

Thompson Steelhead Assembly

2 December 2016

Kamloops, BC



Meeting summary as at 22 December 2016

Prepared by:
Fraser Basin Council
200A – 1383 McGill Road
Kamloops, BC V2C 6K7
250 314-9660

msimpson@fraserbasin.bc.ca | www.thompsonsteelhead.ca

Acknowledgements

Support for Thompson Steelhead Working Group and 2016 Thompson Steelhead Assembly provided by:



Cook's Ferry
Indian Band
Nlaka'pamux Nation



Fisheries and Oceans
Canada

Pêches et Océans Canada



Support for 2016 Thompson Steelhead Assembly provided by:



TRANSMOUNTAIN



**Freshwater Fisheries
Society of BC**

Photo credits: Walter Quinlan, Fraser River Aboriginal Fisheries Secretariat, with the exception of lower left photo on cover page: Mike Simpson

Introduction

Over 80 representatives from First Nations, provincial, federal and local governments, sport fishing organizations, commercial fishing sector, small business interests from Spence's Bridge, and the agriculture, mining and forestry sectors participated in a one day meeting to discuss the declining populations of Thompson Steelhead.

The objectives for the Assembly were as follows:

- Report on progress made by Thompson Steelhead Working Group since November 2015
- Seek feedback and new input on draft *Thompson Steelhead Recovery and Management Plan*
- Seek direction and input on evaluation process and next steps for Thompson Steelhead
- Share diverse perspectives on Thompson Steelhead
- Share information related to the issues potentially affecting Thompson Steelhead

Welcoming Comments

Mike Simpson, Senior Regional Manager, Fraser Basin Council, who provides support to the Thompson Steelhead Working Group, welcomed everyone.

Jeannette Jules, Councillor, Tk'emlups te Secwépemc, gave a welcome to the territory. Pat Matthew presented a gift to Councillor Jules.

Marshall Gonzales, Councillor, Skeetchestn First Nation, welcomed everyone and commented on how he hasn't had a chance to fish for steelhead in his lifetime in his territory.

David Walkem, Chief of Cook's Ferry Indian Band, welcomed everyone and commented on the cultural impacts of the decline of Thompson Steelhead is affecting his community and the Nlaka'pamux people.

Angela Bate, Area Director, Fraser and BC Interior, Fisheries and Oceans Canada (DFO) welcomed everyone and stated the department's willingness to address the Thompson Steelhead decline.

Mike Ramsay, Acting Director, Fish & Wildlife Branch, BC Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) welcomed everyone and expressed the challenges of steelhead.

Introductions were made around the room. See Appendix 2 for a list of participants, their organizations and email addresses for those that consented to share.

Agenda, Objectives, Ground Rules

The agenda (Appendix 1) and objectives were reviewed. The following ground rules were reviewed as expectations for the day:

- We are all here with an interest in steelhead
- Be respectful – there are many perspectives
- Seek to understand, *then* to be understood
- Challenge your assumptions
- No personal attacks
- No jeering or cheering

Thompson Steelhead Working Group – What's Been Done Since November 2015

Mike Simpson gave a presentation, on behalf of the Thompson Steelhead Working Group (TSWG), of what has been done since the last Thompson Steelhead Assembly in November 2015. The presentation highlighted: past initiatives to address Thompson Steelhead declines; the current status of Thompson Steelhead (anticipated 380 spawners returning to the Thompson, and 140 to the Chilcotin); and content developed in the draft [Thompson Steelhead Recovery and Management Plan](#) which was emailed to participants in advance of the Assembly, on 24 November 2016.

In summary, it was suggested that there's no smoking gun, and therefore no silver bullet:

- Thompson Steelhead are influenced by many factors from freshwater to ocean
- We don't have definitive science on what "management levers" to pull to recover Thompson Steelhead
- Some factors may have no management actions to take such as global and regional climate cycles.

Action must be taken to address Thompson Steelhead decline that balances:

- incomplete science
- the need for timely decisions given the extreme conservation concern
- the impacts of management decisions on other resource sectors, such as agriculture, commercial fishing or forestry.

Questions, comments and feedback were as follows:

- Ken Malloway, Fraser River Aboriginal Fisheries Secretariat (FRAFS) commented on historic fishing in the lower Fraser, First Nations don't take steelhead, and current requirements to throw back Steelhead even if they're dead.

- Al Martin, BC Wildlife Federation noted the need for sustainable funding, take it to various orders of government with plan and advocate for funding to implement it. Need community and government support to move it along in a timely fashion, and to not let perfection get in the way of being practical.
- Rod Clapton, BC Federation of Drift Fishers (BCFDF) noted that he has been an involved stakeholder over last 20 years. There have been previous efforts to address steelhead decline, yet little reference to any of these initiatives is contained in the current plan. Why is all this past information not referenced? No one from the TSWG could answer, but committed to follow up with Rod to get past information.
- Steve Rice, Thompson Nicola Regional District noted he attended a meeting with ministers re: commercial fisheries. Numbers seem to indicate an impact of chum fishery on Steelhead. Move the openings outside of October 31. Q1: does the chum opening skew the Albion numbers and is it taken into consideration when the formulas are created? Q2: the two-day openings – will they continue? Can the chum fishery be moved outside of where the steelhead are, could there still be a successful chum fishery if it's moved? A (Rob Bison): there need to be dramatic changes to fishing for there to be a dramatic effect. A lot of uncertainty in determining spawner numbers at the Albion test fishery. A (Dean Allan): chum fishery is designed to be after the peak of the steelhead run. If you push them later you lose 'value' of the fish. The move to two ten-hour fisheries is to be able to better manage the fishery (daylight only, better ability to monitor and observe by-catch).
- Ryan McEachern, Area D and E Gillnetters, a fifth generation fisherman, noted he is optimistic about the mix of people here today, the strength of the TSWG and that Chief Walkem's comments ring true. Q: where does the funding come from, since processes tend to fall apart when funding runs out? A (Mike Simpson): funding has come from Cook's Ferry, Secwepemc Fisheries Commission, Skeetchestn Natural Resources, Province and DFO. Today's event was sponsored by Freshwater Fisheries BC and TransMountain. For the WG, the funds have been pretty skinny. A (Chief Walkem): our challenge is to get to a complete plan. Want to present best possible mgmt. framework. Feeling that sign-off from all governments is slim. But we can refine it over time, take it to funders even if it isn't ratified – the best we can come up with in an extremely complex situation. A (Dean Allan): funding has been piece-mealed together.

Networking/World Café/Poster Presentations

Information was displayed around the room and foyer on related initiatives underway that may address steelhead. The following are the topics that were displayed, and the representatives displaying the information (see Appendix 2 for contact information).

Fisheries and Oceans Canada:

- Salmon returns and commercial fishing: Ashley Dobko, Dean Allan, Brigid Payne

BC Government (Forests, Lands and Natural Resource Operations; Environment; Agriculture)

- Thompson Steelhead returns and recreational fisheries: Rob Bison, Michael Burwash, Andy Morris, Mike Phelps
- Fisheries Sensitive Watershed: Mark Phillipotts
- Temperature Sensitive Stream designations: Christian St. Pierre
- Groundwater-surface water interactions in the Nicola system: Kevin Bennett, Laurie Lyons
- Environmental flows/critical environmental flow needs: Rich McCleary
- Cumulative Effects Assessment: Eric Valdall, Doug Lewis

- Species at Risk/Committee on the Status of Endangered Wildlife in Canada (COSEWIC): Greg Wilson
- BC Seafood Secretariat and Marine Stewardship Certification: Jim Russell

Multi-party initiatives

- Nicola Fish Water Management Tool: Tracy Thomas, Rich McCleary, Jep Ball
- Nicola River Sensitive Habitat Inventory & Mapping: Kyle Hawes
- Nicola and Coldwater Rivers thermal mapping: Tom Willms, Garrett Whitworth

Concurrent Breakout Sessions

Participants had their choice to attend one of three facilitated breakout sessions after lunch. They are listed below, along with the feedback heard during those sessions. See Appendix 3 for feedback forms/online survey feedback to the same questions (with the exception of implementation, governance and coordination questions a), b) and c)).

Implementation, Governance and Coordination

10 people participated in this session. The following is the feedback heard; consensus should not be assumed for anything captured below.

a) How will this plan be implemented?

- Prioritize short-term, do-able actions (e.g., water temperature; water licensing/consumption/sources)
- Go back and review the policy and legal framework – what can BC government do given the stock status? There is less flexibility, and less consultation required as stocks decline; BC government must act as stocks decline; let's avoid situation of imposing action.
- Focus on unique issues for Thompson Steelhead in this plan; coordinate with other bodies on bigger issues where work is being done (e.g., climate change)
- Need multi-pronged approaches, and level of agreement across orders of government
- Continue to meet and discuss
- Full transparency on decision making at different orders of government
- Define the working relationship across orders of government; align objectives
- Government is shrinking – there is an increased role for partnerships, involvement of First Nations in natural resource management. Provincial government can empower and encourage consensus on issues and help advance issues; but is not always going to be the sole arbiter of process in the future

b) How does this plan fit with the existing planning processes and decision making for i) fisheries, and ii) land and resource management planning?

- Utilize the integrated fisheries management plan (IFMP) as the key vehicle
- Have more consistent representation and participation in Joint Technical Working Group (i.e., province is missing)
- Better transparency and understanding of Albion numbers as an abundance indicator
- Establish a multi-party fisheries table downstream of Chilliwack to discuss steelhead – Musqueam, Twawassen, Area E gillnetters, Lower Fraser Fisheries Alliance
- Establish a decal program to promote steelhead conservation
- Better coordination with other planning tables (i.e., Secwepemc Fisheries Commission charter with Lower Fraser Fisheries Alliance) to raise awareness of issues, and seek solutions
- Improved sharing of information and transparency

- MFLNRO has advanced cumulative effects assessment (CEA) for land and resource management – share and utilize these results

c) Is there a mandate to implement this plan across orders of government? How do we get it?

- Mandate is needed to implement a portion of this plan, and for the long term
- Tie into and/or utilize existing memorandums of understanding (MOUs) for chinook, or Coldwater River system
- If developing an MOU, frame it for all salmonids, not just steelhead; identify the benefits in terms of outcomes for all fish species
- If developing an MOU, keep it simple, short and high level, and within government ability to implement it
- Be cautious that developing an MOU will take away time and resources from addressing the issue

d) How can we evaluate opportunities and make decisions in a timely manner, with incomplete data? (see chapter 5 and 6 for proposed approach)

- Separate the signal from the noise – take action on what can be managed
- Spend political capital where its warranted (BC is considering this)
- Wild Salmon Policy has used green, yellow and red zones as simple ways to evaluate options and issues

Education opportunities were discussed:

- Reach out to other sectors as is being done at this Assembly; what can your sector do?
- Utilize social media, raise awareness of this world-renowned fish that is in decline
- Make education material simple and understandable
- Education needs for commercial fishermen – how to handle them if caught; how to release

Key next steps summarizing the discussion were as follows:

- DFO will facilitate the discussion of steelhead issues between Musqueam, Twawassen, Area E gillnetters, Lower Fraser Fisheries Alliance
- Effective, regular ongoing engagement of MFLNRO in the IFMP process
- Continue to raise steelhead and related First Nations issues at the provincial assistant deputy minister (ADM)/federal regional director general (RDG) committee
- Province to explore decal or pin for steelhead conservation
- Recognize the shrinking role of government and increased dependency on partnerships

Habitat and Survival Approaches and Opportunities

Approximately 20 people participated in this session. The following is the feedback heard; consensus should not be assumed for anything captured below.

a) Do you support the interim recovery objectives for steelhead (p.17)? Why or why not?

- Increase Thompson steelhead population numbers – yes, agree; get out of the conservation zone first into management abundance; what is the timeline?
- There are sufficient steelhead for First Nations' use, in the Thompson River system and downstream – yes, agree; but conservation first
- There are sufficient steelhead for sport fishing opportunities – generally yes, agree; need higher returns to support a longer catch and release fishing season; look at habitat restoration opportunities; separate catch and release only for wild fish and harvest sport fishing opportunities in stocked systems; address seals

- There are sufficient steelhead such that there is increased flexibility to conduct commercial salmon fisheries – yes, agree
- Management information gaps are identified and there is a plan to address them – yes, agree; use adaptive management; don't wait to do something to address the decline; use appropriate monitoring; get habitat specialists to work with universities; learn from US and Oregon to address in-stream flows; need orders of government to communicate better; need politicians and agriculture/ranching sectors involved to address water storage
- Improve communication and transparency of information and decision making between First Nations, federal and provincial governments – yes, agree; seems to be proceeding

b) Do you support the detailed resource management opportunities for the Thompson River (T1 to T18)? Why or why not?

- T1 restore degraded habitats – general support exists. Need to focus on prioritizing locations (e.g., freshwater bottlenecks); sport fishing groups would like to be involved; lots of information exists; look at historical projects; look at short and long-term solutions; private land access can be difficult; big benefits on private land for riparian restoration; look at USA restoration work Philip Roney (2012); look back to Forest Renewal BC templates
- T2 enhanced riparian management upstream, including fisheries sensitive watershed designations – noted that this has been addressed; large focus on forest industry; we have come a long way in changing practices; consider retention on all streams
- T3 sensitive stream designation under Water Sustainability Act (WSA) s.128 – no comments
- T4 address sediment sources – prioritize sediment sources through Forest and Range Evaluation Program; different sediment standards for different industries (forestry, mining); some sediment sources will not be cleaned out quickly
- T5 Water Sustainability Plans – could be good comprehensive approach that is legally enforceable; consider ecological goods and services, a good tool
- T6 water licence reviews – 30 years is too long to go without a review; complex issues; no pool of money to compensate for water licence reductions
- T7 restrict water licence withdrawals July-Sept – legislation in place for this, but need better monitoring of streamflows to achieve critical environmental flow thresholds; many parties monitoring streamflows including fish & game clubs; re-word this to establish minimum environmental flows, then monitor if achieving them
- T8 water storage – storage exists in all three watersheds; operation review of Deadman, Bonaparte and Nicola; need in-stream flow assessment needs for fish based on life history and stages at different times; learn how to optimize flows for steelhead; work has been done, needs to be executed
- T9 restrict overuse of water in rearing tributaries by local government and water purveyors – covered by environmental flow provisions, groundwater licensing requirements in WSA
- T10 better monitoring by water officers of actual vs. licensed amounts – good idea; there is a measurement and reporting policy; get licensees to do this when licences reviewed
- T11 identify and manage coldwater refugia – important to identify and protect; there are provisions for this in WSA; temperature provisions are new territory, need to work on this; critical flows can be managed for temperature; there is an assumption that this is the solution, but these are watershed wide issues; impact of music festivals, monitoring and clean up is a concern
- T12 conserve steelhead spawner abundance – research underway (Bison, Levy, Decker)
- T13 restrict sport fishing for several life cycles – low impact, why apply further restrictions; good idea; COSEWIC/SARA will restrict this further
- T14 monitor and regulate First Nations fisheries – ask First Nations for input on this
- T15 Elder influence – no comment

- T16 ensure all intercept fisheries are selective – yes agree
- T17 list as endangered species under SARA – yes agree
- T18 hatchery augmentation – need to be clear on the objective; need conservation of wild stocks first; need to research rainbow trout first

c) What other opportunities do you suggest?

