	520,382	(34,949)	93%	1,039,374	955,99
Approved Reserve Expense	(5,417)	91	15,686	-	15,686	-	-	60,28
Depreciation	4,637	-	23,072	2,106	20,966	1,096%	4,222	60,10
NZ Fish & Game Levies	300,021	-	600,041	600,036	5	100%	1,200,082	959,24
University of Otago Research Grant	-	-	5,000	-	5,000	-	-	5,00
Weekly Fishing Reports/ social media	420	560	1,540	-	1,540	-	-	
Staff Employment Expenses	-	-	618	-	618	-	-	
Total Expenses	431,419	122,972	1,289,874	1,274,418	15,456	101%	2,505,806	2,305,60
Net Profit	(224,172)	(20,567)	555,392	722,590	(167,198)	77%	(100,622)	15,04

9.2 Licence Sales

Fish Licence Sales 2022/23 Season to 28th February 2023

See Appendix 1 for a table showing fish licence sales categories and numbers. This table shows fish licences sales for seasons 2021/22 and 2022/23 to the end of February of the season.

In summary, fishing licence sales in whole season licence equivalents (LEQs) 13,769.65 LEQs compared with 13842.08 LEQs for the same period last year.

Adult and family resident licence sales are down this year. All Non resident categories and day licences are up due to more tourism and good weather.

Fish licence revenue from the Profit and Loss statement for the 2022/23 season recorded to 28th February 2023 total \$1,792,252 compared with \$1,787,559 for the 2021/22 season. These figures include both resident and non resident sales.

Figures exclude GST and commission to agents.

The 2022/23 budget for fish licence sales is \$1,959,517 exclusive of GST. The Council looks on target to meet those sales.

Game Licence Sales 2023

The Gamebird licence sales began online and at agencies on the 9th of March 2023.

Agents Debts

Nil

9.3 Recommendations

- 1. That the Mining Rights Reserve be closed with remaining funds being transferred back into the Councils General Reserve**
- 2. That the finance and licencing report be received.**

Sharon Milne
Administration Officer
16/03/2023

Otago Region Fish Licence Sales to 28th February of the Season

2022/23																			
Channel	FWFA	FWA	FWNA	FSLA	FLAA	FLBA	FSBA	FDA	FDNA	FWJ	FWNJ	FDJ	FDNJ	FWC	FWNC	FDNC	SRSE	Total	Fish LEQ
Public	2065	2290	462	361	383	33	230	1874	1249	490	33	254	59	1481	11	28	0	11303	6,758.24
Agency	2169	3020	161	697	153	12	108	477	633	374	15	53	51	13	8	9	617	8570	7,011.41
Total	4234	5310	623	1058	536	45	338	2351	1882	864	48	307	110	1494	19	37	617	19873	13,769.65

2021/22																			
Channel	FWFA	FWA	FWNA	FSLA	FLAA	FLBA	FSBA	FDA	FDNA	FWJ	FWNJ	FDJ	FDNJ	FWC	FWNC	FDNC	SRSE	Total	Fish LEQ
Public	2072	2491	50	309	392	22	276	1714	57	424	6	169	0	1144	1	1	0	9128	6,298.9
Agency	2386	3451	6	748	169	9	149	485	12	386	0	44	0	17	0	1	0	7863	7,543.18
Total	4458	5942	56	1057	561	31	425	2199	69	810	6	213	0	1161	1	2	0	16991	13,842.08

FWF (Family), FWA (Adult), FWNA (Non Resident), FSLA (Senior Loyal), FLAA (Local Area),

FWJ (Junior), FWNJ (Junior non resident), FLBA (Long Break), FSBA (Short Break), FDA (Adult Day), FDJ (Junior Day)

FDNJ (day non resident Junior), FWNC (non resident Child), FDNC (day non Resident child day)

SRSE (Salmon Endorsement)

10.0 Chief Executives Report

Short period between meetings so a much briefer report than usual.

10.1 SPECIES MANAGEMENT

Lakes Fisheries Monitoring

Staff have visited Lake Onslow and sampled fish and made an assessment of access around the shores. A report is attached to this agenda.

Acoustics Survey of Southern Lakes

This has now been completed successfully. Lakes Hawea, Wakatipu, Wanaka and Dunstan were surveyed. The NIWA report on any changes to populations of southern lakes salmonids is due in May.

Monitor Key Fisheries

Staff have been involved in support for the university project undertaking habitat and electric fishing surveys of the Leith stream. The long term monitoring project on this urban stream is starting build a very useful dataset.

Lower Clutha Trout Competition

A huge organisational effort paid off with a good turnout to our Balclutha fishing event run in conjunction with Southern Police. Staff harvested a further 25 brown trout heads for the project and the Facebook page has had plenty of complimentary feedback. The article in the ODT was also well read.



10.2 HABITAT PROTECTION AND MANAGEMENT

Wetland/Reserve work

Time has been spent developing a long term programme of works for the Bendigo Wetland which staff are hoping will become an exemplar for other area. The same document will be used for funding applications to finance future works.

10.3 USER PARTICIPATION

Access

All access points are presently being digitised and uploaded to a dedicated access portal which will be housed in the F&G website. The unbudgeted project is being funded by modest contributions from all 12 F&G Regions just to get it completed.

Backcountry Fisheries

The Designated Waters proposal continues to be developed by a collection of NZC and regional staff with a view to implementation in the new fishing season. A survey/feedback form on the proposal was sent out to over 50,000 licence holders and information is flowing back. As was expected, there has been a lot of feedback from Australian anglers. Without pre-empting final results, it looks as if NZ anglers are largely in support of the proposal, especially the concept which limits non-resident angler days on some of our more popular clearwater fisheries.

10.4 PUBLIC INTERFACE

Media

A steady stream of media releases were distributed over the period – not all of them picked up by the media. The media release on the ballot for maimais on our wetlands was well distributed.

Stakeholder survey underway

Phone interviews with key stakeholders are almost complete and an email survey to a wider group has been sent out this week. The initial feedback from the consultant has been quite positive but they did hint that some themes are emerging which the organisation will have to work on. We should have a report on that for the May meeting.

10.5 COMPLIANCE

Prosecutions

Our new casual compliance support officer is working his way through around a dozen offences which are expected to be solved by way of diversions. Two face full court prosecution for obstruction or providing false or misleading particulars.

Rangers

Two new candidates have been interviewed for suitability – all from Central Otago which is promising. Two new staff have now completed the compulsory ranger safety course and will be warranted in time for the gamebird hunting season.

10.6 LICENCING

Game licence sales are underway and off to a smooth start. Staff will be encouraging early purchase to avoid the rush in the lead up to opening day.

10.7 COUNCIL

A failure of the main computer server in the Dunedin office prompted a overhaul of the system and a reassessment of its security. It is being upgraded shortly and aside from the odd technical hitch, it is limping through. Fortunately, most of our data and services are managed through the cloud now (Microsoft Sharepoint) so its only been a minor inconvenience.

10.8 PLANNING AND REPORTING

Strategic planning session

Thank you to Councillor's who provided feedback to the strategic priorities. It was more complex than expected to get the thoughts and ideas into some rational summary. You will have an opportunity at the meeting to tweak the goals and objectives but I am hoping that we won't have to revisit each topic in a substantial way.

Meeting venue change

We have been unable to settle on a date for a marae meeting so the May meeting will be held in Dunedin Office on the Thursday 18th May 2023.

Chardonnay Street property (Cromwell)

The tenants at the Cromwell section have moved on and staff are presently acquiring a valuation for the property, both for market value and lease rental. The long term use of the site needs to be discussed by Council as it does not presently deliver any value to licence holders.

For discussion

Recommendation

That this report be received

Ian Hadland
Chief Executive
March 2023

11.0 RMA Planning and Consents Report

9 February 2023 – 13 March 2023

Current Legislation, Policy and Planning Processes

There have been no changes to current legislation, policy and planning processes since the last report on 9 February 2023.

Current Notification processes

There are no current notification processes.

Written approval provided during the period

Applicant	Activity	Outcome
Otago Regional Council applications		
Clutha District Council	To undertake work in stream to replace the Walker Road bridge over the Crookston Burn	After securing volunteered consent conditions around spawning, fish passage and fish salvage, affected party approval was provided.
Manuherikia Catchment Group Incorporated	To vary a consent to build a wetland in a tributary of Thomsons Creek, including work in the mainstem of Thomsons Creek	Application was varied to allow in stream work to occur through April, due to delays. Fish and Game provided written party approval after in depth discussions with the applicant about mitigating spawning risks.
Central Otago District Council applications		
Peter Francis Hishon and Vicki Jan Hishon	To subdivide a property on the banks of the Manuherikia River, without creating an esplanade	On review, the river corridor was sufficiently wide to provide public access. Affected party approval was provided.

No written approvals were provided during the period for consents from the following bodies:

- Queenstown Lakes District Council
- Dunedin City Council
- Clutha District Council
- Waitaki District Council

Recommendation:

1. That this report be received.

Nigel Paragreen
Environmental Officer
13 March 2023

12.0 Committee & Delegate Reports

12.1 CFT

12.2 NZC

12.3 Ngai Tahu

12.4 Conservation Board

13.0 Correspondence

13.1 NZC to Otago

13.1.1 Update from NZC Meeting 161



14-2-2023

Re: Update from NZC Meeting 161

Tēnā koutou,

NZC met on the 10th and 12th of February, with a Governor's forum comprising Regional Chairs and NZC took place on the 11th of February. Full minutes will be available shortly, however we received very positive feedback on the short update we sent out at the last meeting and so will seek to do this immediately after each NZC meeting.

