**Minutes:**

**NATIONAL SEA RUN SALMON COMMITTEE**

**Seventh Meeting, 9th May 2019**

10am Start Time, 4.00pm Finish Time

North Canterbury Fish & Game Office, 595 Johns Road

**Committee members present**: Roy Knight (NZF&G Council), Ben Sowry (Nelson/Marlborough F&GC), Matthew Hall (Central South Island F&GC), Rick Boyd (Otago F&GC), Rob Roney (West Coast F&GC), Paul Hodgson (NZ Salmon Anglers Association), Alan Brooks (South Canterbury Salmon Anglers Association), Phillip Musson (North Canterbury F&G Council)

**Others present**: Steve Terry (North Canterbury F&G), Mark Webb (Central South Island F&G) Ian Hadland (Otago F&G), Rasmus Gabrielsson (Cawthron Institute), Emily Arthur – Moore (support).

1. **Apologies.**

Dean Kelly, Zane Moss, Vaughan Lynn.

1. **Conflicts of Interest.**

Phillip Musson declared that he was a Fonterra Shareholder.

1. **Update on regulations changes. Steve Terry & Mark Webb.**

Mark Webb said the Central South Island F&G Council at their last meeting had recommended a 1 salmon per day bag limit, no night fishing and no winter fishing. Further salmon fishing regulations changes were to be discussed a the joint Central South Island & North Canterbury Fish & Game Council meeting in June. Central South Island Fish & Game had already considered all the public submissions they had received over the three year submission period and were receiving no more public submissions.

For North Canterbury F&G public submissions close on the 10th of May. A public meeting will be held on the 15th of May.

The June Council meeting was the last opportunity for the F&G regions to make recommendations to the NZ F&G Council on regulations changes.

1. **Update from Robert Sowman (via Emily) on the legal feasibility of a season bag limit**

Robert Sowman (F&G Council Policy & Planner Manager) had enquired with Michael Gee (Senior Policy Advisor with the Department of Conservation) on the legal feasibility of a seasonal bag limit for salmon.

Michael had said that, in terms of having a condition that sets a limit bag of 1 salmon per day per person, and a limit of 4 salmon per season per person, the Act and the Regulation won’t allow this.

Section 26R(4)(a) of the Conservation Act 1987 specifies that an Anglers Notice needs to set out the size and limit bag for any species of sports fish.  However, regulation 2(1) of the Freshwater Fisheries Regulations 1983 then defines limit bag as the maximum number of sports fish which may be taken pursuant to these regulations or any Anglers Notice by any one person in any one day.  This definition in the Regulations precludes a limit bag from covering a whole season, so it is not possible to have a season limit for salmon in the Anglers Notice.

There was discussion around an alternative process of having salmon rivers classified as ‘recreational fisheries’, much the same as the back country licence, which could allow for a seasonal bag limit.

Paul Hodgson said it would not be possible to introduce a seasonal bag limit unless you had anglers on board as they would have to police it. He said we needed to engage more with anglers; that there were still anglers out there who did not think there was a crisis. Paul said we needed to bring along key stakeholders and that we needed to give anglers some hope that things would improve.

Mark Webb said that Central South Island Fish & Game reduced angler harvest by 40% on the Waitaki River and he did not think that led to an additional loss of anglers. He said we needed to make hard decisions and some anglers are not going to like it.

Alan Brooks said he did not know any salmon anglers who did not agree we need to make some hard decisions. That they want a salmon fishery for the future. He said we needed to interact more with anglers; that they will be comfortable as long as we keep them in the loop.

Rob Roney said that if we made anglers aware of the link between climate change and the salmon fishery people would expect us to act.

Matthew Hall said we need to make sure we supply information through social media.

Ian Hadland said it should be the New Zealand Council’s role to distribute information.

Rick Boyd said a consistent internal position was needed. That is, the same message should be coming from all staff and councillors; that we needed to be aware of opportunities to communicate the position.

Paul Hodgson said it was important to take the shops with us. He believed that that was where most of the talk happened.

Ian Hadland suggested a communications strategy be developed around the changes to the salmon fishing regulations. Matthew Hall suggested a figurehead was also needed to communicate the information.

1. **Discuss** **draft Salmon Management Strategy for Setting Regulation Change.**

Steve Terry said that a strategy was needed for the management of the salmon fishery that adapted to changes in the number of fish returning. He and Mark Webb had developed such a strategy.

This strategy is based around the presumption that salmon runs decline or improve in general trends and that using a rolling average of the last three season’s runs will provide a useful indication of the likely size of the following seasons run. Angling restrictions are either imposed or lifted when a three year rolling average of returns either decline or improve to defined escapement (returns to spawning grounds) targets following a ‘traffic light’ model. This model or approach will increase the transparency of how harvest regulations are set and encourage anglers to embrace changes to salmon fishing regulations in the future.

Rick Boyd felt this was the right approach to take but recommended the strategy be peer reviewed. Rasmus Gabrielsson from the Cawthron Institute was suggested.