- None noted – lack of time

d) How can we evaluate opportunities and make decisions in a timely manner, with incomplete data? (see chapter 5 and 6 for proposed approach)

- Need other stakeholder sectors at the table – agriculture, forestry, mining
- Need a management tool to manage data
- On the habitat side, need to understand the habitat bottlenecks for different life stages, and set reasonable expectations

Fisheries Management Approaches and Opportunities

Approximately 50 people participated in this session. The following is the feedback heard; consensus was not achieved and nothing reported here should be interpreted as agreed upon.

a) Do you support the detailed resource management opportunities for the Fraser River (F1 to F18)? Why or why not?

- Many participants said that they were not in a position to comment on specific opportunities identified in the draft plan at this point
- Many participants said they couldn't comment on the specific opportunities without context or understanding the impacts to different sectors
- In general, many elements can be supported – especially selective fishing
- Moving Fraser gillnet fleet off the Fraser River mainstem is not possible; steelhead are along the shore and that's not where gillnetters fish
- General frustration that the status quo isn't working for steelhead; a platform is needed to start action on the current situation

b) What other opportunities do you suggest for the Fraser River?

- Utilize revival boxes for incidental bycatch, including in First Nations fisheries
- Utilize short sets; set nets along the beach are where steelhead tend to be
- Improve functionality of the relationship between the province and feds on steelhead
- Less than 15% of chum run was harvested last year due to steelhead concerns; \$0.02 per pound could be levied to fund a steelhead recovery initiative

c) No detailed opportunities have been created yet for in-shore ocean fishing areas. What can you suggest for adjusting area, timing or gear?

- Use an exploitation rate based approach to fisheries management
- Include user groups in the TSWG to generate detailed opportunities
- Understand the impact of seals and predation on steelhead

d) How can we evaluate opportunities and make decisions in a timely manner, with incomplete data? (see chapter 5 and 6 for proposed approach)

- Do run reconstruction; limitation is that the data is not available
- Hire an independent fisheries expert to use best available information and make recommendations for allowable impacts and harvest allocations to address steelhead

Other suggestions included the following:

- Spius hatchery has been upgraded using modern genetics – can easily evaluate
- Look at Skeena methodologies and apply them to the Thompson/Fraser

Participants were urged to review the draft plan and fisheries management opportunities in detail, and provide comments through the feedback form/online survey by 16 December 2016.

Pledges or Commitments

Pledge forms were distributed for what different groups, sectors, organizations or governments would commit to do to address the decline of Thompson Steelhead. Participants were encouraged to either fill it out at the Assembly, or bring it back to their constituents and send to Mike Simpson by 16 December 2016. See Appendix 5 for pledges received to date, where the participants were willing to share them.

Next Steps

The following were the next steps identified:

- Online survey (same as today's feedback forms) at www.thompsonsteelhead.ca open until end of day, 16 December 2016
- Media release on 5 December 2016, inviting public comment
- Budget and Funding is needed – the Thompson Steelhead Working Group is out of funds
- TSWG aims to wrap this up by spring 2017

See Appendices 3 and 4 for feedback received, either in paper forms from the Assembly or from the online survey.

Closing Comments

In closing, most people expressed appreciation at being able to come together to discuss the decline of Thompson Steelhead and how we can work together to reverse it. Chief David Walkem made the case that the decline of Thompson Steelhead directly affects the diet and the culture of the Nlaka'pamux people. Councillor Marshall Gonzales stressed the importance of steelhead to Secwepemc people, and that he has not had the opportunity in his lifetime to fish for them. Angela Bate thanked everyone for their participation and committed DFO to the process. Mike Ramsay suggested we keep things simple, continue working together and avoid the situation where government is required to take drastic action.

Appendix 1 – Agenda

Thompson Steelhead Assembly

When:	Friday December 2, 2016
Where:	Doubletree by Hilton Hotel, 339 St. Paul St., Kamloops

Assembly Objectives:

- Report on progress made by Thompson Steelhead Working Group since November 2015
- Seek feedback and new input on draft *Thompson Steelhead Recovery and Management Plan*
- Seek direction and input on evaluation process and next steps for Thompson Steelhead
- Share diverse perspectives on Thompson Steelhead
- Share information related to the issues potentially affecting Thompson Steelhead

Time	Topic
9:30AM	Welcome, expectations for today, and introductions around the room <i>Councillor Jeannette Jules, Tk'emlups te Secwepemc</i> <i>Councillor Marshall Gonzales, Skeetchestn First Nation</i> <i>Chief David Walkem, Cook's Ferry Indian Band</i> <i>Angela Bate, Area Director, Fraser & BC Interior, Fisheries and Oceans Canada (DFO)</i> <i>Mike Ramsay, A/Director, Fish & Wildlife, BC MFLNRO*</i>
9:50AM	Agenda, objectives, ground rules <i>Mike Simpson, Senior Regional Manager, Fraser Basin Council</i>
10:00AM	Thompson Steelhead Working Group – what's been done since November 2015 <ul style="list-style-type: none"> ▪ What's been done; connections to existing planning and decision making <i>Mike Simpson, with support from Thompson Steelhead Working Group</i>
10:45AM	Coffee break
11:00AM	Networking/trade show/World Café/poster presentation style event – small tables with a “table lead” and resources (e.g., display boards, handouts, laptops with videos/displays) for participants to engage with, one-on-one or in small groups. Fisheries and Oceans Canada information: <ul style="list-style-type: none"> ▪ Salmon returns and commercial fishing ▪ Resource and habitat restoration Provincial Government information: <ul style="list-style-type: none"> ▪ Thompson Steelhead returns and recreational fisheries ▪ Fisheries Sensitive Watershed and Temperature Sensitive Stream designations ▪ Groundwater-surface water interactions in the Nicola system ▪ Environmental flows/critical environmental flow needs ▪ Cumulative Effects Assessment

Time	Topic			
	<ul style="list-style-type: none"> ▪ Species at Risk ▪ BC Seafood Secretariat and Marine Stewardship Certification <p>Information on collaborative, multi-party initiatives:</p> <ul style="list-style-type: none"> ▪ Nicola Fish Water Management Tool ▪ Nicola River Sensitive Habitat Inventory & Mapping ▪ Nicola and Coldwater thermal mapping 			
12:00PM	Lunch (provided) – continued networking from above			
1:00PM	<p>Concurrent breakout sessions – pick one:</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; vertical-align: top;"> <p>Implementation, Governance & Coordination</p> <p><i>Audience: elected officials, senior managers</i></p> <p><i>Specific topics: how will the recovery and management plan be implemented</i></p> <p><i>Objective: clarify how this plan will be implemented, determine how it fits with other organizations and planning processes, where is the mandate to implement this (G-G-G), how to get it</i></p> </td> <td style="width: 33%; vertical-align: top;"> <p>Habitat and Survival Approaches and Opportunities</p> <p><i>Audience: technical people, fishermen, other</i></p> <p><i>Specific topics: habitat restoration, riparian management, water, marine survival, predators, COSEWIC and SARA, science and data</i></p> <p><i>Objective: modify and/or evaluate the opportunities for habitat and survival</i></p> </td> <td style="width: 33%; vertical-align: top;"> <p>Fisheries Management Approaches and Opportunities</p> <p><i>Audience: technical people, fishermen, other</i></p> <p><i>Specific topics: hatcheries, commercial fishing bycatch, FN and sport fishing, science and data</i></p> <p><i>Objective: modify and/or evaluate the opportunities for fisheries management</i></p> </td> </tr> </table>	<p>Implementation, Governance & Coordination</p> <p><i>Audience: elected officials, senior managers</i></p> <p><i>Specific topics: how will the recovery and management plan be implemented</i></p> <p><i>Objective: clarify how this plan will be implemented, determine how it fits with other organizations and planning processes, where is the mandate to implement this (G-G-G), how to get it</i></p>	<p>Habitat and Survival Approaches and Opportunities</p> <p><i>Audience: technical people, fishermen, other</i></p> <p><i>Specific topics: habitat restoration, riparian management, water, marine survival, predators, COSEWIC and SARA, science and data</i></p> <p><i>Objective: modify and/or evaluate the opportunities for habitat and survival</i></p>	<p>Fisheries Management Approaches and Opportunities</p> <p><i>Audience: technical people, fishermen, other</i></p> <p><i>Specific topics: hatcheries, commercial fishing bycatch, FN and sport fishing, science and data</i></p> <p><i>Objective: modify and/or evaluate the opportunities for fisheries management</i></p>
<p>Implementation, Governance & Coordination</p> <p><i>Audience: elected officials, senior managers</i></p> <p><i>Specific topics: how will the recovery and management plan be implemented</i></p> <p><i>Objective: clarify how this plan will be implemented, determine how it fits with other organizations and planning processes, where is the mandate to implement this (G-G-G), how to get it</i></p>	<p>Habitat and Survival Approaches and Opportunities</p> <p><i>Audience: technical people, fishermen, other</i></p> <p><i>Specific topics: habitat restoration, riparian management, water, marine survival, predators, COSEWIC and SARA, science and data</i></p> <p><i>Objective: modify and/or evaluate the opportunities for habitat and survival</i></p>	<p>Fisheries Management Approaches and Opportunities</p> <p><i>Audience: technical people, fishermen, other</i></p> <p><i>Specific topics: hatcheries, commercial fishing bycatch, FN and sport fishing, science and data</i></p> <p><i>Objective: modify and/or evaluate the opportunities for fisheries management</i></p>		
2:45PM	Coffee break			
3:00PM	Reporting out from concurrent sessions			
3:30PM	<p>Next Steps</p> <ul style="list-style-type: none"> ▪ Pledges or commitments – after today, what can you commit to do for steelhead? ▪ Public release of draft plan, e-survey 			
3:45PM	<p>Closing Comments</p> <p><i>Chief David Walkem, Cook's Ferry Indian Band</i></p> <p><i>Councillor Marshall Gonzales, Skeetchestn First Nation</i></p> <p><i>Angela Bate, Area Director, Fraser & BC Interior, Fisheries and Oceans Canada (DFO)</i></p> <p><i>Mike Ramsay, A/Director, Fish & Wildlife, BC MFLNRO</i></p> <p><i>Other participants</i></p>			
4:00PM	Adjourn			

*Ministry of Forests, Lands and Natural Resource Operations

Appendix 2 – List of Participants

Removed for version posted online.

Appendix 3 – Feedback Form Results

The following are the results of the online survey (20 responses) (open from 1-16 December 2016), the paper feedback forms received on Dec 2 (3 responses). Page numbers refer to the *Thompson Steelhead Recovery and Management Plan*, draft as at 23 November 2016. Note that not every respondent answered every question.

Do you support the interim recovery objectives for steelhead (p.17)? Why or why not? What would you propose?
Yes – but this should be discussed in terms of conservation responsibilities by each government.
Yes
Yes. We must start somewhere and the steelhead situation maybe the tip of the iceberg. Dialogue needs to be done and thoughts for or against must be aired so we can make choices. So goes the sustainability of the fish so goes the overall health of the society of our watershed.
Yes
No. If there are Steelhead for Natives (ceremonial, sustenance etc) then there are steelhead for the Sport Fisher to keep. Natives are killing Steelhead now so we should open it up for Sport Fishers to kill Steelhead. Natives have to abide by provincial fishing regulations.
No. There is no room and should never be any room for Natives to conduct a commercial harvest of TRS.
Yes I support them. I believe, With cooperation there can be fish for food and fun for everyone forever. 1-to increase the numbers of SH with a short term kick start using wild Thompson steelhead in hatchery or with strategically placed man made reds. -increase to what normal levels would be for the TSH for ceremonial and sport evenly, and then sustenance and sport harvest equally. -specific numbers per tributary to what would have been naturally.(were there any TSH above the fish ways on the Bonaparte?) 2- there are TSH for First Nations for ceremonial in numbers that are realistic for conservation protection and for what they would have acquired typically in history meaning not more than what each band would have caught with the means they had historically like the lower Fraser bands would have caught less fish than Thompson bands based on how they were able to catch them. also at the same time in cooperation, sport fishers have a chance to fish. 3-There are sufficient SH for sport... (as it is now) 4- If you mean commercial fishing of Steelhead , NO, NO ,NO, or commercial fishing other than SH . With cooperation and conservation in mind. 5-Management information gaps... agree 6- agree completely
i agree with most of it, im concerned the part about ceremonial fishing for first nations, they should not be allowed to kill any.
For the purpose I support the plan. Although I have strong reservations about augmenting the fishery with a hatchery production based on previous work in the US around how this can be damaging to wild stocks.
For the most part yes. I don't agree with the FN ceremonial fishery. Maybe focus on supplying the bands with chinook from the summer through excess hatchery broodstock. If there is to be a ceremonial catch for First Nations who will monitor it and how? How many fish do they need for a ceremonial fishery, every fish dragged off it's redd in the spring counts at this point. Postpone all FN fisheries till we see an increase in steelhead numbers. We do not need to see a recreational kill fishery if numbers do return. We just want to fish for them we don't need to kill them. That is what a hatchery river is for and the