Decisions to note from NZC

1. NZC Chair:
 - a. Barrie Barnes was elected as the new NZC Chair.
 - b. Greg Duley, Dean Phibbs, Dave Coll and Debbie Oakley were appointed to the Executive Committee.

2. Non-resident levy
 - a. Following extensive discussion NZC resolved to:
 - i. Include the non-resident levy as general licence income from the 2023/24 financial year onwards.
 - ii. Leave existing regional reserves where they lie.
 - b. The primary reason for this decision is that analysis of licence income showed that including the non-resident levy as general licence income would reduce/offset the resident whole season licence by \$6. This is further consistent with the policy basis behind recommending the further increase to non-resident licence sales for the 2022/23 season.

3. Indicative licence fee
 - a. To assist regions in preparing budgets and contestable funding applications, NZC undertook a preliminary consideration of the licence fee. Note this is not a final decision and is subject to both evaluation against funding applications as well as the subsequent regional consultation.
 - b. For budgeting purposes, NZC is proposing an adult whole season fishing licence of \$149 and an adult whole season game licence of \$109 (inclusive of the \$5 GHBT stamp).
 - c. In conjunction with the decision on the non-resident levy this results in approximately \$1,400,000 available for contestable funding. Carmel will be in touch with managers directly to provide further information on this.

4. .410 lead shot
 - a. Following regional consultation NZC resolved to seek a one-year phase out of lead shot for .410 to provide opportunity for hunters to use existing ammunition and for suppliers to attain non-toxic alternatives. There was a strong view that .410 needed

to be retained, albeit with non-toxic shot, as an educational tool for younger hunters.

5. Funding decisions:
 - a. Two projects were funded from NZC reserves:
 - i. NBEA campaign - \$100,000
 - ii. Social licence campaign - \$60,000
 - b. One project was funded from RMA/Legal:
 - i. Development of practice notes to effect NPS-FM - \$53,450

6. Working groups:
 - a. Following the Governor's Forum NZC has established two new working groups and added an additional member to the Research Strategy group:
 - i. Future Finance
 1. This group is established to consider the organisational funding model and the way resources are allocated.
 2. The group will comprise two New Zealand Councillors (Debbie Oakley & Dean Phibbs) and two Regional Chairs, with the ability to co-opt on expertise as needed.
 - ii. Review Implementation
 1. This group is established to consider the non-legislative recommendations in the Ministerial Review, with an eye to reaching an organisational consensus and seeking legislation to enact changes.
 2. The group will comprise two New Zealand Councillors (Gerard Karalus & Dave Harris) and two Regional Chairs, with the ability to co-opt on expertise as needed.
 - iii. Research Strategy
 1. Mike Barker was added as an additional NZC member on the Research Strategy Subcommittee.

7. Taupō Fishery Advisory Committee
 - a. Debbie Oakley was appointed to the Taupō Fishery Advisory Committee, with Matt Osborne to attend as well to provide an operational link with DOC Taupō.

Governors Forum

1. The Governor's Forum was held on the 11th of February. The following topics were addressed:
 - a. Update on Natural & Built Environment campaign
 - b. Update on Wildlife & Conservation Act review
 - c. Update on lead shot in .410
 - d. Update on National party announcement about a spokesperson
 - e. Workshop on remuneration review and budget implications
 - f. Resource allocation
 - g. Review implementation
 - h. F&G Section 4 treaty responsibilities
 - i. Cost of firearms licencing.

2. Notes from this forum will be circulated to the organisation once governors have had a chance to review.

There are no decisions requiring formal consultation stemming from either meeting, although we will engage with Managers on the contestable funding budget and NZC will also seek nominations from regional chairs for the two working groups.

I hope you and your families are safe and sound with the wild weather hitting the country.

Nāku iti noa, nā



Corina Jordan
Chief Executive
New Zealand Fish and Game Council

13.2 Otago to NZC

Nil

13.3 General Correspondence In

13.3.1 Alexandra District Club

ALEXANDRA DISTRICT CLUB,
FISHING SECTION
35 Centennial Ave.
Alexandra.
10-03-2023

Fish & Game

Hi, Ben, On behalf of the Fishing Section of the Alexandra District Club they would like to convey their thanks for the support you gave us at our recent Take a Kid Fishing held on 12th February 2023 at Lewis McGregor's Pond It was a great success.

The fish were good to catch this year, they were just a good size and gave the kids plenty of fun.

About 88 kids fishing from all over Central Otago. (27 fish caught) not as many as last year, but with the change in venue I think it will get better.

Without support from people and companies like you we would not be able to run these type of events, which involve families, kids, etc to have a great day out, with a BBQ at the end of the day.

Thanks for stocking the pond and delivering the fish.

It was unfortunate that Fish & Game were unable to attend the event but it is a busy time of year.

Thankyou once again for your support.

Regards

Bob Mason
Secretary

13.4 General Correspondence Out

Nil

14.0 Items to be Received or Noted

14.1 Lagarosiphon Programme – Concern of Councillors

I have summarised below the concerns raised by Councillors relating to the use of diquat herbicide in controlling *Lagarosiphon major* on the Southern Lakes, primarily Paddock Bay in Lake Wānaka. The concerns highlighted have been sorted into the headings below. I have primarily used the two reports prepared for Environment Waikato and The Bay of Plenty Regional Council with some other online sourced material to support the summaries for each point.

The main points highlighted in the emails can be grouped into the sections below.

- **Repeated spraying of Diquat reduces biodiversity and creates an ecological wasteland**

Lagarosiphon major is a invasive aquatic plant that creates large dense mats that smothers and reduces native plant and aquatic biodiversity in freshwater ecosystems. As a single plant organism lagarosiphon reduces the variety of insect life and habitat, therefore reducing the energy available for sports fish, waterfowl, and native fish species. Repeated use of Diquat over many decades has not shown any demonstratable harm to native water plants and aquatic life, sports fish, and waterfowl in any of the high value lakes and waterways in New Zealand.

While insect life is visible on lagarosiphon weed beds, it is not an indicator of a healthy functioning biodiverse habitat, it is a result of insect life being forced to live on the outer edge of the dense weed beds. Due to the time lagarosiphon has been in our waterways we have become accustomed to its presence and what we perceive as its benefits to sports fish and waterfowl. We have adapted and become accustomed to the new normal of an environment dominated by lagarosiphon when native freshwater habitat free of lagarosiphon is more biodiverse and productive.

In areas where lagarosiphon has been successfully removed, native biodiversity has been enhanced through the restoration of diverse underwater ecosystems capable of supporting a healthy functioning ecosystem, which includes sports fish and waterfowl. The use of Diquat is currently a valuable tool in the toolbox for managers who are tasked with controlling this highly invasive weed, that dominates and modifies areas it occupies.

Research on Lagarosiphon beds found it smothers native mussel beds when dense lagarosiphon beds accumulate deep deposits of flocculent organic sediment and excludes recolonisation of freshwater mussel beds. Research has also found no demonstratable effect from Diquat on native freshwater mussels and eels.

There is no evidence that Diquat is an accumulative toxic. All research to date strongly indicates that diquat is rapidly broken down in water, is not carcinogenic or a mutagen and that it is broken down over a short period of time in sediments. Diquat does not harm native water plants, and there is no evidence it harms other aquatic life forms. The evidence suggests while Diquat has some limitations in its effectiveness to kill the longer stems and roots of lagarosiphon, the net benefit of lagarosiphon control produces a positive impact on biodiversity by removing/controlling a single plant organism that takes over, modifies, and dominates the space it occupies.

It is possible the sheltered nature of Paddock Bay has localised conditions that may be affecting the regeneration of native water plants to bind the sediment. Over time the native biodiversity will be restored as has occurred in other parts of Lake Wānaka and waterways elsewhere in the country.

- **Is lagarosiphon eradication achievable at this location**

Over time the Lake Wānaka lagarosiphon eradication program has successfully eradicated lagarosiphon from two thirds of the Lake using various methods (NZ Herald). Given enough time eradication is also likely in Paddock Bay. The success of the eradication program in Paddock Bay likely poses challenges specific to the site that require adaption of the program over time. Efforts to remove the last 1% of any invasive species usually requires the same resources required to remove the first 99%. Eradication of Lagarosiphon is desirable where possible to restore a healthy diverse functioning ecosystem where toxins are no longer used.

In relation to the reports of lagarosiphon growing on hessian weeds mats, this is not uncommon, and divers usually inspect for and remove newly established plants. This is not a failure of the program, just an indication of how hard it is to remove a highly invasive weed water plant once it has become established. It will require an ongoing program of work for the eradication of lagarosiphon in Paddock Bay to be successful.

- **Impact on visual amenity, toxic mud, fishing, biodiversity, and effectiveness of hessian matting**

Lagarosiphon beds produce a specific type of sediment as a direct result of rotting vegetation whether it is alive in weed beds or dying/dead from spray. Sediment is not unexpected due to the large dense beds that were once present and is likely to remain present until the lakebed is recolonised by native plants. Sediment samples collected from Rotorua Lakes which has a long history of Diquat use that has shown Diquat does not persist in sediment with decades of use.

While communicating with the Harbour Master recently he has indicated QLDC frustration with propeller wash from boats lifting the hessian mats in Paddock Bay. Work will be undertaken to relay hessian matts securely on the lakebed this year.

Hessian mats have been repopulated by native water plants successfully in other parts of Lake Wanaka to eradicate lagarosiphon. Thick layers of mud on hessian matting prevents native water plants from growing through the mats.

Fish and Game staff have been in Paddock Bay recently, with a “spectacular midge rise” observed early in the morning during the recent acoustic survey. Fish were seen feeding freely on the surface, while fish were not detected beneath the boat during the survey lots of surface fish activity was noted by all onboard. There has been no observable decline observed in any New Zealand fishery, post Diquat use over decades of use.