Mark Webb then gave a presentation where he had modelled what would have happened to the salmon run on the Rangitata River had this system been in place for the last 25 years.

Mark began with giving some figures including: 40% of eggs laid hatched successfully; the bulk of the run was made up of 3yr old fish; it was estimated 15% of the juvenile fish were lost down the Rangitata Diversion Race; Angler harvest was on average 30% of the salmon run.

Mark’s model showed that if this ‘traffic light’ strategy had been implemented 25 years ago there would have been a number of incidences where certain ‘trigger points’ had been reached and that regulations would have be changed.

Mark’s modelling showed that over time the salmon run would have improved as a result. He said that improvements would have compounded faster the tighter the restrictions. He said the most significant reductions in overall angler harvest would be from a season bag limit and that the next most significant reductions would have come from having more closed periods.

Rasmus Gabrielsson supported the model but stressed that it would need to be developed further before implementation.

Paul Hodgson asked why the Rangitata had not shown more of an increase in the run given restrictions had been implemented, e.g. closing it for longer periods. Mark Webb said that the model showed that it would take time to see improvements and the Rangitata regulations changes had not been in effect for long enough.

Roy Knight said this model was what we have been looking for. As the Chair he would approach the managers of the regions to endorse that staff time be spent on it.

***Motion: Paul Hodgson: Staff continue to work on the strategy and modelling and produce some more detail and that the Chair talk to the Managers to endorse more staff time be spent on it.***

***Seconded Rick Boyd. Carried***

Matthew Hall said that how this was included in the work program and resourced needed to be decided and resourced. He suggested the next place this model should be discussed was at the Central South Island/ North Canterbury joint council meeting.

1. **Presentation from Rasmus Gabrielsson of Cawthron Institute.**

Rasmus Gabrielsson gave a presentation on the research he had been working on entitled ‘Population Genetics of New Zealand Wild Chinook Salmon’. He also talked about the work he and Martin Unwin had completed reviewing historic hatchery releases of salmon smolt in NZ.

Rasmus presentation highlighted that over a 20-year period, beginning in the late 1970s, considerable effort went into developing a commercial ocean ranching in New Zealand. Most of what was known about Chinook salmon in New Zealand came from research conducted during this period. For example, in the Rakaia catchment fry emerged mostly in August, September and October and went to sea anytime from three months to one year old.

In total almost 50 million salmon were released into South Island rivers between 1977 and 1997. Most releases (> 95%) were associated with commercial farms or government funded research programmes, rather than enhancing the sports fishery (<1.5%). He said returns historical commercial releases appear to have built unrealistic recreational angling expectation. Because the releases had been extremely costly it is currently not affordable for recreational fishery managers to release as many fish as were released in the 1980’s and 90’s.

Rasmus said that there while smolt survival had been exceptional in some years during the 80s and 90s overall survival rate of historical hatchery releases was dominated by lower values, with a median (middle) survival of 0.33%. While survival rates exceeding 1% may be achievable in an exceptional year, a more realistic expectation from hatchery releases would be 0.1-0.2% in an average year, and as low as 0.01% in poor years.

He said there was some evidence to suggest the massive releases in the 1980’s may have swamped wild population, and potentially influenced the genetic structure of some wild populations. Rasmus said that research in New Zealand had found direct evidence that locally adapted wild populations have a ‘home court advantage’, and it was important to preserve that resilience.

On the population genetics study Rasmus said that so far, they had sampled over 400 adult salmon across seven rivers and would be collecting more samples this winter-spring. Preliminary results show that while several distinct genetic groups exist (e.g. the West Coast, Lake Wakatipu and Lake Hawea populations) not all east coast salmon fisheries form genetically unique populations. The findings highlight that genetic analysis can be a cost effective and informative tool for fishery managers. It will both help improve our understanding of the genetic structure behind local adaptations such as run time and life history differences, which have evolved among wild salmon populations, and inform enhancement strategies. For example, while previous research had found a genetic difference between Rangitata, Rakaia and Waimakariri salmon populations it today appears some of this genetic structure may have been blurred. Possibly as an unintentional ‘swamping effect’ of sports fishery enhancement efforts, and or commercial ocean ranching practices. Historical research indicates that the Poulter spawning and rearing grounds on the Waimakariri River had genetic differences, and further work would be carried out to assess this. The genetic analysis had also found some evidence to of straying of wild fish between adjacent wild populations, but the stray rate was only . around 3%.

Rasmus proposed someone from the National Sea Run Salmon Committee be appointed to provide feedback on the research report, which is scheduled to be released in August 2019.

There was some discussion around the effect of ocean temperatures on the salmon fishery and Rasmus said that recent changes to ocean conditions, which have for extended periods seen near-record high sea surface temperatures around much of New Zealand, did not benefit salmon who preferred cooler ocean conditions. While the impacts or longevity of these changes remain unknown, increasing ocean temperatures are likely to present many new challenges for cool water species such as Chinook salmon.