Thompson IS NOT a hatchery river. Current regs are fair.
<p>No.</p> <p>A recreational harvest fishery as a management goal is in disagreement with the provincial steelhead management plan.</p> <p>Flexibility with respect to salmon commercial openings is an irrelevant goal with respect to steelhead management.</p> <p>There should be no management information gaps that deny management action, this population is extremely well studied and needs no further analysis of "gaps".</p>
No. I do not support any commercial or ceremonial fisheries, by Native or non-native groups, for steelhead on the Thompson River system. I would propose maintaining a ban on harvesting steelhead in this river system long term.
<p>I agree with increasing thompson steelhead populations as long as its wild fish.</p> <p>Dont agree to commercial or first nations harvesting</p> <p>Feel strongly about sportfishing for steelhead if numbers are higher as long as its catch and release and not just for fly fishing. If open to fishing catch and release i feel all methods except for bait should be allowed.</p>
If you like motherhood, pg 17 is for you. Pray tell what is the plan to achieve any of those objectives? I don't want to read an endless list of options, I want an action plan and specific timelines. Then and only then can I comment intelligently.
<p>I don't support listing creation of Thompson steelhead harvest fisheries as a recovery objective.</p> <p>Recovery objectives should simply be numbers of spawners per spawning stream.</p>
Not completely, the objective is completely focused around recreational angling. There should be a greater importance to their importance for ecological importance and how this is an indicator species for riparian health.
The mandatory release of wild steelhead should include the Fraser River to the mouth.
<p>On page 17 you have bullet's and I have given each one a number starting at #1.</p> <p>#1 - TRS must have their numbers increased to historical numbers.</p> <p>#2 - There currently are not enough TRS for Natives to harvest them for any purpose. Natives must stop harvesting them now like Anglers.</p> <p>#3 - When TRS are brought back to historical numbers then all people can harvest them. It isn't Natives first and Anglers second. No discrimination.</p> <p>#4 - There should never be a Native commercial fishery for TRS.</p> <p>#5 - If information is required then a plan needs to be set about to get the information in a timely manner. This should not hold up work that can be done to bring back the TRS.</p> <p>#6 - If Natives feel they need some agreement with the Federal and Provincial Governments regarding TRS then Anglers can't be left out. We need to be a part of it. Anglers don't want to be short changed.</p>
Yes! I am wondering if economic considerations would be made as well as biological and social (first paragraph, pg 17)? This may help prioritize resource management opportunities.
<p>The interim recovery objectives are a reasonable "irst step" approach to rebuilding Thompson steelhead stocks recognizing that available science respecting optimum rebuilding parameters is very limited.</p> <p>These objectives should provide a reasonable spawning biomass that will allow the stock to "rebound" reasonably well within 1-3 cycles depending on the state of ocean and freshwater environmental productivity over the next 5-15 year period. Genetic diversity will also be maintained. With respect to the draft quantitative recovery objectives for the Nicola, Deadman and Bonaparte River systems, historic information suggests that these systems can support the recovery objective numbers proposed, providing habitat requirements can be effectively addressed and reasonable ocean productivity can be attained.</p>

I am going to refer to the points as bullet points:

starting with number 1- I agree with your approach which is to ask yourself the "Working Group" questions about the additional work that is required to move the plan ahead.

2- I disagree with sustenance fishery being considered because it is very unlikely that the Thompson adult steelhead population numbers will ever reach the former abundance of the past because of water extraction through licenses for agriculture, urban domestic, industrial and commercial uses that almost become cast in stone because of politics and dependency. I hope enough flexibility and political will recognizes that fish do need enough water for survival. In addition I do not have to tell you climate change, population growth in the lower mainland and what that means for angling is another pressure point, impact from ocean fisheries etc. are all things that are for the most part are beyond the control of the Working Group. It may be possible for a First Nation economic fishery (if that is the definition) to happen if it is focused upon stewardship of Thompson steelhead as river guardians, data gatherers through various stock assessment programs etc. or employed in programs to restore in stream habitat or riparian habitat. And there could be some tourism possibilities that have some relationship to steelhead.

3- As I said I do not think it is possible rebuild the Thompson steelhead to past glory numbers and as a result to allow for the commercial net flexibility of the past. It is paramount to work at deciding on a fishing plan for the commercial salmon fishery that catch's very few Thompson River steelhead otherwise if that does not happen we are back where we started. More effective time and area restrictions are vital along with a continuing search and research for salmon capture techniques that are selective and compatible with the recovery of Thompson and Interior Fraser steelhead. Tangle tooth nets, fish traps and fish wheels at locations where they can work are a start in a new direction for harvesting Fraser River salmon. Gillnets should be outlawed in the primary travel corridors/routes where steelhead travel.

4- I totally disagree with ever again having a recreational kill fishery for Thompson steelhead that flies in the face of the Provincial policy that states all wild steelhead caught when angling must be released. The former kill fishery was a part of the problem. Thompson steelhead are trophy fish and recognized as such around the world. The road to rebuild these steelhead is going to be long and hard and the goal should be for a sustainable, robust population that is unlikely to reach anything close to the numbers that will allow for a kill fishery. It is foolish to build up expectations that are not likely to ever be achievable.

5- I agree to try obtain as much information and a data as possible, but it is impossible to obtain all that is desired. Balance as much as possible is also essential however gut feeling, experience, local and professional knowledge, and common sense come into play and often become the means for making critical decisions. The precautionary principle should always be the back up plan. Limited data and science must not be stumbling blocks to moving ahead otherwise Thompson steelhead are doomed.

6- I agree with this objective. It is common sense and necessary-the benefits are obvious.

Considerations P.17:

1-Steelhead numbers appear to be reasonable for each system. I do not have any knowledge of the carrying capacity of each system or other habitat attributes or productivity limiting factors. It is obvious additional stock assessment, biology and onsite observations etc. are necessary to make more accurate assumptions on the number of adult steelhead each system is capable of producing.

2-There should be flexibility in recovery numbers i.e. a range but there should be a minimum recovery objective. I am not qualified on saying very much re. conservation concerns however I would be hesitant to lower the thresh hold number for the "Conservation Concern" to less than 1200 and the Extreme Conservation Concern" to less than 400 which strikes me as a very low number for such a large river watershed.

Terminal fisheries or spawners? I am not sure what the question is asking? So I will take stab at

answering it. It is my view that no angling or sustenance or ceremonial fishing should take place for those steelhead that are holding, ripening or spawning. I am familiar with steelhead holding all winter and into the spring in pools in the Zymoetz River before they spawn in May many Kms. upstream. The pools and area in question are closed from Jan.1 to June 15 to protect those fish from anglers. Very little if any First Nation anglers fish for them during the closed period.

Do you support the social, economic and biological objectives (p.33)? Why or why not? What would you propose?

Yes – but they don't go far enough. What are the legal responsibilities of government. How do they change as we go to species at risk?

Yes

Yes. If the seed stock can be maintained then there is chance to "hook after first nation needs and increase in numbers beyond that is mark of progress without resorting to a complete cease in harvest and a loose in a monitoring method of a social, economic and key species .

Yes

No. There are not enough fish for the Natives to conduct and economic fisher.
Social Objectives - It isn't 1 and 2 it is together Sport Fishers get to keep fish as soon as Natives get to keep fish for whatever reason (Natives are killing steelhead now and they should NOT BE).

Biological- yes I agree
Social- With increasing populations I don't believe it is realistic to have enough fish for the sustenance with modern techniques but if natives want to fish with a rod and reel for food with in the conservation rules for sport for harvest then great.
Economic-1-no. that would only create havoc and no fish.
2- That will come naturally with the success of cooperation in conservation cause the numbers will increase .
3- agree-so long as it increases the numbers of fish to satisfy a healthy conservation levels.

Yes for the most part I do support them. I do believe that the resource would be better off if some Sport Fishing economic benefits, such as license dollars, could be better directed to First Nations. This would both provide them with incentive to keep nets out of the water and support their communities. These are 'world class' sport fisheries that can bring significant economic benefits and are much more sustainable at this point than a net fishery.

I do not support the social objective for a kill fishery, we just want a fishery we don't need to kill them (again).

No. A recreational harvest fishery as a management goal is in disagreement with the provincial steelhead management plan.
A First Nations economic fishery is a terrible idea and misaligned with provincial steelhead management objectives.
Minimizing disruption to commercial and First Nation fisheries is irrelevant in a steelhead management context.

No. Again, it appears that that commercial and ceremonial fisheries are weighted far too heavily in this report. I would propose maintaining a ban on harvesting steelhead in this river system long term.

Although i support first nations ceremonial rights and harvesting rights, i feel that the steelhead should be left alone for that reason. I do support sports fishing but not for harvest.

Leave all of the catching and killing and harvesting for salmon which are in higher numbers. If historically steelhead were used by first nations then i would be more inclined to feel this is alright as long as the steelhead killed are in smaller sustainable numbers.

My lens comes from a commercial fishermen/educator/pro first nations/sports fisherman
Same thing again. Who doesn't support motherhood? Do you really expect people to tell you they don't agree with such pie in the sky social and economic objectives?
I do not support a harvest sport fishery as a social objective. I propose full use of the steelhead portion of the watershed by anadromous spawners as a biological objective. I propose a biological genetic objective that seeks to maximize adaptive capability.
Yes - covers important aspects for sustaining a healthy steelhead population.
First Nations should also be limited to the number, or percentage, of estimated total number of returning steelhead.
Biological Objectives I agree with. Social Objectives NO. It is not Natives first and Anglers second we all reap the benefits together. Not one against the other. Economic Objectives. 1. NO. 2. Yes there is a value to the communities from Kamloops to Lytton. 3. Natives can't have everything. Natives may have to do fishing in a different way. This needs to be policed more. Illegal nets need to be dealt with.
Not entirely. I wonder why Economic Objection #3 has been included, but disruption to any other industry has not. Maintaining a commercial or FN fishery for economic purposes does not contribute to the goal of recovering steelhead populations, so why is this the only industry that gets preferential treatment? This would become a concern when other industries are affected by steelhead recovery actions (ie. restricting water use for other land users). This could genuinely affect the livelihood of a small scale agricultural operation in the same way that a small scale commercial fishery could be affected.
The social, economic and biological objectives outlined in the draft report are supportable. The objectives strike an appropriate balance between not only conservation and sustainability of the steelhead stock, but also socio-economic benefits derived from utilizing steelhead for various purposes.
As I said previously my view for what it is worth is that I can not imagine First Nations benefiting from some kind in river commercial fishery for steelhead if the population were to some how recover to be as large as it was 70 years ago. The only hope for an economic gain is through a stewardship focus where they become river guardians and work on juvenile sampling/biological programs, adult counts etc. and habitat improvement projects. There may be some tourism opportunities that I am not aware of. Recreational fishing opportunities as I see it are limited to accommodation, food and other tourism services. Guiding is not a consideration and frankly I do not see much change in the future unless the number of Thompson steelhead exceeds all expectations and becomes something from the past. Well run operations that depend upon more than steelhead will make it but it will be difficult because of the change in traffic patterns which happened when the Coquihala Highway opened years ago. Disruption to the First Nation fishery and the Commercial fisheries will likely never be the same if Thompson River steelhead are going to be saved unless a major changes in catching practices become a reality. Selective capture has to take place that is the future.

Do you support the detailed management opportunities T1 to T18 (p.18-22) to address the issues in the THOMPSON River system? Why or why not? What would you propose?
Yes – conservation first – what are priorities?
Yes
I think 1 through 17 can be persued and 18 in a last ditch effort if the fish is about to disappear. If the

hatchery method creates a break down in the survival of its gene pool it has to be a very managed method. Maximizing stream spawning beds performance is preferred. Moving hatchery salmon runs to a later date by using later stock spawners should reduce incidental catch. This may not be nice for the fisherman but good for the stock survival. Management of mammal predators (seals) along the coast could increase return as well. These steps over 20 years should provide better surveillance against things in nature that we have little short term effect in

Agree with T1-T-12,

T-13 - this decision should be left to the Steelhead Sporties.

T-14 - If possible, have FN fisheries move toward having revival boxes installed on their catcher boats. Perhaps a smaller version could be designed for smaller boats in their fleets. Although they already use short nets, short sets would aid in reducing steelhead mortalities. Also, because it is the nature of steelhead to swim in shallow water and back eddies, any move toward reducing the number of set nets should pay dividends. Left overnight, the fish caught in them are often dead, precluding revival.

T-16- At first blush the answer would be no. It depends on the interpretation of "selective". If selective means the fishing method contains measures to avoid steelhead in the first place and mitigation measures to deal with intercepts in such a way that steelhead mortalities are kept at a minimal level, then I would agree.

Unfortunately, the Area E gillnet fleet has not been acknowledged for the extraordinary measures it has taken to avoid steelhead. In addition, it has also been victimized by out of date mortality rates.

T-17 - No. Even if listed as endangered and everyone had to stop all interceptions I doubt you would be successful in getting Natives to stop fishing for salmon as it is so vital to them. Therefore steelhead interceptions would continue and render the listing, ineffective. In the meantime, all the other user groups would suffer untold damage or ruin.

T-18 - Yes - I think hatchery use is inevitable and necessary in saving Thompson steelhead.

Gill netting on the Fraser River should be discontinued forthwith.

Commercial fishers should be allowed to catch Chum in the actual river the Chum are in. Changes have to be made NOW.

Chum fishery should use SELECTIVE GEAR only.

There should be a rolling closure on the Fraser River for all Sport Fishing that includes NATIVES while the TRS are migrating through.

If DFO has not moved fishing in the Lower Fraser to areas that will not impact TRS then that should be done immediately. The Status Quo DFO isn't acceptable anymore do you get the message.

All methods for fishing that doesn't impact TRS should be explored and the most acceptable ones started forthwith.

T1-4 yes ,natural environments are needed , naturally. I would be willing to volunteer.

T5-10- agree,fish need water ;)

T11- Im not sure what this entails but always fence off cattle , and build dikes to keep run off from cattle holding areas from entering the streams.

T-12 I don't know about this, are you talking about controlling per miscues fish and evolution ?

T-13 Yes as long as all the 'bold type' Resource Management Opportunities are implemented ,also ,especially the gill nets and T-14

T-14-15 Yes I agree. Bully for Skeechestn.

T-16 In extreme conservation years any percent is detrimental to the species.