- **Is there any research currently being undertaken in the Southern Lakes on the effects of repeated diquat use?**

Monitoring of the spread and outcomes of the current lagarosiphon control program is highly likely the focus of the current program.

Considering the previous answers to questions about research put to LINZ and NIWA, I consider it unlikely any dedicated research on the effects of diquat is currently being undertaken. Diquat is registered for use in water by the EPA who have evaluated the risks of its use, and it is permitted by ORC when label conditions are complied with. Research programs have been undertaken to address concerns relative to Diquat use in NZ waterways that covers the concerns raised.

The WHO sets safe standards for human consumption in food for diquat due to its use in water and for food crop production. Providing sports fish and waterfowl are not harvested within 24 hours of diquat application they are safe to eat.

LINZ are running two workshops in early May about the lagarosiphon control programs in Lakes Wānaka and Dunstan. Otago Fish and Game staff are included in the workshops, and a Councillor is also able to attend.

- **Diquat use contributes to the loss of salmon and galaxiid’s populations**

It is highly unlikely Diquat use could be directly linked to the decline in the Lake Wānaka Salmon. The Lake ecosystem is a complex environment and there is no evidence to suggest diquat is responsible for the decline in the Lake Wānaka salmon population. Lake Benmore currently has two healthy salmon populations that coexist with a Lagarosiphon control program. Trout would be equally affected as salmon, and there has been no observable impact on trout in any New Zealand waterway from decades of diquat use.

There is strong evidence trout and low water levels from irrigation are the main cause for the decline of galaxiids in a recent paper released in the Ecological Journal of New Zealand ²

Prepared by David Priest
Operations Manager, Cromwell
9th March 2023

Excerpts relevant from the Environment Waikato and Bay of Plenty Regional Council papers.

Lagarosiphon “Weed invasions result in fundamental changes to the architecture of the vegetated littoral zone, causing a shift from a diverse, multi-layered structure with high community surface area to a less complex, one level surface layer provided by dense monospecific weed beds. This change is likely to have complex flow-on effects for biofilm organisms, zooplankton and macroinvertebrates. A positive effect of macrophyte complexity (e.g., contrasting architecture) on macroinvertebrates richness has been attributed to an increase in the number of niches, and the ‘microhabitats hypothesis’ suggests greater macroinvertebrate numbers occur where there are more spaces in complex habitat (Ferreiro et al. 2014). By contrast, the ‘refugia hypothesis’ postulates that complex architecture has a negative effect on fish predation, whilst the ‘food availability’ hypothesis suggests that complex architecture favours the presence of epiphytic algae and detritus as food for macroinvertebrates (Ferreiro et al. 2014). There is also evidence that numerical macroinvertebrate abundance and composition may be driven by factors other than those for macroinvertebrate biomass (Ferreiro et al. 2011).

For dense weed beds, higher macroinvertebrate biomass, density, and taxa richness was observed in the canopy and edges of the bed (Sloey et al. 1996). This may explain contradictory findings for lagarosiphon effects on macroinvertebrates in New Zealand. In Lake Wanaka, the numerical abundance of macroinvertebrates was higher per unit area within taller lagarosiphon beds than the low-stature native vegetation (isoetes, milfoil, charophytes) at an equivalent depth (Kelly and Hawes 2005). However, where lagarosiphon biomass in Lake Dunstan was reduced by harvesting, macroinvertebrate abundance was enhanced per unit macrophyte biomass (Bickel and Closs 2009). Lagarosiphon biomass was 12-fold greater in Lake Dunstan than Lake Wanaka, suggesting very dense beds provide poorer habitat for macroinvertebrates.

Also controversial is the role of native versus invasive weeds in providing a refuge for fish prey species and ultimately whether this role is of value for fisheries. For instance, it is thought that lagarosiphon in New Zealand lakes may reduce fish access to macroinvertebrate food (Kelly and Hawes 2005), whereas harvested channels within large lagarosiphon beds may enhance fish access and feeding (Bickel and Closs 2009). Stable isotope studies showed

invasive weed-dominated assemblages in a North American lake were contributing lower energy to higher trophic level, as littoral fish, than assemblages associated with native vegetation (Kovalenko and Dibble 2014). Predator-prey experiments with different plant species and artificial plants indicated modification of predator-prey interactions would only occur where invading plants were radically different in growth form, density and rigidity compared to native plants (Grutters et al. 2017).

A PhD Thesis (Graham 1976) found no evidence of impacts from diquat use in Lake Rotoiti on trout fisheries, plankton or benthic organisms, with the conclusion that deactivation via sedimentation, adsorption and degradation of diquat meant continued long-term use was acceptable. Studies on the outcomes of herbicide use for lake ecology are limited. However, in one example responses to the selective reduction of an invasive macrophyte using herbicides had no detrimental impact on littoral fish and macroinvertebrates due to rapid restoration of the native vegetation (Kovalenko et al. 2010).

“Lagarosiphon beds in Lake Wanaka were found to be more productive (carbon fixation) per unit area than native vegetation in the comparable depth zone, with higher productivity again suggested for large weed beds in more nutrient enriched New Zealand lakes (Kelly and Hawes 2005). This productivity may contribute to the observation that dense lagarosiphon beds accumulate deep deposits of flocculent organic mud (Caffrey and Acevedo 2007)”.³

In relation to the observations of “anoxic mud” in Paddock Bay.

“Adsorbed diquat has no residual toxicity, is not biologically active and is degraded slowly by microbial organisms within sediments. No accumulation of diquat could be detected in sediment at sites that have been regularly treated for decades (HortResearch 2001). A PhD Thesis (Graham 1976) found no evidence of impacts from diquat use in Lake Rotoiti on trout fisheries, plankton or benthic organisms, with the conclusion that deactivation via sedimentation, adsorption and degradation of diquat meant continued long-term use was acceptable. Studies on the outcomes of herbicide use for lake ecology are limited. However, in one example responses to the selective reduction of an invasive macrophyte using herbicides had no detrimental impact on littoral fish and macroinvertebrates due to rapid restoration of the native vegetation (Kovalenko et al. 2010). An investigation into the impact of weed beds and diquat spraying on kākahi in Lake Rotorua (Wells and Clayton 1996) showed the negative influence of unconsolidated substrate, often associated with dense weed beds (61geria), was significant whilst diquat treatment history (including sampling before and after) was not. It also established that chronic exposure of kākahi to diquat in excess of that which would be experienced during operational use (five times the allowable diquat concentration for two months) did not result in mussel death (Wells and Clayton 1996)”.⁴

References

1. [‘Weed mat’ for lagarosiphon control promising – NZ Herald](#)
2. [The impact of trout on galaxiid fishes in New Zealand | NZES \(newzealandecology.org\)](#)

3. Informing management of aquatic plants in the Rotorua Te Arawa Lakes. Prepared for Bay of Plenty Regional Council. April 2019. Mary de Winton. NIWA
4. Review of Diquat reports of Relevance to Iwi Values in Lake Karapiro. Environment Waikato Technical Report 2006/03. John Clayton and Charlotte Severne (NIWA)

Appendix One Map of Current Lake Wānaka Program



Boffa Miskell
www.boffamiskell.co.nz

This plan has been prepared by Boffa Miskell Limited on the specific instructions of our Client. It is solely for our Client's use in accordance with the agreed scope of work. Any use or reliance by a third party is at that party's own risk. Where information has been supplied by the Client or obtained from other external sources, it has been assumed that it is accurate. No liability or responsibility is accepted by Boffa Miskell Limited for any errors or omissions by the extent that they arise from inaccurate information provided by the Client or any external source.

0 1 km
1:40,000 @ A3
Data Sources:
Topo map sourced from LINZ Topo 50 map series
Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND
Boat herbicide

LINZ 2022/23 BIOSECURITY
Proposes Weed Control, Lake Wanaka
Date: 17 February 2023 | Revision: 0
Plan prepared for LINZ by Boffa Miskell Limited
Project Manager: marcus.girvan@boffamiskell.co.nz | Drawn: BMC | Checked: JLo

14.2 Summer Advocates 2022-23

Executive summary

Two temporary staff were hired as summer advocates to raise angler awareness of Fish & Game and to improve angler success on the Southern Lakes and upper Clutha. The summer advocates made a total of 128 angler contacts over their time of employment with an average of 5.12 angler contacts per work day. The locations with the most contacts were the Hāwea boat ramp (35), Hāwea south shore (18), Diamond Creek (14) and Diamond Lake (12). The busiest day had a total of 19 angler contacts recorded, however there were also a number of days with no angler interactions. Most contacts were recorded as positive interactions, with anglers appreciating the friendly approach and advice offered by the advocates. Future recommendations for the project include incentivising anglers, increasing contacts to include non-angling individuals, set weekend work hours and starting and finishing the contracts a week earlier.

Introduction

The Queenstown Lakes District undergoes a rapid tourist influx over the summer holiday period. Both domestic and international tourists congregate on the Southern Lakes to enjoy the warm weather, clear skies, and calm lakes during this period. This creates an influx of anglers visiting the region leading to increased activity on the lakes and rivers. To increase Otago Fish & Game's presence over this busy period two summer advocates were employed, one a university master's student from Dunedin who had previously worked with Southland Fish & Game, the other a recent graduate ecologist from Ohakune.

The overall objective for the project was to raise angler awareness of Fish & Game and to improve angler success on the Southern Lakes and upper Clutha. The project aim was to concentrate on areas with high angler traffic to maximise contacts. During an angler contact the advocates would check licenses (the master's student being warranted F&G ranger through Southland Fish & Game), offer some friendly advice, offer Fish & Game educational materials as well as conducting a basic survey regarding catch rates.