He suggested inviting an oceanographer to present to the Committee on trends in ocean temperatures to better understand what future ocean conditions may look like.

Rasmus cautioned that relying on closing salmon fisheries in certain months may lead to unintended consequences, like exposing earlier run salmon to increased harvest pressures. Ultimately this may do more harm than good, by adversely impact population resilience. For example, because traits such as run time and spawning dates are heritable strong selective harvest pressures may cause salmon populations to migrate, spawn and emerge during less favourable times.

Rather than rely on early closures the Cawthron fishery research team emphasise the need for Fish & Game councils /salmon managers to prioritise implementing a seasonal bag limit.

Rasmus also summarised Martin Unwin’s key recommendations on hatchery releases, which were:

1. Don’t mix salmon populations (maintain genetic oversight)
2. A robust marking and monitoring programme is essential requirement of any future hatchery enhancement strategy. Without such a programme it is not possible to for the results of differing release strategies to be measured and compared, which hinders cost-benefit analysis and adaptive management decision making.
3. Ensure the budget is realistic and adequate to meet both monitoring and enhancement objectives
4. **Discuss Central South Island/North Canterbury F&G Breeding Strategy.**

Mark Webb and Steve Terry discussed the draft Breeding Strategy that they had been working on. The focus of the strategy was to capture juveniles from the various separate populations of salmon and to raise them to adults for use as brood stock. This was different from the current strategy of using adults that had returned to the hatcheries.

They believed North Canterbury was the only region with the capacity to raise these salmon in separate enclosures so as to maintain the genetic isolation. It was estimated 12 enclosures would be required.

There was some discussion on the potential cost of such a strategy and the importance of fin clipping all hatchery releases and the difficulty of this task.

Rasmus Gabrielsson said automated fin clipping equipment existed. He also said efforts should potentially be focussed on two hatcheries instead of four for the sake of efficiency.

The Committee wanted staff to return to the next Committee meeting with more information of the cost of such a strategy.

1. **Discussion how to progress with Hatchery Best Practise Guidelines.**

The discussion focussed on how to develop these guidelines. A contestable funding bid had been turned down by NZ F&G Council. Matthew Hall suggested adopting the Taupo guidelines.

Rasmus Gabrielsson said given the increase in commercial hatcheries there could be the spotlight on Fish & Game from the commercial industry and that biosecurity should be considered carefully. He said there was a trend for more ‘Mum and Dad’ hatcheries which could lead to more small salmon farms popping up around the country. He believed they might not be as focussed on adhering to biosecurity protocols.

***Motion: Matthew Hall put forward a motion that Taupo’s Hatchery Best Practice Guidelines be circulated to the relevant F&G Councils to be considered when developing national F&G guidelines.***

***Seconded Paul Hodgson. Carried.***

1. **Stocking Policies.**

It was decided this be parked until other areas discussed today were further developed.

1. **Update from Steve Terry/ Mark Webb on Put and Take Fisheries as being considered by the two F&G Councils**

A discussion was had on the cost of developing such fisheries. It was noted that to develop such a fishery in North Canterbury would require a lot of work and financial resources. It was decided to park discussion on this in the time being.

Matthew Hall said that Central South Island Fish & Game was ready to develop a put and take fishery and that lots of money was not required to do so. Mackinnon’s Creek Hatchery could raise the fish.

1. **Discuss Paul Hodgson’s request for information.**

Paul Hodgson said that in the discussions and presentations today he felt like he had had his questions answered.

1. **Discuss Draft National Fish Screen Policy.**

It was decided that a sub- committee be formed to provide feedback on the draft policy to the NZ F&G Council. Members were to include Matthew Hall, Paul Hodgson, Roy Knight, Steve Terry and Tony Hawker.

Ian Hadland said the strategy needed to include expected outcomes.

1. **Confirm Minutes of previous meeting.**

The minutes were expected.

1. **Next Meeting**

The next meeting of the Sea Run Salmon Committee was set for 10am on the 4th of July 2019 at the North Canterbury Fish & Game offices, 595 Johns Road, Christchurch.

**Possible topics for next meeting:**

1. An update on changes to the salmon fishing regulations and a communication strategy around them. Mark Webb & Steve Terry.
2. An update on the draft Salmon Management Strategy for Setting Regulation Change, a.k.a the ‘traffic light strategy’ and the modelling that goes with it. Mark Webb & Steve Terry.
3. Season Bag limit. Potential costs and administration.
4. A discussion around key concerns/ ideas that came out of the 2018 Salmon Symposium in Ashburton that may have not yet been considered by the Committee. Committee members to identify topics.
5. A presentation from an oceanographer on changes to ocean temperatures in salmon waters.
6. Costs of implementing the new breeding strategy should it be adopted. Mark Webb & Steve Terry
7. A presentation from a representative of the Ministry for Primary Industries on how they are dealing with ‘Mum and Dad’ hatcheries.
8. A report back from the Sub-Committee on the development of Hatchery Best Practice Guidelines.