T-17 Yes

T-18 I am not in agreement with hatcheries because as soon as its a 'for profit' opportunity corners are cut and the fish will be compromised and also there's proof hatcheries compromise the fishes genetics even in one year. Google surprise, more proof hatcheries don't work. A study by scientists Blouin and Christy on winter run SH on the Hood river. Having said that the all time low levels dictate extreme

action.
I do not support restricting the sport fishery for extended period of time (over 3 years) as this will significantly decrease the public interest in caring for Thompson Steelhead, the community of Spences Bridge, and the South Thompson River more generally. I believe the current model, restricting to October with potential openings is sufficient to protect the fish and maintain interest in the resource and provide some community benefits for Spences Bridge for at least a very small portion of the season.
I support all the management opportunities except T18 and T13. A Hatchery will degrade the wild genetics of Thompson fish and in my opinion that money could easily be put towards habitat rehabilitation on tributaries such as the Nicola, Deadman, and Bonaparte. T13, if you can't fish for them no one will care about them. No fishery equals less eyes on the river from Oct 1 to Dec 31.
Yes, if you are actually prepared to make significant action on any of these objectives. Seems that less than half of them are actionable.
And NO: regarding angling regs. All angling should be closed for Thompson steelhead.
The "management opportunities" on the surface seem like reasonable measures. In regard to T13, I do agree that a complete closure on sport fishing means there will be too few eyes on the water which will make it easier for illegal harvesting to go unnoticed. Perhaps this is a moot point as it is my experience that reporting incidents in the Fraser system has little effect as there are too few conservation officers and my reports of obvious violations are often disregarded over the phone.
yes but also emphasis on water quality and negative impact of farming near spawning channels
More motherhood! Give us a break. What, specifically, are you going to do to "save" Thompson steelhead? The only near term fix for the status of the population is to stop harvesting any of those fish. The best available scientific information says those fish are in the extreme conservation concern zone. Under those circumstances there shouldn't be any fishing whatsoever that jeopardizes a single spawner. Who is prepared to stand up for conservation, rather than pointing a finger at some other user group as the culprit?
I strongly oppose hatchery enhancement of Thompson steelhead, either for supplementation or a so-called conservation hatchery experiment. Hatchery steelhead enhancement should be listed as a potential threat, not a recovery opportunity.
Yes - I particularly like the emphasis on #5 the policy outlines, hatchery steelhead can not replace wild stocks of steelhead, for any objective.
No comment
T18- I don't agree with. This will eliminate the TRS as we know it today. All we will have are steelhead. NO to hatchery. T17 - Yes. This needs to happen so we can get action. No government wants to have another species added to the Endangered Species List and this should make for some action from DFO and the Province. T16 - Yes. All fisheries all the lower Fraser River need to be selective. A Rolling Closure needs to be implemented for the lower Fraser river while TRS are migrating. T14 - Yes. Natives need to stop fishing for TRS just like Anglers. Natives should not fish for trout during the closure just like Anglers. No Discrimination. T9 & T7- Are very important for all rivers where TRS spawn. Each water shed needs to be looked at to ensure that not too much water is being drawing down.
Yes, although I acknowledge they will be difficult to implement. Re: T7. Balancing whose water needs are "most important" with critical habitat areas will be a challenge.
All resource management opportunities recommended that are designed to reduce steelhead encounters and associated mortalities with the exception of T13 & T17 are supported.

T13 is deemed excessive and does not strike a reasonable balance between steelhead stock recovery and the socio-economic benefits derived through provision of some encounter access to the resource. The existing recreational fishing plan in place in the Thompson River at this time is highly restrictive and mortality levels associated with catch and release in this fishery are extremely low in comparison to the socio-economic benefits derived from providing some fishing access to the resource. This being said, it may be plausible to reduce the existing recreational fishing opportunity based on present levels of abundance by 1 week to encourage other fishing sectors to also support additional encounter reduction measures in their fisheries.

T17 is not a highly desirable option because listing and de-listing under The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) process is a long, complicated process that requires several years to secure either a listing or delisting classification. The COSEWIC process lacks the kind of flexibility and time sensitive mechanisms needed to effectively manage and implement a fish stock recovery initiative. The present abundance of Thompson River steelhead requires prompt action to implement effective measures to reduce mortality of steelhead and the COSEWIC option simply cannot respond quickly enough. Should the stock rebound to levels where additional fishing opportunities can be entertained, the COSEWIC option cannot respond quickly enough to provide available fishing opportunity. A more effective approach is for the fish managing governing agencies (ie: Department of Fisheries and Oceans (DFO) & Provincial Ministry of Lands and Natural Resources Operations (MFLNRO)) to jointly agree that immediate & substantial recovery actions are needed and implement them. If, ultimately, the COSEWIC option has to be exercised, this action is an admission of failure that DFO and the Province lack the "intestinal fortitude" to address this issue in a responsible and balanced manner

I support the detailed management opportunities that are listed on p.18. All good things.

Special attention to the Nicola and Coldwater Rivers in the Merritt urban area should be made during the summer months and drought periods to protect fish habitat and keep people and people activities out of the two rivers. Shade and protective cover should be enhanced to maximize fish protection. Trails and access should be eliminated for ATV's and boats and people. Music festivals should not be allowed to party in the rivers or throw trash into them.

Very supportive of P.19 and finding ways to increase water flows into rearing areas. It is imperative that water license holders who have gained more and more water than should have been expected from fish rearing and spawning areas at the expense of fish have to return some of that water back to where it belongs.

Water storage areas can play greater role through dam improvement or even heightening them to increase the storage area. In some instance it may be possible to build additional dams and storage areas above fish migratory passage. Cold water from the lower depths in a reservoir should be considered as cooling water during the summer months and released into rearing areas.

"I support fine tuning"

A much greater influence and push for "fish first" minimum essential, biologically calculated water flows are a priority that all governments, industrial, commercial, developers and agriculture proponents and farmers must understand and be prepared to accept that "fish first water" has to be the priority before any new water license can be signed off. I understand that what I am proposing is after the fact because for all intents and purpose all the water in the Thompson steelhead spawning and nursery area is allocated and tied up in existing water licenses. As difficult and time consuming it may be, each water license for the watershed should have to go through review process and expect that some portion of the original license apportion of water should have to be released back into the water source on a permanent basis particularly at critical migration, spawning and rearing times.

Where it is possible every effort should be made to work closely with water boards to begin or continue the negotiation for the so called balance of water needs for fish and the other users but in the discussion(s) "fish first" should always be the priority and be acknowledged. There is no compromise for fish because without adequate water flows their numbers decline and in the worst case scenario they cannot survive.

Work with First Nations, Stewardship groups, consultants, all levels of government and stakeholders to find and identify with signage cold water refuge areas that are so critical for fish during hot dry summers when water flows are low and temperatures are high and often at lethal survival limits. These cold water sites are typically few and far between and should be protected from cattle and human intrusion. Where possible and desirable consideration should be given to enhancing these habitats to provide greater food production, shelter, diversity and space for juvenile salmonids.

Maximum adult Thompson steelhead abundance is critical as a result of the decline of these fish. Every single adult that can be saved is a critical part of the puzzle. For at least one life cycle all fishing for them must stop. Of course that is impossible to achieve because some situations are impossible to eradicate or alter to the degree we all desire. So all domestic Commercial, Recreational and First Nation fisheries should be closed, severally curtailed or altered so no or almost no Thompson River steelhead are killed, no exceptions. Where there could be leeway would be where the most advanced, efficient and well managed and "monitored" selective fishing systems are in place e.g. fish wheel, fish trap and tangle tooth nets in locations where steelhead tend not to travel through.

The recreational fishery should not fish by any any means in the Thompson River watershed proper. On the lower Fraser recreational fishing should be restricted so that no fishing takes place during the steelhead migration period above the Mission Railroad Bridge.

Downstream from that bridge location it was unusual during my time fishing (living in the Lower Mainland during the 1950's,60's and early 1970's)off of those sand bars for someone to hook or catch a steelhead. If fishing methods and knowledge have advanced to the degree that catching steelhead below Mission is now common or at least not unusual then it makes sense to ignore my advice and close that fishery.

The argument that closing down recreational fishing on the Thompson River proper will cause anglers to lose interest in the river and its fish will for some but for those who care they will follow what is happening and even get involved in field trips , learning and contributing and being a part of the solution rather than the problem. Using a floating fly line and a surface fly would be a low contact angling technique that could work but would likely cause resentment. The idea of using that technique but only with a fly with no hook could provide some interesting information, data and enjoyment for some anglers. It should be considered as a possibility that would cause no impact to steelhead.

Fishing for trout during steelhead migration times should consider defining the tackle to be lighter rods, line and flies/lures and possibly eliminating some locations for angling during steelhead migration and holding times to minimize contact and to eliminate the perception steelhead are being targeted with light tackle.

Encourage First Nations to develop and enact fishing bylaws that encourage no fishing for steelhead and develop salmon capture using selective fishing techniques e.g fish wheels, traps, beach seines and dip nets. These techniques are used in the Skeena and Nass river systems and do work. Gill nets are not a tradition and they are not selective. They should be abolished.

No hatchery intervention should be considered for many reasons. Most important it is an unknown if even Conservation Fish culture would work at all let alone contribute to the rebuilding of Thompson steelhead. The carrying capacity of the steelhead rearing areas through out the Thompson watershed must be determined before marching into the hatchery unknown which sounds like a daunting undertaking considering the limited budgets and staffing to carry out such work.

I spent a good part of my life working in fish hatcheries, being a fish culture manager at the Pacific

Environment Institute in West Vancouver during the late 1960's and early 1970's and I remain a Director and was the Manager for two separate terms of the Terrace Salmonid Enhancement Society who has contract to manage the Deep Creek Chinook Salmon Hatchery just out side of Terrace. The primary purpose of the hatchery is to carry out an annual tagging/enumeration of Kitsumkalum chinook salmon. This is a key stream program and provides the longest duration of data and most important source for the entire North Coast and is a critical source of data for the DFO in their ongoing negotiations and meetings with their American counterparts to manage chinook from both countries that migrate past Alaska and BC to our country and the Lower 48 (4)states. The long time average of adult chinook returning to the Kitsumkalum was about 13000 and has in recent times declined to closer to 10000 and the hatchery component makes up about 5% of that total and will not rise fortunately above that figure because the hatchery is at its maximum production capacity. We are very concerned over genetic changes to the wild fish which you likely are aware are very large specimens, maybe the largest in the world. These chinook are similar to Thompson steelhead, both being very special and rare races of fish with traits not common among their brethren.

We tried to carry out a summer steelhead hatchery augmentation program at a time when I had nothing to do with the hatchery and it did not work because holding the adults over many months turned out to be a nightmare, most died. It was a good result because there was no need for a hatchery program to begin with when there was strong, wild population of Kalum River steelhead that only needed better management and a reduction in the kill fishery to what as you know is now a catch and release fishery. I found the water supply for the Deep Creek hatchery which is a combination of ground water and surface water which allows for the manipulation of water flows to take advantage of the ground water stable temperature all year. To be able to find this water combination within the Thompson system maybe difficult or impossible. Depending on surface water is not good and likely would not to work unless it could be supplemented with ground water from wells or a spring water source. The chemical makeup of the water is critical, fish will not tolerate some natural sources of groundwater as you are aware so to find that right combination is no easy task.

I worked at the Kootenay Trout hatchery for two years and saw first hand the many diseases that cultured fish are exposed too (also at all the other facilities where I was employed). We think that our medical system does not know enough about human diseases but when compared with fish diseases it is light years ahead in knowledge and treatment. With fish diseases I am sure much more is known now compared to my working time but I know that much remains to be learned and is a huge challenge and a gamble to take on when we are trying to save a threatened population of steelhead.

What most people do not understand is that once you go down the hatchery trail money for study and assessment is often taken away or reduced in order to finance the hatchery operation. As well the emphasis moves away from wild fish rehabilitation to a mix of two directions trying to save the fish under duress and it is inevitable that conflict over time emerges over which direction to take.

We know that there are two streams of thought when we talk about genetics, nevertheless it remains a huge issue and I am not going to talk about it further. other than to say it is a huge gamble. Do not do it or go there, we need to put all of our energy, time and funding into saving the wild Thompson steelhead and concentrate on focusing and moving in that direction.

Do you support the detailed management opportunities F1 to F22 (p.23-27) to address the issues in the FRASER River system? Why or why not? What would you propose?

Yes – conservation first.

Yes

I believe the people tasked with this question would answer it best. I took part in the t section as I felt that was where I had the greatest input. My comments at the end of the last question would have

bearing here.

F-1 - don't know

F-2 - Area E already has openings designed around the peak migration of TRS. I'm not sure what else can be done. Most of the Chum are migrating through October, with the smallest part of the run occurring in November, so moving the openings to November would reduce the success of catching chum.

F-3 Our gear is already selective for what we're trying to target. Our intercept numbers are within reason (especially if you use the more reasonable mortality rates associated with that selective gear).

F-4 There are some possible measures FN fisheries could adapt in order to reduce steelhead encounters. (see T-14)

F-5 - likely the timing of chum fisheries would mirror Area E's fisheries.

F-6 to F-8 Ridiculous and untenable

F-9 - don't know

F-10 - ESSR fisheries are at the expense of legitimate commercial fisheries and should not be promoted.

F-11 - unreasonable, especially if Natives can adopt some of the Area E fleet's improvements

F-12- 13 - perhaps, but they have already shown only minor success in the lower Fraser, in particular.

F-14 Much has been made of "Tooth Tangle Nets" as a solution to bycatch.....it is a myth perpetuated by Fred Hawkshaw. Most of the fish that are caught with these small-meshed nets die very quickly because they are not caught by the teeth, but by the maxillaries - the bones around the mouth.

Sockeye and pinks have very soft maxillaries get caught, but tend to drop out of these nets (especially when they die) if the net comes in under strain - windy conditions or heavy tide conditions. Chum, coho, springs and steelhead are very susceptible to being caught because of their very bony maxillaries. They die quickly because their mouths get jammed into the small mesh resulting in them not being able to open and close their mouths. When they cannot breathe, death comes quickly.

River bottom nets would be impractical. Most gillnets are 'drift' nets and any contact with the snags and deadheads on the bottom would destroy the nets.

Drop weedlines, however, have been used to reduce steelhead encounters in several areas of the coast. While somewhat effective, they have also been deemed a safety hazard by FishSafe.

F-15 don't know if it is feasible. Weirs have been illegal in the past.

F-16 see F-14

F-17 at present there are no FN fisheries more selective than Area E

F-18 - see F-15

F-19 - perhaps

F-20 maybe

F-21 - this has real possibility

F-22 - yes, especially education.

Let the Sporties determine whether they want to stop fishing for any particular period of time. I wonder, though, about the mortality numbers. They are assigned 1%, but what is the cumulative effect of catching and re catching (perhaps many times) a steelhead. The first time may be 1%, but what about the 5th time or the 8th time. Of the 325 Thompson River Steelhead that returned in 2016, how many times did they get caught and recaught?