The summer advocates started work on the 28th of December and concluded on the 3rd of February, working a total of 28 days each. Three of those days were assisting the Clutha Fisheries Trust with electric fishing up the Cardrona valley, with one day also assisting with a creel survey on Lake Hāwea. This resulted in 25 days in the field surveying anglers. The summer advocates worked a mixture a weekdays and weekends, however it is worth noting limited weekend days were worked after New Year's Day. The summer advocates were mainly based out of Wānaka, except for three nights in which they were based out of the Fish & Game hut in Glenorchy. The advocates mostly ranged around boat ramps on the main lakes (Wānaka, Hāwea, Wakatipu) for the first two weeks of their employment, before shifting to other locations as lake traffic decreased. Due to angler use on the main lakes decreasing, the advocates travelled further seeking more angler interactions on rivers and reservoirs including day trips to Poolburn and Ranfurly as well as overnighting in Glenorchy.

Results

The summer advocates made a total of 128 angler contacts over their time of employment with an average of 5.12 angler contacts per day. There were large fluctuations in the number of contacts made depending on the day (Figure 1). The 11th of January was the day with the most contacts with 19 angler contacts made. No angler contacts were made on the 8th, 20th, 27th of January or the 3rd of February. Out of the total 128 contacts that were made with anglers, Hāwea had the most (75), followed by Wakatipu (33). Only ten interactions were recorded around Wānaka, six around Lake Dunstan and only two at Poolburn Reservoir. The average number of contacts made per day through the holiday period was 5.12, when broken down into weeks the advocates averaged 6.25 through their first week, then peaked at 9.67 for their second week before steadily declining down to only averaging 1.2 contacts per day in week six (Figure 3).

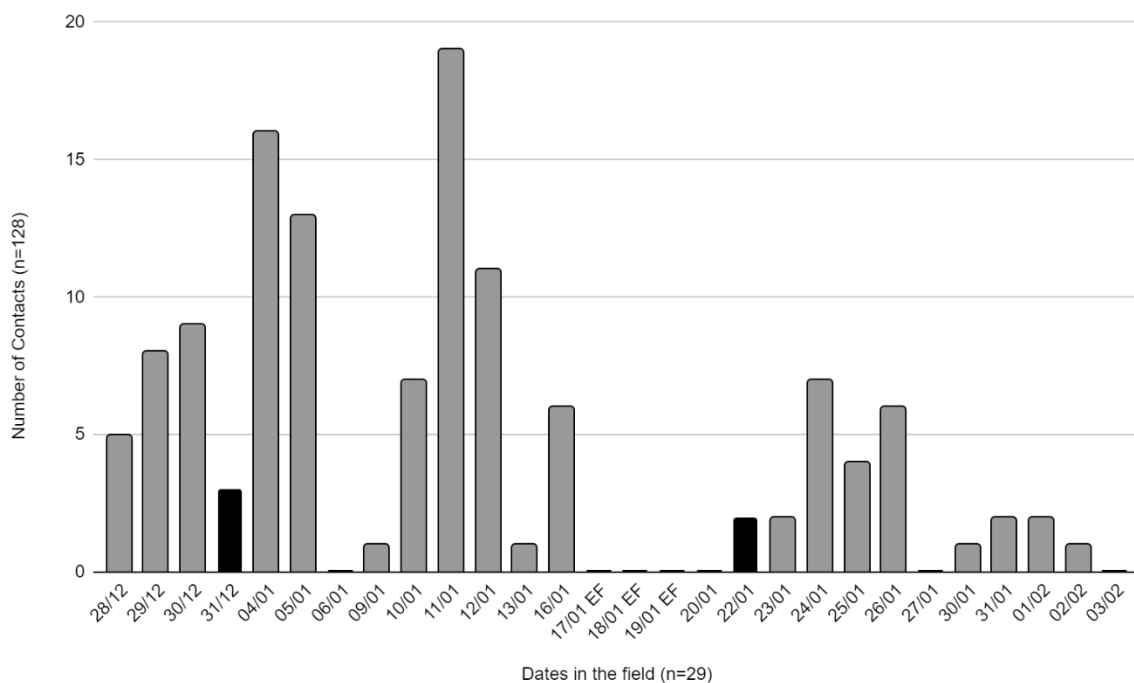


Figure 1: Number of angler contacts made by summer advocates per worked day, weekdays shown in grey, weekends are shown in black, EF stands for electric fishing days that the summer advocates were not making contacts.

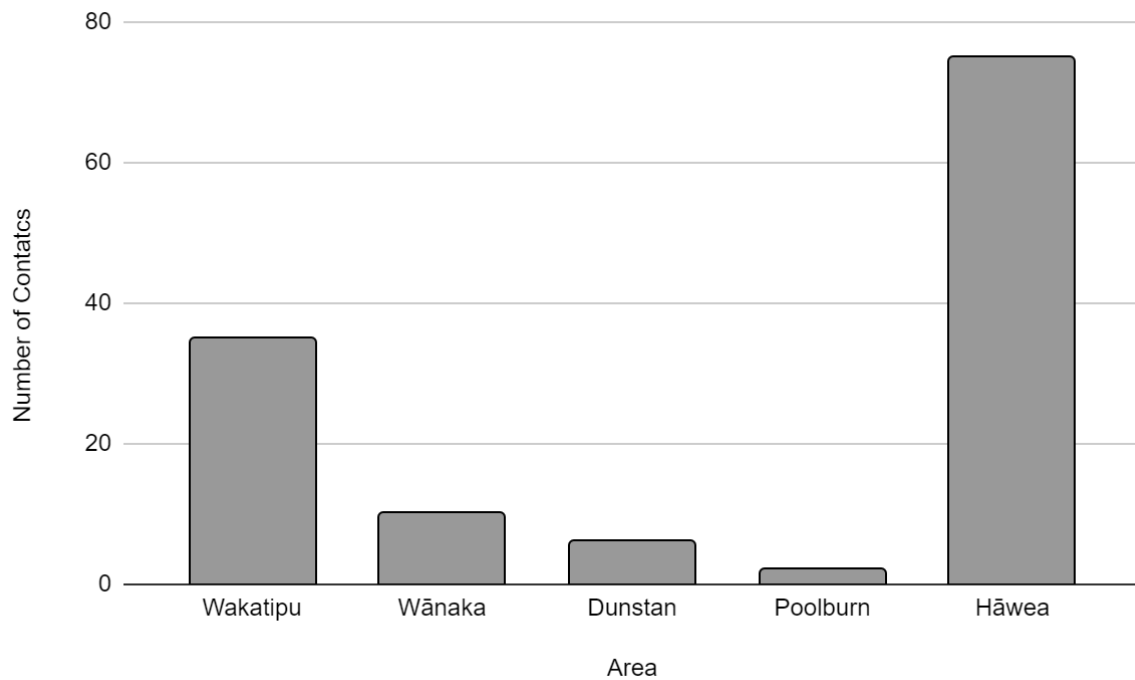


Figure 2: Total number of angler contacts made by the summer advocates per area within the Otago Region over the holiday period (28th December – 4th February)

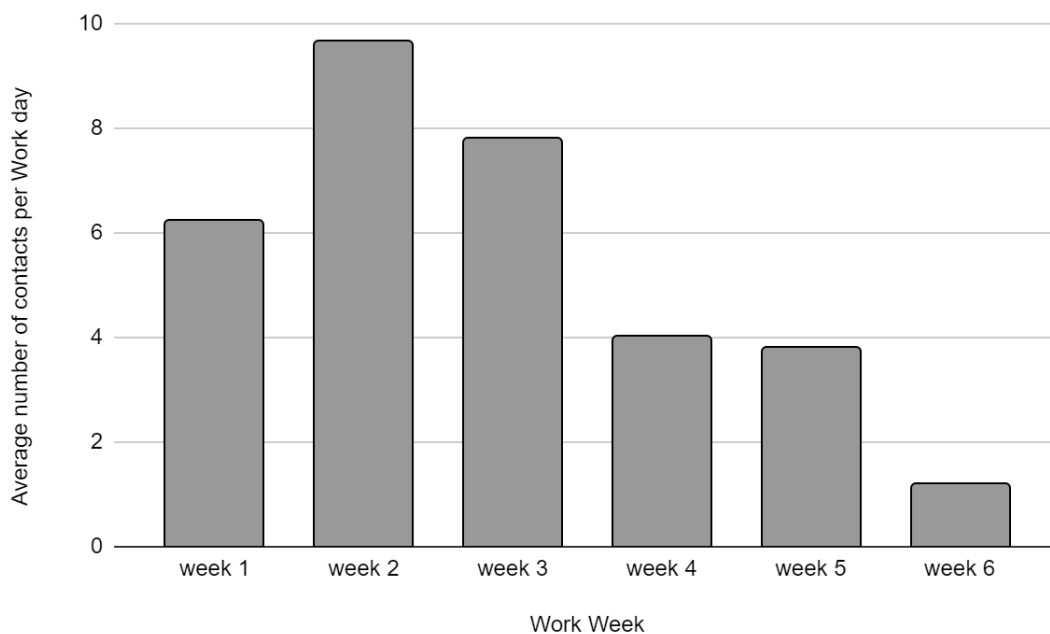


Figure 3: Average number of angler contacts made per day by the summer advocates by work week (Monday-Sunday) during their employment period of 28th of December through to 4th of February.

Discussion

The summer advocates spoke to a total of 128 anglers resulting in five offences, clearly showing the benefit of having a warranted ranger as an advocate during the peak holiday time. The summer advocate expressed issues with approaching people at the boat ramp during the peak times as they mentioned that people appeared agitated and that “they did not want to get in the way”. One possible solution to this would be incentivising anglers with rewards such as free fishing lures for children or entries into a draw for a voucher. This would encourage anglers & non-anglers alike to come up and talk to the advocates as they will believe that they are being rewarded for their time.