Adjusting timing. Steelhead travel in mixed species corridors. It is difficult to shift all of these major fisheries out of the way on the premise that a steelhead might be caught as a bycatch. The cost of doing

<p>so would be prohibitive.</p> <p>Changing Gear - Getting fishing sectors to change to some other type of user group would be prohibitive. The TRS group is never going to have that kind of money.</p> <p>Test fishing - they are conducted in those corridors for a reason. Shifting them to a place where the target fish are NOT is ridiculous as a concept. Moving fishing fleets from where the target fish are found is also "out to lunch".</p> <p>Stock identification in all approach waters including Alaska - good idea but expensive - probably not practical.</p> <p>Predators - seals and especially sea lions have a predilection for shiny salmon. I have witnessed first hand their choice of a steelhead over eating a chum or pink. There are so many of these voracious animals concentrated at all the river mouths in the Province, it is not a stretch that they must be impacting steelhead substantially.</p> <p>Restricting allowable gear: I can't see how you could possibly reduce Area E's access to the Fraser Chum harvest any more than it is already without shutting it down altogether. If that "ultimate solution" should be employed, it needs to be on an equal pain basis which includes ALL user groups.</p>
<p>I BELIEVE NO ONE HAS THE RIGHT TO PARTICIPATE IN ACTIONS THAT CONTRIBUTE TO THE EXTINTION OF A SPECIES.</p> <p>As farmers we have had loss do to a variety of ways and had no compensation from any one .Save for a rainy day and diversify.</p> <p>There is a lot of information and observation in F-1-22 that it would be a huge benefit to implement as many opportunities as possible.</p> <p>Possibly there could be compensation an a temporary basis (one life cycle) to those that would suffer irreversibly.</p>
<p>Yes I strongly agree with all measures to curtail non-selective net fishing in the lower Fraser. These are significant causes of mortality for the Thompson River Steelhead. Unless these are addressed substantially and meaningfully it makes little sense to close the Sport Fishery more than the current model - with an October ending season.</p>
<p>I agree with the management opportunities.</p>
<p>Yes, if you are actually prepared to make significant action on any of these objectives.</p>
<p>And NO: regarding angling regs. All angling should be closed for Thompson steelhead.</p>
<p>I particularly support the use of more selective gear in fisheries on the Fraser system.</p>
<p>great commercial fishing plan. I have always felt the most negative impact is firstnations net fishing and commercial gillnetting during the steelhead migration</p>
<p>None of these go far enough under present circumstances. If we are serious about conservation, no one should be fishing. End of story.</p>
<p>I propose Fraser chum hatcheries employ fish culture techniques (eg select for late run chum brood stock) that will move the peak of the chum run back into mid-November where it used to be pre-SEP. This would allow increased chum harvest while reducing Thompson steelhead and coho by-catch.</p>
<p>Could not find this section, Just figures and graphs on this page.</p>
<p>Restrict wild steelhead harvest/retention by bar anglers.</p>
<p>F22 - This needs to occur all along the TR and Natives must adhere to NO fishing when the TR is closed.</p>

<p>We can't lose anymore TRS. F11 - Eliminate all Gillnets for ALL people fishing for Chum when the TRS are migrating through. The Chum and other Salmon fishing needs to be moved during the migration of the TRS. The number of TRS caught in these fisheries are under reported. This is having a significant impact on the TRS and DFO needs to make changes forthwith.</p>
<p>no comment</p>
<p>Most of the opportunities outlined in F1 to F22 can be supported in principle with the exception of the complete angling closure proposed in F22. Steelhead by-catch and associated mortality does not simply occur in non finfish sport fisheries, sport fisheries directed on sturgeon and probably directed sport fishing activity on cutthroat trout.</p> <p>There is also a need to convene with the non native and native commercial interest groups to “flesh out” what is pragmatically possible with respect to options F1 to F21 and the non sport elements of F22. Applied to the extreme, there is a strong likelihood that unnecessarily high negative socio-economic impacts could result</p>
<p>I mostly agree with this section, my comments all through would apply to Fraser issue.</p>

<p>No detailed management opportunities to address the issues in the IN-SHORE Ocean Fishing area have been created yet (p.29-31). How would you propose to adjust timing, area or gear of commercial salmon fisheries?</p>
<p>Yes – conservation first</p>
<p>Yes</p>
<p>Here I believe my earlier comments of using a later spawning stock of salmon would put the inland fisheries at a better chance of fewer incidental catch. I think the Fisher would be happy to change gear to allow better survival rates and maximize his long term fishing yields.</p>
<p>See F-22 - Scientific information about TRS is lacking. Adjusting the corridor fisheries without specific information is counter-productive, because ocean conditions are changing and the timing of all these runs is in flux. Moving the dates to deal with these changes without real time information would be ridiculous.</p>
<p>Steelhead travel the ocean with salmon, they go up the river when conditions suit them it happens to be when the chum move. Who knows where they are prior to the Fraser. Radio tags would give a better idea so that fishing these areas could be avoided . I sport fish for Chum at the Albion Slough the last 5 years, I have noticed an incredible increase in the seals that are feeding that area, as well as my catch, effectively.(the Deer are controlled)</p>
<p>Much more research should be taking place to understand the role of predation on Thompson Steelhead smolts. The seal population has drastically increased and significant predation rates especially on Hatchery smolts (see Austen Thomas's work) has been demonstrated in research to take place. This is concerning if hatchery production is being considered for Thompson fish. Targeted harvest opportunities on specialized smolt hunting seals, for First Nations or others, may be a very effective means for improving survival of Thompson Smolts.</p>
<p>Push the timing back of the Chum Gillnet fishery in the Fraser. Chum salmon need to be released at a later date from hatcheries IE Chehalis, Stave, Inch so that the run timing doesn't align with peak migration of Interior Steelhead. Look into selective methods for FN fisheries.</p>
<p>I particularly support the use of more selective gear in all commercial fisheries.</p>
<p>Don't allow net fishing for first nations Use traditional methods so that they can selectively target chum without killing steelhead. restrict commercial during the steelhead migration. Catch and release of</p>

<p>steelhead and coho while gillnetting does not work.</p> <p>Studies on predators of steelhead like birds, seals, sealions, northern pike minnows etc. Columbia river has a reward for large pike minnows which are over abundant and have a negative impact on the survival of native species like salmon and trout. Would we consider this in the Fraser if studies show that pike minnows or other fish like that are out of balance.</p>
<p>STOP FISHING IN ALL TIMES AND PLACES WHERE THOMPSON STEELHEAD ARE PRESENT. All other measures itemized are lipstick on a pig.</p>
<p>Moving the peak of the enhanced chum run two or three weeks later would reduce steelhead by-catch in all ocean fisheries targeting Fraser chum. The U.S. fisheries largely target enhanced Fraser chum. The most practical way to reduce the amount of fishing taking place on the U.S. side is to reduce enhancement targets.</p>
<p>Only allow rubber based netting for commercial fishing, the scales being torn off the fish from the use of gill nets. Unsure about the timing.</p>
<p>No comment</p>
<p>Predators such as Seals and Sea Lions need to be culled (open season) to keep their numbers down. They are wrecking havoc on the Salmon & Steelhead as they enter the Fraser River. They need to be dealt with.</p>
<p>no comment</p>
<p>Each of the general "opportunities" identified has the potential to reduce steelhead interception but implementing some of these options in large expanse ocean fishing areas could be problematic without massive foregone catch of available allowable catch on targeted species. These options can be supported but significant collaboration with the commercial fishing industry will have to be undertaken to see what is reasonably "doable" with respect to implementing these opportunities</p>
<p>My comments through the other sections talk about timing etc. No need to repeat myself</p>

<p>How can we evaluate the opportunities and make decisions in a timely manner, in light of incomplete science/data (p.34)?</p>
<p>Conservation first</p>
<p>Needs to be a high-level group with representation from three governments to identify priorities and issue requests for proposal to get projects consistent with objectives</p>
<p>A common pooling area of fishing data is needed to make decisions from. This data needs to be charted to see trends . I think this an area for an arms length funded group (such as Fraser Basin Council) funded by commercial check offs, provincial,federal and local and first nation contribution on a per capita basis. The trends would be monitored and reviewed by board of all stakeholders who had power to make industry-wide decisions. This would be ideal but maybe for drastic emergency decisions this scheme could stand and for longer term needs it could go back to backers for thought. Society does not like to loose say but delegation of authority is necessary for progress. Evaluation procedure must be built in here to correct bad practices</p>
<p>I honestly don't think you can without good science, however</p>
<p>You don't need science. You need to stop the interception of TRS by Commercial Fishers (Native/Non-Native no discrimination). You need a rolling closure to FIN Fish fishing on the Fraser River. The rivers where the TRS spawn need to be enhanced. There is lots being done right now and I was impressed with what is being done but it needs to be coordinated. All the historical data needs to be reviewed. For some reason the TSWG hasn't found it necessary to find this information and document it.</p>
<p>I don't know how I'm supposed to answer this question, there is a lot there. you need to post another survey on line for people to answer step #4</p>
<p>Cautiously managing fisheries by employing a conservative approach to harvest is the most likely means</p>

<p>of ensuring longterm success with limited data. Ensuring that First Nations are on-board and provided with benefits not directly related to just their particular net fisheries would also go along way to ensuring longterm sustainability of these fish.</p>
<p>Issues that pose the highest impact on Interior Steelhead must be dealt with first. I would disagree to a certain extent with the incomplete data, there is a gill net fishery in the lower river that has been in place during the peak migration of Thompson Steelhead for quite sometime and we have seen a steep decline in that time how much more data (proof) do they need?</p>
<p>The #1 objective should be to get this species listed under the Species at Risk Act ASAP.</p>
<p>You don't need to wait for data to know that commercial fishing in fall, first nations fishery in fall, polluted spawning beds and water temperature are major factors for steelhead survival so start with these areas and start measuring if whatever is being tried is making a positive difference on the numbers over the years.</p>
<p>There is more than enough science out there right now to instruct us that harvest elimination is the only way Thompson steelhead have any hope of rebounding. And, the situation is even more dire for the several other interior Fraser summer steelhead stocks that have fallen off the radar completely.</p>
<p>Better data on bycatch could be collected very quickly if DFO was actually serious about doing it.</p>
<p>No comment</p>
<p>If you implement a selective fishery on the Lower Fraser and move the Salmon Fishing around to different areas so intercepting TRS is minimized then science isn't an issue.</p>
<p>leverage the interests of other organizations (volunteers, researchers, NGOs, industry, etc.), implement adaptive plans, don't "put all your eggs in one basket"</p>
<p>An evaluation plan needs to be developed by an independent "expert" fishery authority working in collaboration with DFO and FLNRO fishery staff. The "independence" of the fishery authority has a better likelihood of being deemed neutral and non-biased with respect to the evaluation impacts calculated for each resource management action ultimately implemented to reduce steelhead interception and mortality. Buy-in from all groups whose activities impact steelhead negatively is very important for any evaluation initiatives to have any chance of success and acceptance.</p> <p>DFO and MFLNRO need to actively explore all sources of available funding and secure adequate funding to implement the evaluation plan.</p> <p>Government agencies and fishing sector participants need to "come to grip" with the fact that high precision "science" will not be available in the short term but immediate actions of a substantial nature must be initiated in the short term if steelhead recovery has any chance of success. DFO & MFLNRO must agree to use the best science available at this point in time (as imprecise as it may be) and compliment the science shortfalls with "expert opinion" to evaluate how effective the resource management opportunities implemented as part of a steelhead recovery plan turn out to be. Evaluate using the best available information and then make decisions accordingly. Use a risk averse approach if high degrees of uncertainty exists and you can be assured it will.</p>
<p>I listed my reasons why not to go down the hatchery road.</p> <p>When we talk about incomplete science/data we have to rely upon knowledge- including local, experience to do with the Thompson steelhead and related experiences from elsewhere along with the collapse of the Thompson steelhead numbers.</p> <p>There is no time for dithering and hoping there was more information and data, the precautionary principle has to apply and be the driving force.</p> <p>Conservation takes priority over all fisheries, including First Nations Fisheries when all other contributing kill fisheries are closed down including recreational catch and release fisheries.</p>

The hammer came down on the Bell Coola River a few years ago when the Bella Coola First Nation Said they would only stop fishing for steelhead when the catch and release recreational fishery stopped fishing. That steelhead closure remains in place for both the First Nation and the recreational fishery to this day.

As I have moved through my comments you can see my attitude has hardened less open to compromise. The time has come to save Thompson River steelhead, there has to be Commercial and First Nation fishing methods implemented that are absolutely selective, no guess work no maybes. Until such time as selective fishing methods are in place those fisheries and likely the recreational fishery the length of the Fraser River will all have to be closed during Thompson steelhead migration times. As well far reaching time and area restrictions have to be applied to all Commercial and First Nation Fisheries in Canadian waters and Canada must negotiate with American authorities to restrict their commercial fisheries during the Thompson River migration timing.

What are the most immediate needs to act upon to reverse the decline of Thompson steelhead?
Government willingness
Involve the agriculture sector. Focus on habitat in our area.
Quit taking steelhead. Leave them alone altogether. Don't analyze them into extinction.
Maximize watershed spawning beds. Manage seal population. As all stated try to move salmon return dates for hatchery produced stocks.
Leave them alone.
enhancement, probably in the form of hatcheries
Stop the interception of TRS in the lower Fraser and enhance their spawning habitat.
Put more fish in the system (TEMPORARY HATCHERY, OR MORE NATURALLY MAN MADE REDS CAGES) and remove the hazards along the way (to) the ocean (LEVEY 2014 SAYS 55-70% MORTALITY RATE BETWEEN THE THOMPSON TO THE OCEAN and on the way back (NETS) also while in holding over winter (ILLEGAL FISHING) Must have more river stewards and punishment and education ie; Ghost Net project by the Lytton band educate all children, success starts at an early age.
ban the chum gill net fishery. Minimize angler impact by putting into effect a law to reduce fish handling and banning the removal of fish from the water for pictures.
(1) Close the Thompson River to ALL sport fishing for a minimum of 5 years. (2) Close the gill net fisheries on the lower Fraser River during steelhead migration times. (3) Institute a hatchery stocking program (Spius Creek or other) using brood stock from the Thompson River.
The predation factors at work in the Salish sea, confirmed by initial research and related to an explosion in the Pinniped population. The continuation of lower Fraser net fisheries are of course significant factors.
The removal or change in timing of the chum gill net fishery.
Limit all sources of mortality. Close all angling, get this species listed under SARA and take DFO to court every time a gillnet fishery is authorized.
A good start would be increased enforcement of existing regulations on FN and sport fisheries. Anecdotally, I am constantly observing violations; almost every time I am on the river.
commercial native fishery, commercial salmon fishing in fall on the tidal Fraser, pollution in spawning channels or non ideal conditions caused by altered environmental factors.
STOP FISHING.
Actually do something to reduce bycatch. The status quo is not good enough.
Better education and angling control, we need a good understanding of what is happening out in the

open water. Habitat restoration is likely needed for much of the Fraser River basin: regulating commercial traffic throughout the Fraser, rebuilding riparian stability, and water quality monitoring should all be implemented for the greater salmonid populations.
More control over commercial interception, start harvesting seals.
See the above question.
reduced fishing in the short term, focus on restricted water use (if forecast is for more drought), and habitat recovery
Current rainbow trout regulations for the TR allow for "Trout/Char quota=2 (non under 35 cm). This needs to be changed to allow Zero, None. Total catch and release until TRS are brought back to historical numbers. This should be done for the 2017/2018 Fishing regulations that are going to print soon.
DFO needs to adopt a "mindset" that steelhead are basically another species of salmon and manage this species similar to how they would manage weak salmon stocks (eg. Sakinaw / Cultus sockeye, interior Fraser coho, etc). Placing a lower priority on
I have said them a number of times no need to repeat myself.

What is your confidence in the draft recovery and management plan, as developed so far?
My confidence is in the people, not process
Best way to proceed. This is a great approach given the budgets and governance structures. Keep it going.
Somehow this plan has to be bought by all of the stakeholders. The plan has to be sold that it was the stakeholds idea of how it should be. Maybe going to each sector of the stockholders and and asking what do you think of this idea is one way. Doing the things I mentioned in the previous question could lessen the pressure and give time to have sectors to buy in. Think the upper reaches have bought in but the lower Fraser will take time.
Quite a bit of it is based on nothing that is practical or within the realm of possibility of making the changes necessary to solve the shortage of TRS. I believe there is something more insidious affecting their future than anything obvious.
This is not a draft recovery and management plan is a compilation of date. A plan needs to come out of this and then the Politicians need to get on board.
Its good and I hope when its presented to upper government that it will be the solution to the problem of extinction of a significant species that im sure no one in senior government(or anyone for that matter) wants to have that blood on there hands.
Looks like a lot of thought has gone into the Plan. However, now is the time to minimize talk and take some action. I don't see any political will to solve this problem.
Moderate. If managers can severely curtail the Lower Fraser net fisheries than there may be a possibility for some recovery.
Fairly confident.
Low. Stop developing plans independent of existing fishery management processes and take action.
I have confidence or hope as something needs to be done.
Zero. It isn't a plan at all. It's nothing more than an exhaustive list of options that has taken a ridiculous amount of time and resources to compile while the steelhead continue to slide into oblivion.
Very good and detailed management plan, I believe the "in season" forecasting technique should be used to open/close recreational fishing dependent on spawning numbers.
If words were steelhead there would be no problem.
I'm waiting for the actual plan in the spring of 2017. This document is a compilation of data and meant for discussion purposes. It has done it's job.
A great start. I appreciate the acknowledgement that action needs to be taken immediately, regardless of

who "owns" what. We are all in this together. Thank you for the opportunity to comment.

The draft recovery and management plan developed so far is really an "opportunities (options)" document with some supporting information that outlines the kinds of opportunities that could be entertained to undertake effective steelhead recovery. In this regard, the draft plan is a very good plan but the plan is not an actual recovery and management plan that clearly outlines the opportunities (options) that the governing agencies (ie: DFO + MFLNRO) have decided will be implemented in the upcoming salmon fishing season. We are confident that the present draft adequately portrays the issues that need to be addressed with regards to steelhead recovery but the real "rubber to the road" decisions surrounding actual implementation still need to be developed (ie: the implementation plan).

I have always been a positive person but I am becoming less and less so because politics is so intertwined with everything we do. And there are too many people on the planet. Balance and sustainable development have become buzzwords, I am sick of hearing them used because they mean nothing.

We are down to the 11 hour for Thompson steelhead and the plan as drafted could maybe do the trick, but it must take the tougher precautionary approach to save these steelhead and say to politicians, stakeholders, developers, other resource users and the list goes on that we may lose a signature species of fish because of human impacts of all sorts, as well as questionable past management of the species by the province and the inability of the DFO to control the by catch of these special steelhead in the commercial fisheries and anglers, First Nation and Commercial fishers are all guilty of contributing to the decline of these fish and not doing their part to conserve them. All of what I have said means that very strong action has to now take place. It is time to stand on principals and say enough is enough.

Other feedback about the draft recovery and management plan:

Think the type of gathering held in kamloops should be staged yearly and maybe with a bit more lead time. Stake holders should be asked if they could help by making contributions to this process and in plenty of time to put a good budget forward to cover costs. These are major considerations for all and should be paid by all. Thing is many of us are already contributing in kind and that should be counted as contribution in grant sourcing.

Financing will be the main determining factor of whether this group is successful or not. Trying to run this group with 5 thousand or 10 thousand dollar grants will not sustain it or allow it to explore solutions.

I believe substantial moneys could be gleaned from the user groups who benefit from the economic benefit of the Fraser Chum fisheries. A tax of 1 or 2 cents per pound levied on the Area E, Area D and various Native economic fisheries would generate hundreds of thousands of dollars if they were allowed to harvest the maximum allowable catch each year.

Having said that, it would be a hard sell to get those fishermen to "pony up" if all we were to be allowed to catch was the pitiful 15% we are now catching because of steelhead restraints. Steelhead encounters in these areas are relatively low and the measures Area E and D have adopted make mortalities very low.

This plan seems that it focuses on Natives first and Sport Fishers second. Not good.

As mentioned tagging work should be taking place assessing outgoing smolt survival, and predation, for Thompson Steelhead especially if hatchery production is being considered.

This group should be banding together with the SSBC BCWF and BCFD to come together as one big voice instead of a couple smaller organization. No one wants to take responsibility for these fish (Provincial and Federal), a larger group will be able to twist there arm more instead of a couple small organizations.

Close angling.
More education like the salmon enhancement program. Most of the gvr is from another part of the world and even those who grew up here have no idea of the diverse habitat that the Fraser river, estuaries, and streams and rivers that run off the Fraser, and the forests that line the banks Education of the steelhead is hugely important as most people don't even know what this species is which is scary as a british columbian. Thats why i support sports fishing for steelhead if numbers allow (catch and release fishery) because this is the greatest education to learn about the steelhead in its natural environment.
I think the plan needs to recognize that Thompson steelhead bycatch problems are a direct result of chum enhancement decisions made by SEP in the 1970s that have never been seriously revisited.
Hatcheries (pages 22, 37, 62) have proven detrimental to wild steelhead populations in many Pacific rivers. NO HATCHERIES!
A good foundation document that will be useful in creating the actual "Thompson Steelhead Recovery and Management IMPLEMENTATION Plan"
I found that this survey was difficult to do because I had to make notes and stick with them and not go back to the plan because I was not able to save my comments while I was working through the survey. That is all I have to say good luck to all of you to find a solution to an extremely complex task that lies ahead. I am prepared to respond to any comments or questions.
Consider stream fertilization to address nutrient deficiencies once more smolts are returned – see Koney, Ashley, Slaney and Paul (1998) link to paper here

What was the best part of the day?
Overall format for engaging different governments and stakeholders was great
Group break out.
Breakout into the user groups group
the ease of being there and the renewed hope that action is a reality. Also the efforts of FN and willingness to be team players.
I wasn't there or I would have been happy to convey the above as loudly as possible. Frankly, my tolerance for process and process junkies has reached its end. We need action, not process. Look around and ask yourselves what the endless consultative process that fisheries management has become has actually accomplished in the past decade or more. Make a list!
Lunch was great.
The breakout sessions in the afternoon. Would have liked to see more time spent on this rather than the "networking" time in the morning.

What part of the day could have been improved?
Start at 830
Facilitator allowed many of the speakers to wander off on tangents that were emotional and heart felt, but not on topic. A number of the testaments enlightened us as to the effect of the crisis on their lives but wasted a lot of time that should have been spent on practical solutions.
A lot of people came from a lot of places. This conference was not cheap to put on so it was incumbent to spend the money wisely. I'm not sure the effort was a good value. A number of suggested "solutions" were so impractical to be laughable. Unfortunately they all had to be dealt with and each took time to dispose of. They took time away from the already little time available.
The title of the TSRM Plan was deceiving and through people off which wasted time.
Break out sessions
I didn't find the morning poster presentations particularly useful. This time could have been spent doing

actual analysis of the plan.

Was there anything not covered that should have been?

Did well for first time out

not really a chance for everyone to state practical solutions.

How step 4 was supposed to be answered.

Did you improve your relationship or level of understanding of steelhead issues with a different government agency (DFO, MFLNRO), a First Nation, an economic sector, or a sport fishing group? Explain.

Yes, First Nations, DFO, Teck and others interested in habitat

Yes. Rubbing shoulders in a group setting exposes an immense knowledge base. Love the list of participants as then you can look and bring back a name and who it was connected to. Names i never remember .Think the group remaining in the original meeting room was to large and maybe the reason for some of the tension there. Such a large cross section of culture creates stress in itself and can be expected. Not knowing the mix until it is at hand leaves little but to play the hand. For many of us we had participated in this type of thing. For the strong personality these days are a learning situation. Some learn quickly and others not.

Yes, especially FN

Yes - DFO and First Nations have to build more meaningful relationships in the very near future. A critical sustenance food for the community has been in great decline, and much of it has been due to poor management schemes by the DFO. There is still time to implement strong management plans for necessary action needed immediately.

Absolutely.

What new information did you learn today?

Not a fisherman but a watershed man and got some feeling of what it is like from that end and how things might be implemented if given a chance to work. A whole lot of experience in the gathering that just has to be utilized in an orderly manner and not everyone has to invent the wheel. Let the expert work in his field and then he has ownership of this plan. Manage the group with an open hand and let him move a bit so he enjoys his job.

how dire the situation is.

Habitat restoration is being carried out.

simply lots.

There is lots of work being done in the different rivers where TRS spawn but it doesn't seem to be coordinated. They haven't looked at historical work that had been done in the past. Is what was done in the past working?

Any other comments on location, timing, venue or organization of the day:

Great job by Fraser Basin Council staff today. Tricky business.

Think I've alluded to this question in earlier comment.

Like to know when this discussion would open to to be discussed at our other community groups as I think that is what I heard as a general direction this would be going. Think until draft is final it might not be good to get into much detail of what is planned.

I hoped to convey how TRS limitations impact our ability to make a living.... that these restrictions impact us to a greater extent than most, if not all of the other user groups

Good except that December is not a good month to do this.

Location- Thompson river steelhead

Venue- parking a challenge, the heads up on the parking was appreciated.

-acoustics good, food good (im easy to please thought)

Timing- (for the day)It needed more time I would have liked to start at 8:30am.

-(for the steelhead)dangerously late.

Organization-fair enough, more time would have been great.

Mike Simpson- good words, demeanor to create a relaxed but purposeful day.

December isn't a good month for this type of conference.

All of these were good in my opinion.

Appendix 4 – Feedback plus other input in letter format

Included in this appendix are three letters from the following organizations:

- BC Wildlife Federation and BC Federation of Drift Fishers
- Kamloops and District Fish and Game Association
- BC Federation of Fly Fishers

Note that the first two letters have similar content, expressing their coordinated input. The “Part two” answers have been included in Appendix 3.

The third letter from BCFFF stands on its own here, and has not been included in Appendix 3 due to its length.

BC Wildlife Federation and BC Federation of Drift Fishers

To: The Thompson Steelhead Working Group,
c/o Fraser Basin Council,
200 A – 1383 McGill Road,
Kamloops, B.C. V2C 6K7

Attention: Mike Simpson

A Response to the Thompson Steelhead Recovery and Management Plan Discussed at the Thompson Steelhead Assembly hosted by the Fraser Basin Council, December 2, 2016, Kamloops, B.C.

From: The B.C. Wildlife Federation & the B.C. Federation of Drift Fishers

The BC Federation of Drift Fishers (BCFDF) and the BC Wildlife Federation (BCWF) were pleased to see the efforts of the federal, provincial and First Nations agencies focus on the sustainability of Thompson River Steelhead as presented at the Steelhead Assembly on December 2 in Kamloops. We thank you for the opportunity to participate in the Assembly. That workshop focused on progress by the Thompson River Working Group on the draft Steelhead Recovery and Management Plan for stakeholders. The long-term sustainability of Steelhead and other fish stocks was seen to be a unifying theme of the meeting.

Thompson River Steelhead stocks are at an all-time low and in the “extreme conservation zone.” Thus, we believe that an integrated Steelhead Action Plan that is adequately funded, based on science and has broad social support is required. The social support will only be attained by a transparent and inclusive approach that engages all communities and First Nations that have an interest in, or may be affected by the plan.

Our response, below, is divided into two parts. The first presents six recommendations that we believe must be included in a Steelhead Action Plan for the Thompson. The second answers the questions asked on the Thompson Steelhead Assembly – Feedback Form which was distributed to all participants at the December 2 workshop (Assembly).

Part One: Our organizations recommend a Steelhead Action Plan that:

1. implements a conservation fish culture to increase the abundance of steelhead to the routine management zone and maintains the genetic diversity of the steelhead. The experimental design must use tagging to provide better information on the timing and sources of mortality of the steelhead in the freshwater and ocean environments.
2. provides resources to implement a River Guardian Program with First Nations to assist the monitoring of fisheries in zones from the mouth of the Fraser to the outlet of Kamloops Lake.

3. determines the distribution and abundance of adult and juvenile steelhead and rainbow trout in the key watershed and identifies areas that juvenile steelhead production can be increased through restoration and enhancement.
4. improves in season stock monitoring and assessment program to provide improved information on the run timing and abundance to provide fisheries managers better information to reduce interception of steelhead through the application of time and area closures and selective fisheries.
5. develops watershed sustainability plans for the major tributaries to the supporting steelhead to ensure water quality, and watershed functioning that establishes clear objectives and thresholds for environmental flows involving all the stakeholders .
6. develop parallel plan for Chicotin Steelhead tailored to the watershed and Steelhead stocks it supports

We will be actively engaging the federal and provincial governments for funding to support this plan.

Part Two: Our organizations' responses to the first six questions on the feedback form that deal with recovery issues. Note we have left the other six questions about the organization of the Assembly itself, to individual participants to complete if they care to.

1. Do you support the interim recovery objectives for steelhead (p. 17)? Why or why not? What would you propose?

Answer:

The interim recovery objectives are a reasonable 'first step' approach to rebuilding Thompson steelhead stocks recognizing that available science respecting optimum rebuilding parameters is very limited. These objectives should provide a reasonable spawning biomass that will allow the stock to 'rebound' reasonably well within 1 – 3 cycles depending on the state of ocean and freshwater environmental productivity over the next 5 – 15 year period. Genetic diversity will also be maintained. With respect to the draft quantitative recovery objectives for the Nicola, Deadman and Bonaparte River systems, historic information suggests that these systems can support the recovery objective numbers proposed, providing habitat requirements can be effectively addressed and reasonable ocean productivity can be attained.