Angler contact numbers were extremely variable and appeared to be dependent on weather conditions, timing, and location. The Hāwea boat ramp had the largest number of angler contacts which is likely due to the summer advocates spending the greatest amount of time there. Hāwea Boat ramp had the most time invested into it due to limited anglers contacted at the Wānaka and Dunstan boat ramps during the advocates first and second weeks. The summer advocates struggled to contact river-based anglers as their chance of intercepting them was limited to the period spent setting up at their vehicle or were within sight from the road. Lake activity started relatively high but reduced over the summer advocates employment period. One possible solution to avoid this would be the advocates starting before Christmas to catch the initial lake users as well as make themselves familiar with the local area ensuring that they don't miss out on high use times, this would also allow them to finish a week earlier as angler traffic decreases.

In conclusion we believe that summer advocates have increased the awareness of Fish & Game on the Southern Lakes, but are unsure of an increased success rate in angler contacts. Although the positive contacts and offences detected was pleasing, the total contacts made by the summer advocates was well under what was expected. If advocates are used in future they will require more in depth training and guidance from knowledgeable staff in order to maximise contacts with anglers and gain an understanding of angler traffic in the region. It is worth discussing if increasing peak use boat surveys may be more beneficial as during the advocates employment the OFG7 boat averaged 12.3 licence checks per day on Wānaka, Hāwea, Wakatipu, Roxburgh and Manorburn. This was seven licence check/contacts higher than the summer advocates who were working the same area. With the increase in staff able to operate the boats next summer, it would allow for more peak lake surveys whilst still managing staff workload. If one or two extra staff were employed to assist on peak surveys, then the more knowledgeable staff members would be able to survey the popular areas hopefully increasing contacts and license checks.

As this was the first year the summer advocate program was run it is expected to encounter some issues, it is noted that whilst some of the recommendations in this report could improve the success of the project, they may make it difficult to find suitable employees over the summer holiday period as spilt shifts and weekend work are not often looked upon as favourable.

Recommendation

That this report be received

Mason Court

Fish & Game Officer

March 2023

References

Sowry, B. 2022. Council Report. Project 1122 – Creel surveys of Lake Wanaka, June 2022. Unpublished Report, Otago Fish and Game Council, Dunedin.

14.3 Lake Onslow Gillnetting March 2023



Photo 1: Launching the boat in low lake levels.

Summary

A 2023 gillnetting survey was conducted on Lake Onslow and yielded a dataset of 55 brown trout which showed the trout were largely in poor to fair condition and there was a lack of large fish. The survey also found that the condition factor of Lake Onslow brown trout declined as body length increased, suggesting a lack of suitable prey species for larger trout. A comparison of catch rates and physical characteristics with a 2005 gillnetting survey showed no significant changes, but it should be noted that the methods used were not consistent between the surveys.

The small size of the trout in Lake Onslow was attributed to a decrease in invertebrate population resulting from the receding lake level. Analysis of the stomach contents of the netted trout is planned to gain further insight.

There were concerns around angling amenity and safety and it was concluded that the current lake conditions are likely to discourage some anglers from utilizing the lake.

Introduction

Staff initiated a gillnetting project on Lake Onslow in response to Council concerns regarding low water levels, low trout numbers, and unsatisfactory trout condition. Additionally, there was a concern that the previous ecology work conducted for the Lake Onslow battery project did not adequately recognise the significance of koura (freshwater crayfish) and cicadas in sustaining the fishery. The intent of the project was to look at weight, length and condition of the trout in lake, and gain an understanding of the trout abundance and diet at the time of the survey.

The lake was previously gillnetted in November 2005 and although the methods aren't consistent between the surveys, results have been compared where possible.

Staff also investigated concerns regarding safe access for anglers using boats or fishing from the shore during periods of low lake levels.

Method

Sinking monofilament gillnets were set parallel to the shore along the lakebed at various locations around Lake Onslow. Sites were selected to cover a range of depth habitats utilising staff knowledge of the lake and the boat's fish finder.

Gillnets were set on March 2 for an evening set for around 2.5 hours and then reset in similar habitats for an overnight set of around 14 hours, locations of sets are shown in *Figure 1*, full details of sets can be found in *Appendix 1*.

The lake level was 2.8m below full during the 2023 sampling, this is just over halfway down to the consented minimum lake levels (-5.2 m). In the leadup to the survey, it appears the lake had gone through a sustained and consistent drawdown pattern.

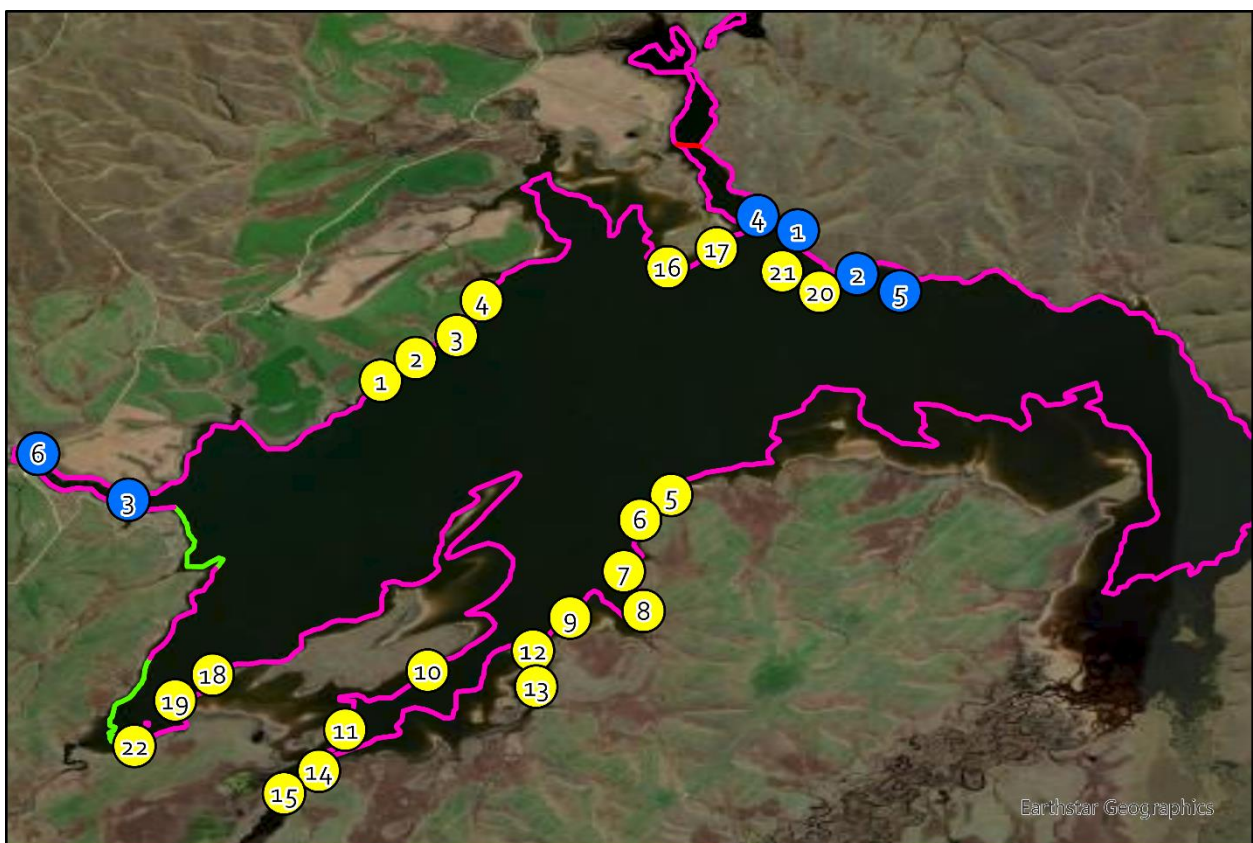


Figure 1: Satellite image of Lake Onslow while nearly full. Pink outline shows the approximate shoreline during the 2023 gillnetting, approximate sections of shoreline walked by staff to assess bank safety shown in green and the upper extent of boatable water near the north branch outlet shown in red. Gillnet sets shown as circles, blue for 2023, yellow for 2005.

For the 2023 sampling each set consisted of a fine and coarse mesh net deployed end to end, except for one double length net that consisted entirely of fine mesh. Mesh was measured stretched from knot to knot. Full net details can be found in *Appendix 1*.

CPUE was measured in fish caught per hour per 100 metres of net.

Captured fish were weighed to the nearest gram using an electric scale and their fork length was measured to the nearest mm. Fulton's condition factor for each trout was calculated using the following formula:

$$\text{Fulton's condition factor} = \frac{W * 10^5}{L^3}$$

Where W is weight in grams and L is the fork length measured in millimetres.

Condition factor was categorised according to Barnham PSM & Baxter, 1998 Barnham PSM & Baxter, 1998 Barnham PSM & Baxter, 1998 Barnham PSM & Baxter, 1998 as follows in *Table 1*:

Table 1: Condition factor bands with description.

1.60	Excellent condition, trophy class fish.
1.40	A good , well-proportioned fish.
1.20	A fair fish, acceptable to many anglers.
1.00	A poor fish, long and thin.
0.80	Extremely poor fish, resembling a barracouta; big head and narrow, thin body.

Changes in physical attributes were tested for significance between sample years using a Welch's t-test. Due to the low numbers of samples, changes in catch rates were tested using a non-parametric Mann-Whitney-Wilcoxon Test.