2. Do you support the social, economic and biological objectives (p.33)? Why or why not? What would you propose:

Answer:

The social, economic and biological objectives outlined in the draft report are supportable. The objectives strike an appropriate balance between not only conservation and sustainability of the steelhead stock, but also the socio-economic benefits derived from utilizing steelhead for a variety of purposes.

3. Do you support the detailed management opportunities to address the issues in different geographic areas? Why or why not? What would you propose?

Answer:

a) Thompson system – opportunities T1 to T18 (p. 18-22):

All resource management opportunities recommended that are designed to reduce steelhead encounters and associated mortalities with the exception of T13 & T17 are supported.

T13 is deemed excessive and does not strike a reasonable balance between steelhead stock recovery and the socio-economic benefits derived through the provision of some encounter access to the resource. The existing recreational fishing plan in place in the Thompson River at this time is highly restrictive and mortality levels associated with catch and release in this fishery are extremely low in comparison to the socio-economic benefits derived from providing some fishing access to the resource. This being said, it may be plausible to reduce the existing recreational fishing opportunity based on present levels of abundance by 1 week to encourage other fishing sectors to also support additional encounter reduction measures in their fisheries.

T17 is not a highly desirable option because listing and de-listing under The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) process is a long, complicated process that requires several years to secure either a listing or delisting classification. The COSEWIC process lacks the kind of flexibility and time sensitive mechanisms needed to effectively manage and implement a fish stock recovery initiative. The present abundance of Thompson River steelhead requires prompt action to implement effective measures to reduce mortality of steelhead and the COSEWIC option simply cannot respond quickly enough. Should the stock rebound to levels where additional fishing opportunities can be entertained, the COSEWIC option cannot respond quickly enough to provide available fishing opportunity. A more effective approach is for the fish managing governing agencies (ie: Department of Fisheries and Oceans (DFO) & Provincial Ministry of Lands and Natural Resources Operations (MFLNRO)) to jointly agree that immediate and substantial recovery actions are needed and to implement them. If, ultimately, the COSEWIC option has to be exercised, this action is an admission of failure that DFO and the Province lack the 'intestinal fortitude' to address this issue in a responsible and balanced manner.

b) Fraser River – opportunities F1 to F22 (p.23-27)

Most of the opportunities outlined in F1 to F22 can be supported in principle with the exception of the complete angling closure proposed in F22. Steelhead by-catch and associated mortality does not simply occur in non finfish sport fisheries, sport fisheries directed on sturgeon and probably directed sport fishing activity on cutthroat trout.

There is also a need to convene with the non native and native commercial interest groups to 'flesh out' what is pragmatically possible with respect to options F1 to F21 and the non sport elements of F22. Applied to the extreme, there is a strong likelihood that unnecessarily high negative socio-economic impacts could result.

c) In-shore ocean fishing areas – p.28 – 30)

Each of the general 'opportunities' identified has the potential to reduce steelhead interception but implementing some of these options in large expanse ocean fishing areas could be problematic without massive foregone catch of available allowable catch on targeted species. These options can be supported but significant collaboration with the commercial fishing industry will have to be undertaken to see what is reasonably 'doable' with respect to implementing these opportunities.

4. How can we evaluate the opportunities and make decisions in a timely manner, in light of imperfect science / data (p.34)?

ANSWER:

An evaluation plan needs to be developed by an independent 'expert' fishery authority working in collaboration with DFO and FLNRO fishery staff. The 'independence' of the fishery authority has a better likelihood of being deemed neutral and non biased with respect to the evaluation impacts calculated for each resource management action ultimately implemented to reduce steelhead interception and mortality. Buy-in from all groups whose activities impact steelhead negatively is very important for any evaluation initiatives to have any chance of success and acceptance.

DFO and MFLNRO need to actively explore all sources of available funding and secure adequate funding to implement the evaluation plan.

Government agencies and fishing sector participants need to 'come to grip' with the fact that high precision 'science' will not be available in the short term but immediate actions of a substantial nature must be initiated in the short term if steelhead recovery has any chance of success. DFO & MFLNRO must agree to use the best science available at this point in time (as imprecise as it may be) and compliment the science shortfalls with 'expert opinion' to evaluate how effective the resource management opportunities implemented as part of a steelhead recovery plan turn out to be. Evaluate using the best available information and

then make decisions accordingly. Use a risk averse approach if high degrees of uncertainty exists and you can be assured it will.

5. What are the most immediate needs to act upon to reverse the decline of Thompson steelhead?

ANSWER:

- DFO needs to adopt a 'mindset' that steelhead are basically another species of salmon and manage this species similar to how they would manage weak salmon stocks (eg. Sakinaw / Cultus sockeye, interior Fraser coho, etc). Placing a lower priority on steelhead concerns because it is a species that is a provincial responsibility is basically a 'cop-out' by DFO and an excuse to avoid the tough decisions that need to be made so Thompson steelhead have any chance of recovery. The types of tough management actions DFO implements in salmon fishing plans to address weak salmon stock returns (eg. Cultus / Sakinaw sockeye, interior Fraser coho) are not applied in salmon fishing plans to address steelhead concerns and should be;
- Integrate a fishery management 'objective' within the 2017/2018 Integrated Salmon Management Plan (IFMP) that states " salmon fisheries will be managed in a manner to allow up to 5% total exploitation rate on interior Fraser River steelhead stocks." This doesn't necessarily mean that 5% total exploitation on Fraser (Thompson) steelhead will be a 'target' but means that fisheries will be designed so that steelhead mortality is likely to fall within a range of 0 – 5%. This approach is similar to what DFO implemented about 15 years ago when dealing with very weak stocks of interior Fraser coho salmon. Outlining an objective that states allowable fishing mortality on Thompson River steelhead is zero (0) is really not an achievable objective without massive negative socio-economic impact that the governing agencies are unlikely to support;
- Secure adequate funding to address the lack of good, sound 'science' needed to evaluate the impacts of various fisheries on interior Fraser steelhead stocks with reasonable precision;
- Province (MFLNRO) needs to immediately begin managing water so sufficient water quality and quantity are available to sustain steelhead through their juvenile freshwater and adult spawning life cycles.

6. What is your confidence in the draft recovery and management plan, as developed so far?

ANSWER:

The draft recovery and management plan developed so far is really an ‘opportunities (options)’ document with some supporting information that outlines the kinds of opportunities that could be entertained to undertake effective steelhead recovery. In this regard, the draft plan is a very good plan but the plan is not an actual recovery and management plan that clearly outlines the opportunities (options) that the governing agencies (ie: DFO + MFLNRO) have decided will be implemented in the upcoming salmon fishing season. We are confident that the present draft adequately portrays the issues that need to be addressed with regards to steelhead recovery but the real ‘rubber to the road’ decisions surrounding actual implementation still need to be developed (ie: the implementation plan).

7. Other feedback about the draft recovery and management plan

ANSWER

A good foundation document that will be useful in creating the *actual ‘Thompson Steelhead Recovery and Management **Implementation Plan’***.



Kamloops and District Fish and Game Association

Box 164 Kamloops British Columbia
V2C 5K6



To: The Thompson Steelhead Working Group,
c/o Fraser Basin Council,
200 A – 1383 McGill Road,
Kamloops, B.C. V2C 6K7

Attention: Mike Simpson

A Response to the Thompson Steelhead Recovery and Management Plan Discussed at the Thompson Steelhead Assembly hosted by the Fraser Basin Council, December 2, 2016, Kamloops, B.C.

From: Kamloops & District Fish and Game Association (KDFGA)

Introduction:

The Kamloops and District Fish and Game Association (KDFGA) is pleased to see the efforts of the federal, provincial and First Nations agencies focus on the sustainability of Thompson River Steelhead as presented at the Steelhead Assembly on December 2 in Kamloops. We thank you for the opportunity to participate in the Assembly. That workshop focused on progress by the Thompson River Working Group on the draft Steelhead Recovery and Management Plan for stakeholders. The long-term sustainability of Steelhead and other fish stocks was seen to be a unifying theme of the meeting.

Thompson River Steelhead stocks are at an all-time low and in the “extreme conservation zone.” Thus, we believe that an integrated Steelhead Action Plan that is adequately funded, based on science and has broad social support is required. The social support will only be attained by a transparent and inclusive approach that engages all communities and First Nations that have an interest in, or may be affected by the plan.

Our response, below, is divided into two parts. The first presents six recommendations that we believe must be included in a Steelhead Action Plan for the Thompson. The second answers the questions asked on the Thompson Steelhead Assembly – Feedback Form which was distributed to all participants at the December 2 workshop (Assembly).

Part One: Our Club's Steelhead Committee recommends a Steelhead Action Plan that:

1. implements a conservation fish culture to increase the abundance of steelhead to the routine management zone and maintains the genetic diversity of the steelhead. The experimental design must use tagging to provide better information on the timing and sources of mortality of the steelhead in the freshwater and ocean environments.
2. provides resources to implement a River Guardian Program with First Nations to assist the monitoring of fisheries in zones from the mouth of the Fraser to the outlet of Kamloops Lake.
3. determines the distribution and abundance of adult and juvenile steelhead and rainbow trout in the key watershed and identifies areas that juvenile steelhead production can be increased through restoration and enhancement.
4. improves in season stock monitoring and assessment program to provide improved information on the run timing and abundance to provide fisheries managers better information to reduce interception of steelhead through the application of time and area closures and selective fisheries.
5. develops watershed sustainability plans for the major tributaries to the supporting steelhead to ensure water quality, and watershed functioning that establishes clear objectives and thresholds for environmental flows involving all the stakeholders .
6. develop parallel plan for Chicotin Steelhead tailored to the watershed and Steelhead stocks it supports

We will be actively engaging the federal and provincial governments for funding to support this plan.

Part Two: Our club's responses to the first six questions on the feedback form that deal with recovery issues. Note we have left the other six questions about the organization of the Assembly itself, to individual participants to complete if they care to.

1. Do you support the interim recovery objectives for steelhead (p. 17)? Why or why not? What would you propose?

Answer:

The interim recovery objectives are a reasonable 'first step' approach to rebuilding Thompson steelhead stocks recognizing that available science respecting optimum rebuilding parameters is very limited. These objectives should provide a reasonable spawning biomass that will allow the stock to 'rebound' reasonably well within 1 – 3 cycles depending on the state of ocean and freshwater environmental productivity over the next 5 – 15 year period. Genetic diversity will also be maintained. With respect to the draft

quantitative recovery objectives for the Nicola, Deadman and Bonaparte River systems, historic information suggests that these systems can support the recovery objective numbers proposed, providing habitat requirements can be effectively addressed and reasonable ocean productivity can be attained.

2. Do you support the social, economic and biological objectives (p.33)? Why or why not? What would you propose:

Answer:

The social, economic and biological objectives outlined in the draft report are supportable. The objectives strike an appropriate balance between not only conservation and sustainability of the steelhead stock, but also the socio-economic benefits derived from utilizing steelhead for a variety of purposes.

3. Do you support the detailed management opportunities to address the issues in different geographic areas? Why or why not? What would you propose?

Answer:

d) Thompson system – opportunities T1 to T18 (p. 18-22):

All resource management opportunities recommended that are designed to reduce steelhead encounters and associated mortalities with the exception of T13 & T17 are supported.

T13 is deemed excessive and does not strike a reasonable balance between steelhead stock recovery and the socio-economic benefits derived through provision of some encounter access to the resource. The existing recreational fishing plan in place in the Thompson River at this time is highly restrictive and mortality levels associated with catch and release in this fishery are extremely low in comparison to the socio-economic benefits derived from providing some fishing access to the resource. This being said, it may be plausible to reduce the existing recreational fishing opportunity based on present levels of abundance by 1 week to encourage other fishing sectors to also support additional encounter reduction measures in their fisheries.

T17 is not a highly desirable option because listing and de-listing under The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) process is a long, complicated process that requires several years to secure either a listing or delisting classification. The COSEWIC process lacks the kind of flexibility and time sensitive mechanisms needed to effectively manage and implement a fish stock recovery initiative. The present abundance of Thompson River steelhead requires prompt action to implement effective measures to

reduce mortality of steelhead and the COSEWIC option simply cannot respond quickly enough. Should the stock rebound to levels where additional fishing opportunities can be entertained, the COSEWIC option cannot respond quickly enough to provide available fishing opportunity. A more effective approach is for the fish managing governing agencies (ie: Department of Fisheries and Oceans (DFO) & Provincial Ministry of Lands and Natural Resources Operations (MFLNRO)) to jointly agree that immediate & substantial recovery actions are needed and implement them. If, ultimately, the COSEWIC option has to be exercised, this action is an admission of failure that DFO and the Province lack the 'intestinal fortitude' to address this issue in a responsible and balanced manner.

e) Fraser River – opportunities F1 to F22 (p.23-27)

Most of the opportunities outlined in F1 to F22 can be supported in principle with the exception of the complete angling closure proposed in F22. Steelhead by-catch and associated mortality does not simply occur in non finfish sport fisheries, sport fisheries directed on sturgeon and probably directed sport fishing activity on cutthroat trout.

There is also a need to convene with the non native and native commercial interest groups to 'flesh out' what is pragmatically possible with respect to options F1 to F21 and the non sport elements of F22. Applied to the extreme, there is a strong likelihood that unnecessarily high negative socio-economic impacts could result.

f) In-shore ocean fishing areas – p.28 – 30)

Each of the general 'opportunities' identified has the potential to reduce steelhead interception but implementing some of these options in large expanse ocean fishing areas could be problematic without massive foregone catch of available allowable catch on targeted species. These options can be supported but significant collaboration with the commercial fishing industry will have to be undertaken to see what is reasonably 'doable' with respect to implementing these opportunities.

4. How can we evaluate the opportunities and make decisions in a timely manner, in light of imperfect science / data (p.34)?

ANSWER:

An evaluation plan needs to be developed by an independent 'expert' fishery authority working in collaboration with DFO and FLNRO fishery staff. The 'independence' of the fishery authority has a better likelihood of being deemed neutral and non biased with respect to the evaluation impacts calculated for each resource management action ultimately implemented to reduce steelhead interception and mortality. Buy-in from all groups whose activities impact steelhead negatively is very important for any evaluation initiatives to have any chance of success and acceptance.

DFO and MFLNRO need to actively explore all sources of available funding and secure adequate funding to implement the evaluation plan.