The majority of fish were kept as samples for otoliths, stomach content assessment and potentially stable isotope analysis. Some fish were that were easily untangled were measured and released unharmed. Gastric assuage to retrieve stomach samples from live fish was attempted using the "mechanised pressure" method described in Kamler & Pope, 2001Kamler & Pope, 2001Kamler & Pope, 2001Kamler & Pope, 2001 but found to be impractical in the relatively small boat.

Lake clarity was measured using a Secchi disk from the boat in deep water. Five readings at two sites using two observers were recorded and averaged.

One fish caught by a flyfishing angler with a cicada imitation on the morning of March 3 was donated for samples but largely excluded from further analyses.

The 2005 gillnetting has not been previously reported on however the methods appear to be largely based on the West Coast Fish & Game netting program outlined in .(Crosswell, 2018 and Newton, 2019, 2021)..(Crosswell, 2018 and Newton, 2019, 2021)..(Crosswell, 2018 and Newton, 2019, 2021)..(Crosswell, 2018 and Newton, 2019, 2021).

Results

Water Clarity

Secchi depth in the lake was measured around midday on March 3 (*Table 2*).

Table 2: Secchi disk measurements and the average value

Trial	Observer	Site	Depth (m)
1	Jayde Couper	Near boat ramp	2.6
2	Jayde Couper	Near boat ramp	2.7
3	Jayde Couper	Near dam	2.7
4	Jayde Couper	Near dam	2.8
5	Steve Dixon	Near dam	2.8
Average			2.72 ± 0.17

The lake's clarity was limited, as indicated by the relatively low Secchi depths. However, this is expected for a tannin-stained lake and is likely normal for Lake Onslow. Gillnets are typically thought to be more effective in lower clarity water due to reduced visibility of the nets (Portt et al., 2006)(Portt et al., 2006)(Portt et al., 2006)(Portt et al., 2006).

Catch rates

In each sampling year, both coarse (125mm) and fine (54-65mm) nets were set, however no fish were caught using coarse nets in either survey suggesting that the mesh of the coarse nets was too large to catch the relatively small fish in Lake Onslow. Because the proportion of fine- to coarse-mesh net use was not kept constant between the surveys, the data from the coarse nets have been excluded from analysis to prevent skewing the data.

Due to limited time frames and the need to collect enough samples, evening and overnight sets were chosen. Overnight sets are thought to have higher catch rates than daytime sets however nets have also been shown to reduce in efficiency as soak time increases and the number of fish in the net increases (Olin et al., 2004Olin et al., 2004Olin et al., 2004Olin et al., 2004) this is called net saturation and occurs as fish actively avoid areas of nets with fish already entrained. It is unknown exactly how these factors interact making comparison of catch rates between the two surveys difficult.

Figure 2 is a boxplot of the catch rates between the surveys with the coarse nets removed from the analysis. The box plots in this report can be interpreted as follows: The top and bottom of the box indicates the 25th and 75th percentile or interquartile range (iqr), the median is shown by the line within the box. The lines extending above and below the box indicate 1.5 times the iqr. Values outside that can be considered outliers and are plotted as individual points.

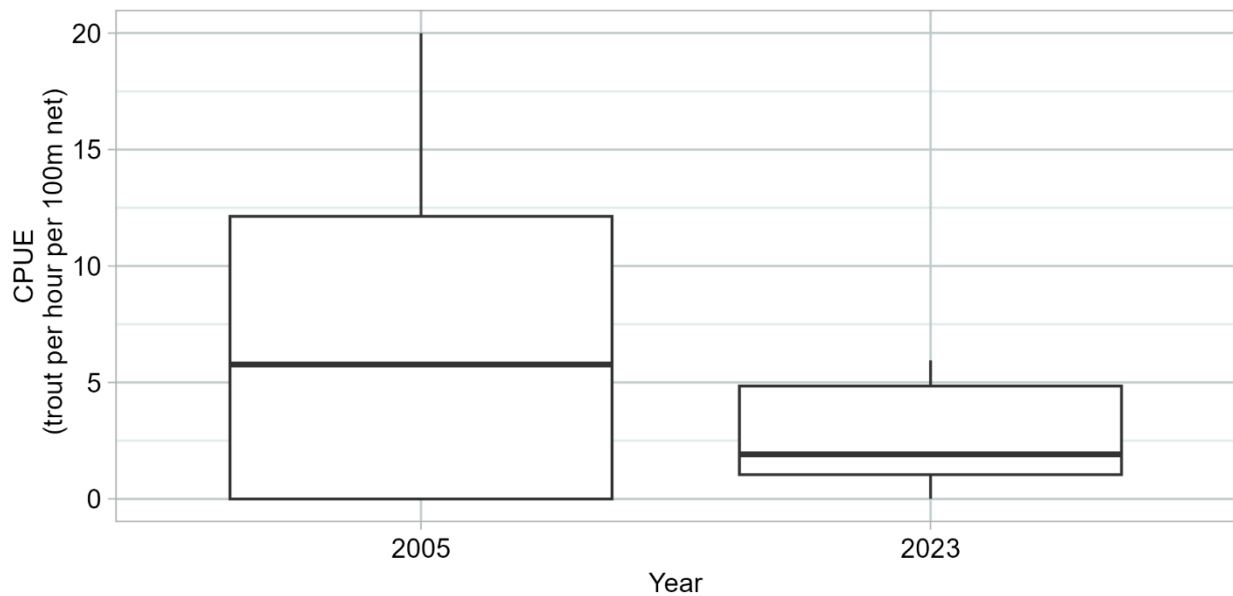


Figure 2: Boxplot showing catch rates between survey years expressed as trout per hour per 100 metres of net.

The overall mean CPUE for 2023 was 1.64 although this increased to 2.73 when the coarse nets were excluded. When compared to other gillnet surveys (Crosswell, 2018; Newton, 2019, 2021)(Crosswell, 2018; Newton, 2019, 2021)(Crosswell, 2018; Newton, 2019, 2021)(Crosswell, 2018; Newton, 2019, 2021) conducted on the West Coast, this year's CPUE appears to be within a typical range, indicating that the population densities may be typical as well. The average CPUE of fine nets in 2005 of 7.22 is considered high for a gillnetting survey.

Between the years the CPUE has dropped but not significantly so ($p=0.38$). The large p value appears to be due to the presence of zero catch sets and an overall lack of sets, especially as the coarse nets were excluded from this analysis.

After analysing the data and accounting for the change in methods, there is insufficient evidence to support a change in the population density of the lake between the two surveys.

Physical attributes

Figure 3 depicts the lengths of brown trout in each year's sampling.

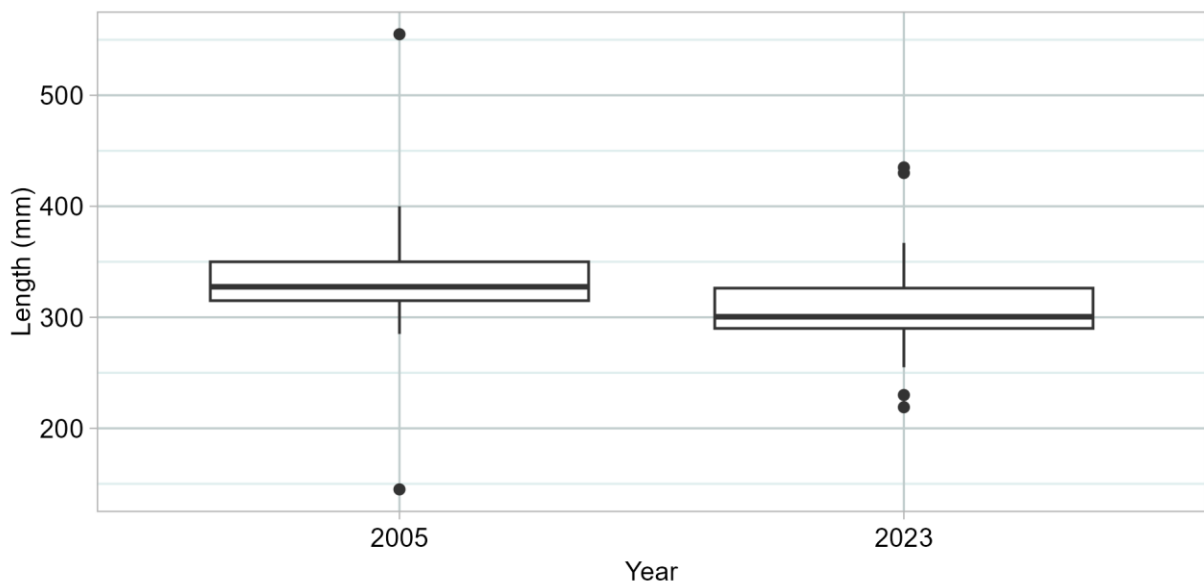


Figure 3: Box plot showing lengths of brown trout captured in Lake Onslow in 2005 and 2023

The median length of fish caught in the 2023 sets was only 300mm, anecdotal experience of staff suggests this is around or just above the length that anglers will start to harvest fish assuming the fish is in reasonable condition. There were very few large fish caught with only three exceeding 350mm.

The single angler-caught fish from 2023 was 568mm, over 100mm than any caught in this year's gillnetting which suggests that the fish caught in the nets may not represent the entire population of the lake.

Across the 2005 and 2023 surveys there has been a drop in the average length although it is not considered statistically significant ($p=0.11$).

Figure 4 illustrates the difference in weights for the gillnetted trout.

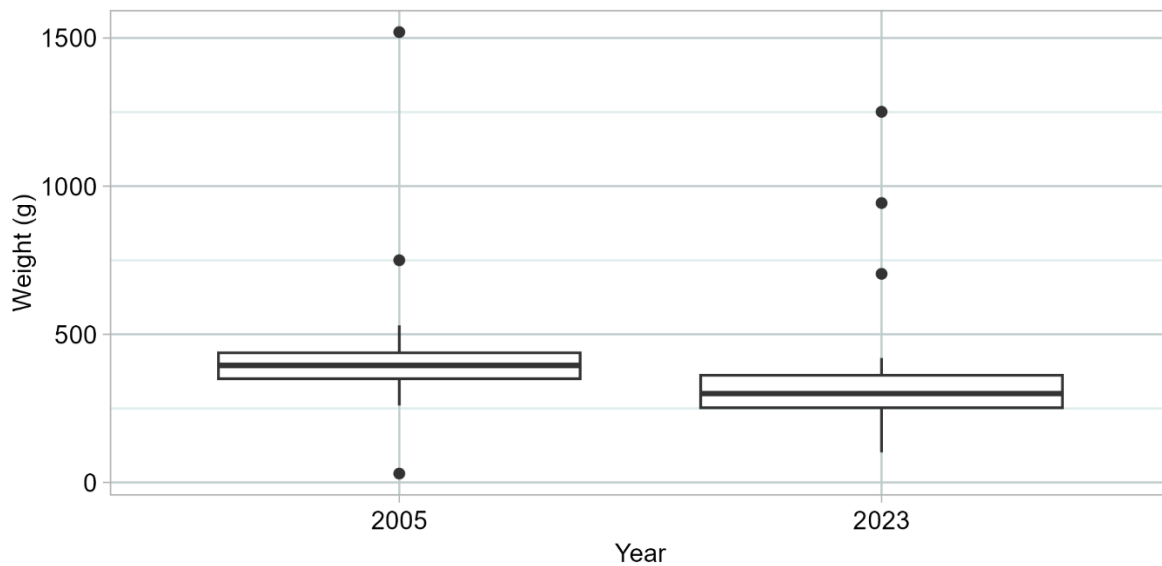


Figure 4: Box plot showing weights of brown trout captured in Lake Onslow in 2005 and 2023

In 2023, the median weight of the caught fish was 299 grams, with the maximum weight being 943 grams and the minimum weight being 101 grams.

The weight of the fish showed a comparable decline to their lengths across the two sample years, albeit more pronounced. Despite this, the decrease in weight was not statistically significant with a p-value of 0.07.

Figure 5 and Table 3 show the condition factor and condition category across the two surveys.

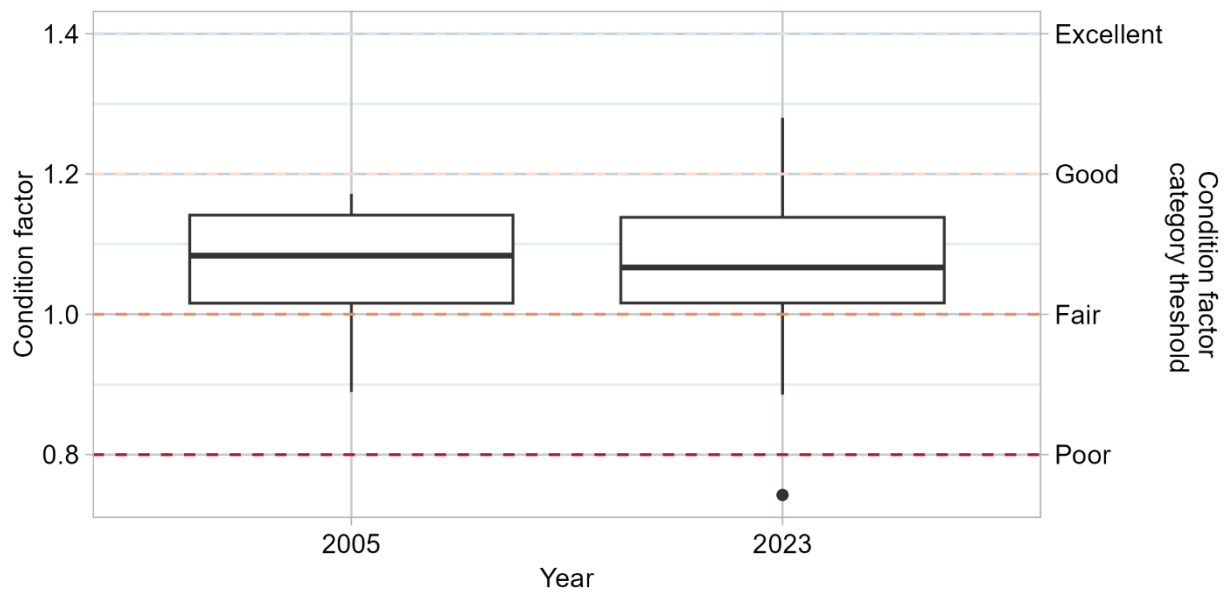


Figure 5: Box plot showing condition factor and condition category of brown trout captured in Lake Onslow in 2005 and 2023.

Table 3: Percent of trout in each condition factor category by capture year

Condition Category	2005	2023
Good	0.0%	5.7%
Fair	80.0%	73.6%
Poor	20.0%	17.0%
Extremely poor	0.0%	3.8%

Over 20% of the trout caught in 2023 were in poor or extremely poor condition (Table 3) indicating a trout population under stress. The single angler-caught trout (Photo 2) had a condition factor of 0.68 which is considerably lower than even the worst conditioned fish caught in the gillnets which had a condition factor of 0.74.



Photo 2: An extremely poor conditioned fish caught by an angler. L=568mm, W=1251, condition factor=0.68.

There was almost zero change in the overall condition factor between the two years ($p=0.79$). There was however slightly more variation in condition factor for the 2023 survey compared to 2005 (Figure 5).

The relationship between condition factor and length of trout was not constant across all size classes, this variability is portrayed in Figure 6.

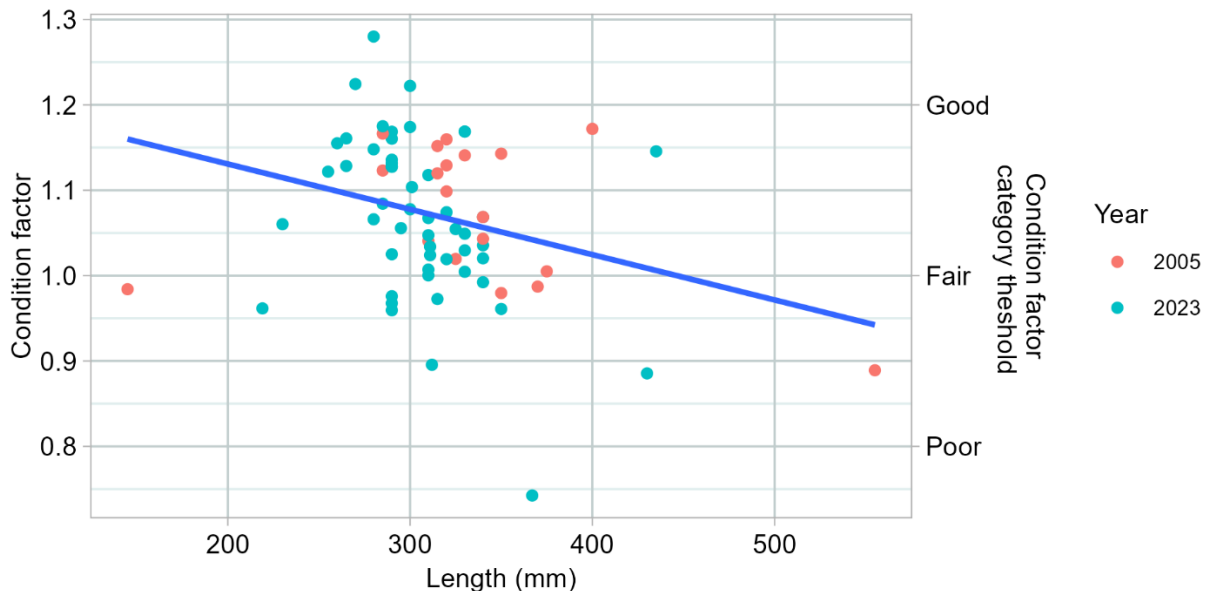


Figure 6: Length of fish against condition factor with the linear relationship between them shown in blue.

Looking at all the available data there was a significant negative relationship between condition factor and the length of trout ($p=0.01$). This means that longer trout tended to be in poorer condition. While the overall relationship was significant, there was considerable variation among individual fish, indicated by a low r-squared value of 0.125.

The datasets from both 2005 and 2023 showed that fish with longer lengths tended to have lower condition factors, although this pattern was more pronounced in the 2023 data. Compared to those measured in 2005, the 2023 fish displayed a greater decrease in condition factor with increased length with an average decline of 0.089 for every 100mm increase in length, whereas only 0.035 was observed in 2005.

Lake access

While carrying out the gillnet survey, staff took notes on any access difficulties caused by the low lake levels. Three key issues were noted while carrying out surveys: the length of the boat ramps, risks associated with beaching the boat and the risk of people on foot getting stuck on the margins of the lake.

It appeared on the day of the survey that the lake was approaching the minimum level that the boat ramp would remain usable. Staff were able to launch the boat however the truck's back wheels were in sediment, this could be an issue for smaller and/or two-wheel drive launching vehicles. We were unable to tell how far the boat ramp extended out in the lake as it was covered in sediment that was too slippery to safely walk on.

Staff also investigated the access to the North Branch of the Teviot River. As we approached the red line shown in *Figure 1* we bottomed the boat out in what appeared to be deep sediment. As we were travelling slowly at the time, we managed to get the boat out using the outboard. Staff felt that exiting the boat at that stage would be unreasonably dangerous. It's important to note that we were outside the relatively small area that Pioneer have declared is safe for boating on their new sign (*Photo 3*).



Photo 3: Newly erected boating information sign near the hut settlement.

We walked around 1.5 km of shoreline near the huts and the mouth of Fortification Creek (*Figure 1*), alternating between walking just above and just below the water's edge. The area near Fortification Creek has been noted in the past as being a particularly treacherous when the lake level is low. Substrate over large areas of the shore both above and below the water were dominated by clay and sediment.

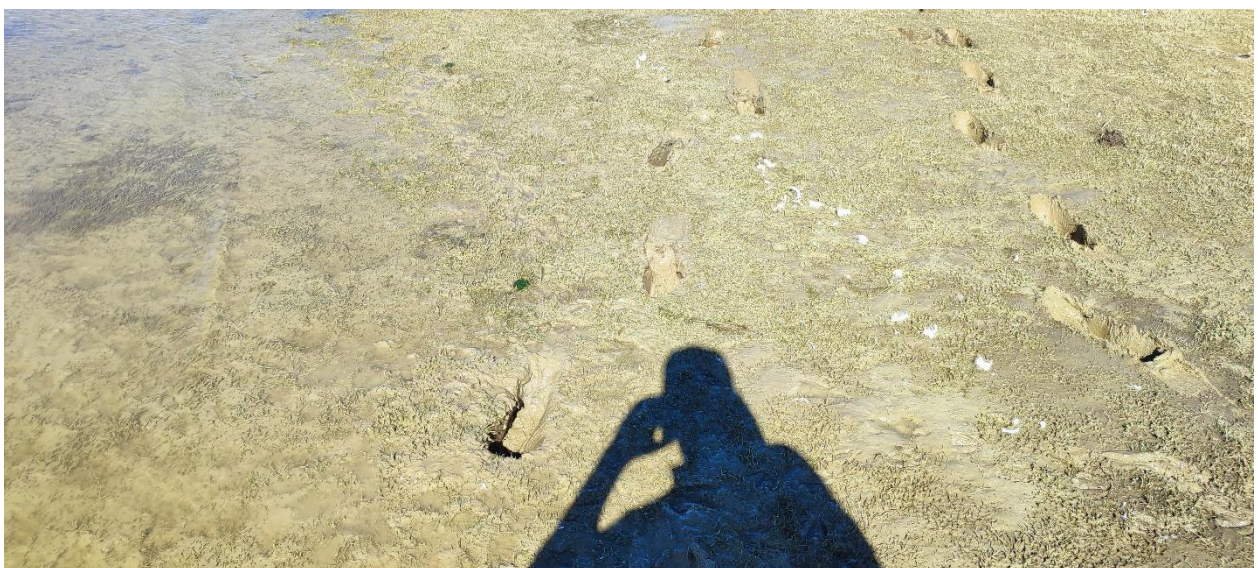


Photo 4: Photo showing depth of footprints in the lake shore and composition of the bed above and below the shoreline.

We found that walking above the water line in this area was mostly safe and generally only sunk down to the top of a standard pair of boots. The banks were less slippery and more stable in areas where there were turf species present (*Photo 5*), this appeared to be associated with seepage from the banks keeping the substrate wet. There were also areas with cobbles where we didn't sink at all. One area very close to the mouth of Fortification Creek had a mudhole where we sunk to mid-thigh and struggled to get out, however we believe most anglers would manage to avoid that section.



Photo 5: Muddy shoreline near Fortification Creek with turf species above the waterline.

Walking inside the water was found to be unsafe past approximately knee depth for a high proportion of the section. Going past knee depth, we began to sink into deep sediment at a fast rate and felt we would not be able to safely get out if we went deeper.

Discussion

Although a decrease in the CPUE was observed across the two surveys, the changing methods and lack of data points meant we could not determine if there was any change in the brown trout density of the lake. If there is a desire for this information, a November gillnetting survey could be planned for Lake Onslow following the method used in 2005, as this survey method was based on West Coast Fish & Game's long term monitoring methods it should provide good evidence on whether the population has significantly changed.

The size and condition of the trout caught in this survey is concerning but not completely unexpected or significantly different to the fish caught in 2005, the small size of the fish was also noted in last year's spawning project as staff struggled to differentiate between spawning migrant lake fish and the resident populations in the tributaries. The absence of any large well-conditioned fish suggests that the habitat available is limiting growth and that food

resources are inadequate particularly for larger trout. Stomach samples will be assessed using a stomach fullness index as well as the species present and this may provide more evidence on the cause of the poor conditioned and small fish.

Based on available data and previous research, it can be inferred that the ongoing (and lawful) drawdown in the lead up to the survey has reduced the invertebrate production in the lake through the drying out of the macrophyte (submerged plant) beds. Macrophytes play a vital role as refuge and in providing structure for algal and epiphyte growth which serves as a crucial food source for invertebrates, especially snails, caddis, damselflies and chironomids.

Macrophytes in Lake Onslow exist mostly in a narrow band around the perimeter of the lake due to the fluctuating lake levels and low light penetration. On the day of the survey, most of the surveyed shoreline had very little macrophyte growth present (*Photo 4*), although some turf species were seen surviving in areas of the bank that had stayed wet (*Photo 5*). The observed lack of macrophytes has probably led to an overall reduction in the food production of the lake and contributed to the condition of the trout.

One of the key species that can tolerate living in mud beds without macrophytes are chironomids, however due to their small size and life history, they are only bioenergetically favourable for foraging by trout when they hatch in high densities. Although chironomids can undergo rapid life cycles (Tokeshi, 1995) it's probable that the drawdown rate of the lake has been too fast for chironomid life cycles to complete.

It is likely that a reduction in chironomid production due to drawdown and a lack of more bioenergetically favourable prey species due to macrophyte death has resulted in the size structure of trout currently present in the lake. Analysis of the stomach contents of the netted trout will provide evidence on food availability in the lake

One of the objectives of the project was to gather data on the significance of cicadas to trout diet. However, the short notice for the project and cool temperatures and a one-week delay caused by a southerly storm may have resulted in the stomach samples not representing the true number of cicadas present. Although cicadas were heard during the surveys, no cicadas were observed in flight or on the water surface.

Alongside the gillnetting work, staff also carried out some assessments of safety and angling amenity at the lake. It was found that there were risks around boating that were difficult to mitigate but that shore based angling was largely safe under the current conditions. It's important to note that assessments were carried out by experienced and (relatively) fit staff members and that the risks would be higher for more frail anglers, children or people without experience assessing and traversing marshy terrain.

Previous visits to these areas have been more challenging for staff, but the recent visit proved to be less difficult, seemingly due to favourable weather conditions. The week leading up to the survey had high temperatures and low rainfall, which likely dried out the banks and contributed to easier and safer access to the lakeshore.

Based on the current conditions observed at Lake Onslow, it is believed that the angling experience and amenity would be limited, and as a result, anglers may be discouraged from

visiting the lake. The lake's aesthetic appeal was significantly reduced compared to its full capacity, and with the added safety concerns and poor condition and size of the trout, it is likely that some anglers would not choose to recreate here, even if the trout numbers allow for reasonable catch rates.

Potential for future work.

Staff have made a brief list of potential work to further our understanding of the ecology of and fishery of Lake Onslow, please note they have not been prioritised or assessed for cost or staff workload.

- Analyse the stomach samples collected in the 2023 netting survey.
- Repeating the 2005 netting program.
- Carry out angler surveys to determine if the netted fish represent the lake population.
- Collecting koura and cicada samples next summer and carrying out stable isotope analysis to better understand the lake's food web and limiting factors.
- Enacting the Lake Onslow monitoring program designed by Ross Dungey with input from Fish & Game staff. (Report available on request)

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**Jayde Couper,
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Appendices

Year	Set	Mesh type	Mesh size (mm)	Net Length (metres)	Soak time (hours)	Trout caught	CPUE
2023	1	Fine	65	42.6	2.6	2	1.79
	2	Coarse	125	18.7	2.6	-	-
		Fine	65	18.7	2.6	-	-
	3	Coarse	125	18.9	2.6	-	-
		Fine	54	18.7	2.6	1	2.03
	4	Fine	65	42.6	14.2	36	5.95
	5	Coarse	125	18.7	13.9	-	-
		Fine	65	18.7	13.9	15	5.78
6	Coarse	125	18.9	13.5	-	-	
	Fine	54	18.7	13.5	2	0.79	
2005	1	Fine	65	20	0.8	2	12.50
	2	Coarse	125	20	1.2	-	-
	3	Fine	65	20	0.9	1	5.77
	4	Coarse	125	20	1.1	-	-
	5	Fine	65	20	0.5	-	-
	6	Fine	65	20	1.0	1	5.26
	7	Fine	65	20	0.8	-	-
	8	Coarse	125	20	1.0	-	-
	9	Fine	65	20	0.8	1	6.52
	10	Fine	65	20	1.0	-	-
	11	Fine	65	20	1.0	4	20.00
	12	Fine	65	20	1.1	4	18.18
	13	Coarse	125	20	1.0	-	-
	14	Fine	65	20	0.8	1	6.25
	15	Fine	65	20	0.7	-	-
	16	Fine	65	20	1.1	1	4.69
	17	Coarse	125	20	1.1	-	-
	18	Fine	65	20	0.9	2	11.76
	19	Coarse	125	20	1.0	-	-
	20	Fine	65	20	1.1	-	-
	21	Coarse	125	20	0.9	-	-
	22	Fine	65	20	0.9	3	17.31

Appendix 1: Net descriptions and catch for each set in 2005 and 2023.

15.0 General Business