Government agencies and fishing sector participants need to 'come to grip' with the fact that high precision 'science' will not be available in the short term but immediate actions of a substantial nature must be initiated in the short term if steelhead recovery has any chance of success. DFO & MFLNRO must agree to use the best science available at this point in time (as imprecise as it may be) and compliment the science shortfalls with 'expert opinion' to evaluate how effective the resource management opportunities implemented as part of a steelhead recovery plan turn out to be. Evaluate using the best available information and then make decisions accordingly. Use a risk averse approach if high degrees of uncertainty exists and you can be assured it will.

5. What are the most immediate needs to act upon to reverse the decline of Thompson steelhead?

ANSWER:

- DFO needs to adopt a 'mindset' that steelhead are basically another species of salmon and manage this species similar to how they would manage weak salmon stocks (eg. Sakinaw / Cultus sockeye, interior Fraser coho, etc). Placing a lower priority on steelhead concerns because it is a species that is a provincial responsibility is basically a 'cop-out' by DFO and an excuse to avoid the tough decisions that need to be made so Thompson steelhead have any chance of recovery. The types of tough management actions DFO implements in salmon fishing plans to address weak salmon stock returns (eg. Cultus / Sakinaw sockeye, interior Fraser coho) are not applied in salmon fishing plans to address steelhead concerns and should be;
- Integrate a fishery management 'objective' within the 2017/2018 Integrated Salmon Management Plan (IFMP) that states " salmon fisheries will be managed in a manner to allow up to 5% total exploitation rate on interior Fraser River steelhead stocks." This doesn't necessarily mean that 5% total exploitation on Fraser (Thompson) steelhead will be a 'target' but means that fisheries will be designed so that steelhead mortality is likely to fall within a range of 0 – 5%. This approach is similar to what DFO implemented about 15 years ago when dealing with very weak stocks of interior Fraser coho salmon. Outlining an objective that states allowable fishing mortality on Thompson River steelhead is zero (0) is really not an achievable objective without massive negative socio-economic impact that the governing agencies are unlikely to support;
- Secure adequate funding to address the lack of good, sound 'science' needed to evaluate the impacts of various fisheries on interior Fraser steelhead stocks with reasonable precision;

- Province (MFLNRO) needs to immediately begin managing water so sufficient water quality and quantity are available to sustain steelhead through their juvenile freshwater and adult spawning life cycles.

6. What is your confidence in the draft recovery and management plan, as developed so far?

ANSWER:

The draft recovery and management plan developed so far is really an ‘opportunities (options)’ document with some supporting information that outlines the kinds of opportunities that could be entertained to undertake effective steelhead recovery. In this regard, the draft plan is a very good plan but the plan is not an actual recovery and management plan that clearly outlines the opportunities (options) that the governing agencies (ie: DFO + MFLNRO) have decided will be implemented in the upcoming salmon fishing season. We are confident that the present draft adequately portrays the issues that need to be addressed with regards to steelhead recovery but the real ‘rubber to the road’ decisions surrounding actual implementation still need to be developed (ie: the implementation plan).

7. Other feedback about the draft recovery and management plan

ANSWER

A good foundation document that will be useful in creating the *actual ‘Thompson Steelhead Recovery and Management Implementation Plan’*.

BC Federation of Fly Fishers
PO Box 41023
RPO Woodgrove
Nanaimo, BC V9T 6M7
WEBSITE: Bcfff.bc.ca
CONTACT: general@bcfff.bc.ca

Risks Associated with Fish Culture Intervention as a Management Option for Interior Fraser River fall-run Steelhead Populations

Background and Introduction

The BC Federation of Fly Fishers (BCFFF) are opposed to conservation fish culture as being a potential management option to increase the abundance of interior Fraser River fall-run steelhead populations, which includes Thompson River steelhead. The management option was included in a draft “Steelhead Action Plan”, which surfaced after the December 2nd 2016 meeting of the Thompson Steelhead Assembly hosted by the Fraser Basin Council in Kamloops. It is our understanding that while the draft action plan was associated with the meeting, it did not necessarily represent the opinions or thoughts of all the meeting participants. Rather, we understand that the draft action plan was completed in the days that followed the meeting by a few of the participants.

We note that conservation fish culture is listed as the first of six action plan recommendations, which suggests that this option is the priority. The recommendation ignores BC’s past experience with conservation fish culture and the emerging science from the US Pacific Northwest, which urges extreme caution with “culture rescues” of wild steelhead. To date, there has been no evidence to suggest that conservation fish culture provides any benefits. In contrast, there is scientific evidence that it can decrease the ability of a depressed steelhead population to remain viable. In our opinion, therefore, attempting conservation fish culture would represent a wasteful use of resources, and may actually jeopardize the overriding goal of preserving the viability of interior Fraser River fall-run steelhead.

We are in agreement that management intervention is required to address the general declining trend of returning interior Fraser River steelhead, but initiatives must be based on the best available science and must incorporate the precautionary principle. Management options that address and consider key concerns, including (but not limited to) ocean survival rates, the quality of freshwater rearing habitat and interception of returning adults must be given priority. In the following paragraphs, we hope to provide clarification about the risks involved with fish culture intervention and also suggest management options that should be included in a workable steelhead action plan.

Steelhead Life History Traits and Conservation Fish Culture Concerns

The life history of steelhead is such that populations can be stable during years when relatively few adult fish return. This is related to the fact that there is less competition for freshwater food and habitat, and more juveniles survive as a result. It does not take many spawners, therefore, to “seed” the system to its natural maximum carrying capacity. In years where more steelhead return to spawn, the same carrying capacity would be reached, as survival of juvenile fish would be limited accordingly by the capacity of the habitat. This relative stability of juvenile steelhead was indicated in Levy and Parkinson (2014), where steelhead parr numbers in the Thompson River and tributaries showed minor variations (217 000 – 307 000 parr), even when spawner abundance showed four-fold variations in numbers.

Corresponding smolt production also remained relatively stable in the Thompson River system, based on data collected by the Ministry of Environment (MoE) between 2001 and 2011. This may give a sense of security and stability to the population when considering freshwater habitat capacity, but the fact is that adult steelhead are declining significantly in numbers and the Thompson River steelhead population is approaching the one-to-one replacement ratio with regard to spawners and associated recruits to the population (Levy and Parkinson 2014). Once this “tipping point” is reached or exceeded, the population is at a critically low level with regard to long-term viability.

While the influence of spawner numbers does not greatly influence the resulting number of parr or smolts, the number of steelhead fry is positively influenced by the number of spawners in the Thompson River system (Levy and Parkinson 2014). This limit to steelhead production was aptly described as a freshwater habitat “bottleneck” in Levy and Parkinson (2014), where the numbers of parr are similar, despite what the population of spawners or fry may be in any given year. If the number of spawners continues to decrease, however, especially at levels at or below the one-to-one spawner/recruitment ratio, any apparent stability of the freshwater rearing population would begin to become adversely affected.

With apparent low ocean survival and/or high mortality of out-migrating smolts and limitations imposed by freshwater habitat carrying capacity, putting more fish into the system through hatchery supplementation will not result in improved adult returns. The more likely result would be a decrease in the numbers of fish returning, as hatchery-raised fish would be less well equipped to survive the rigours of smolt to adult survival, especially given the current low survival rates. In addition to understanding the capacity of freshwater rearing habitat, the key management issues are associated with factors that affect out-migrating smolts and long-term ocean survival. It is extremely important, therefore, to ensure that adult spawners that do survive the hazards of smolt out-migration and inhospitable ocean conditions are allowed to return to spawn.

Based on the concept of a carrying capacity and habitat “bottleneck” it is extremely important to maintain and increase the viability of freshwater rearing habitat, especially due to the fact that the carrying capacity has likely been reduced as a result of human-induced impacts (e.g. changes in river flows/water temperature due to climate change, loss of riparian habitat, loss of spawning habitat, loss of instream security habitat, water extraction and increased water turbidity/sedimentation). As the number of fry is positively influenced by the number of spawners (as noted in Levy and Parkinson 2014), the importance of freshwater habitat protection and enhancement (especially parr habitat) becomes even more apparent, in order to maximize the number of fry that are able to mature into parr and, ultimately, smolts.

Understanding the interactions between resident rainbow trout and steelhead are critical to managing steelhead populations, as it has been shown in scientific literature that steelhead can produce rainbow trout and rainbow trout can produce steelhead (one and the same species). Management options must consider the fact that during lower ocean survival conditions and/or high mortality of out-migrating smolts (such as is occurring at the current time), a greater number of Interior Fraser River fall-run steelhead may remain in freshwater as rainbow trout (as suggested in Levy and Parkinson 2014). The protection of this freshwater bank of viable steelhead, through angling regulations that consider effects on rainbow trout, is critical to the management of steelhead. The importance of resident rainbow trout to steelhead populations further emphasizes the need to protect and enhance freshwater rearing habitat. Managing steelhead without considering rainbow trout is not scientifically defensible, based on the genetic overlap and the important interactions between the two forms of the species.

Steelhead are naturally equipped to deal with events that decrease the numbers of returning fish, based on the fact that steelhead have the ability to spawn more than once (10% to 20% of returns can be from repeat spawners) and have a diverse life cycle, with 1 to 5 years spent in freshwater and 1 to 3 years spent in saltwater (Ward 2006). Specifically, McGregor (1986; cited in Levy and Parkinson 2014) identified fourteen life history traits in Thompson River steelhead, with freshwater and ocean residence times varying between 1-3 years and 2-3 years respectively. Based on the overlapping generations of steelhead, a population can recover quickly from a low return year through younger or older age classes (Ward 2006). It should be noted, however, that repeat spawning of Thompson River steelhead has been estimated at 2.8%, due to the incidental capture of kelts returning to the ocean by downstream salmon fisheries (Levy and Parkinson 2014). This extremely negative impact upon one of the steelhead's key life history traits must be addressed to increase the percentage of repeat spawners.

Wild steelhead populations are inherently adapted to their natal system. These adaptations help to ensure the long-term viability of any given population. For example, Thompson River steelhead have been shown to have a very high fecundity, with an average female producing 12,600 eggs (McGregor 2006; cited in Levy and Parkinson 2014). These life history traits that help ensure survival of the species are, unfortunately, only slowing the rate of the apparent population decline (Levy and Parkinson 2014). Managing the main controllable threats to the fish, therefore, is extremely important in order to provide the population with the maximum ability to implement all life history traits and fully exploit its natural resilience.

Raising steelhead in a hatchery, even as part of limited conservation fish culture ("hatchery supplementation"), takes away the ability of fish to become naturally adapted to the specific life-requisites needed for survival in a particular system, especially when considering the specific attributes of a population such as the Thompson River steelhead. Artificially raising fish removes the process of natural selection, while also preventing the natural ability of steelhead to distribute naturally throughout a system, based on fidelity to successful spawning and rearing areas. Ward (2006) noted lower fecundity in female salmonid hatchery fish in comparison to wild fish, which obviously suggests lower spawning success. Recruitment of wild fish has been shown to be negatively impacted as a result of the presence of hatchery fish (e.g. Ward 2006; Walters 2005). In an extreme case, i.e. when natural recruitment to the population is very low, hatchery fish could potentially replace the wild population, where the resulting population would be much lower, based on the fact that the reproductive success of hatchery fish from which the population originated is inferior (Ward 2006). Studies by Chilcote et al (2011; cited in Pollard 2013) established that the productivity of a steelhead population decreased as the number of hatchery spawners increased, which reduced the ability of a population to rebuild. Christie et al. 2012, Leider 1990, Kostow 2004, McClean et al. 2003, Berejikian and Ford 2004, Araki et al. 2007, 2009 (cited in Pollard 2013) also concluded that hatchery fish were inferior to wild fish with regard to the production of viable offspring. In addition, these studies showed that fish that performed well in a hatchery environment did not perform well in the wild, which suggests that hatcheries are selecting for the wrong behavioural traits. These impacts were shown to be cumulative, as the effects were carried between generations (Araki et al. 2009; cited in Pollard 2013).

The Living Gene Bank (LGB) program represents an example of supplemental fish culture that was used in an effort to rebuild steelhead stocks on the east coast of Vancouver Island (Keogh, Little Qualicum and Quinsam Rivers). This program did not result in any measurable rebuilding of the stocks of concern and there were also negative impacts associated with freshwater habitat competition from LGB smolts that established a residual population. The recruitment of wild smolts actually improved since the discontinuation of the project (Pollard 2013).

Hatchery steelhead supplementation was also used following the spill of caustic soda into the Cheakamus River in 2005, with a release of smolts occurring in 2007 and 2008. During the out-migration of smolts over this period, it was shown that survival of hatchery smolts was significantly lower (23% to 36%) in comparison to wild smolts (69% to 72%). This trend continued as the smolts transitioned into the ocean environment (Melnychuk et al. 2009). Recent studies have shown that rebuilding of the population could have been completed without hatchery supplementation, and that any supplementary-attributable benefits to population recovery were “illusory and undetermined” (Pollard 2013). Pollard (2013) further recommended that hatchery supplementation should not be considered as a potential steelhead population recovery option until the risks and uncertainties have been reduced. It is also worth considering the risks involved with holding steelhead brood stock in hatcheries over long time periods and also with raising fish in hatcheries in general. Hatcheries and the fish held within them are not immune to human error or natural events that could potentially result in the loss of brood stock or their progeny.

The overwhelming scientific documentation suggests that there is no proven evidence that hatchery supplementation (conservation fish culture) represents a viable option for rebuilding depressed steelhead stocks. Scientific studies actually indicate that there are proven reasons why supplementation should not be used, as it can decrease the inherent natural ability of a steelhead population to rebuild. As there is no evidence to suggest that conservation fish culture results in positive benefits to natural steelhead production, it represents an expensive, wasteful and potentially damaging management option. Management of the interior Fraser River fall-run steelhead population must focus on increasing the ability of the fish to rebuild naturally by removing the existing barriers that jeopardize the effectiveness of the population’s life history survival traits. We have provided some potential generalized solutions in the following section, but it should be noted that recent studies carried out on the Thompson River system (e.g. Levy and Parkinson 2014) also contain detailed long-term management initiatives.

Recommended Viable Management Options

The interior Fraser River fall-run steelhead that are successful in returning to freshwater have beaten the odds and have survived the current challenges associated with smolt to adult survival. The protection of these survivors is extremely important and the loss of even a small proportion of returning fish during the current population decline is not acceptable. While little management control is available to address changes in estuarine/marine ecosystems and how these changes may affect smolt to adult survival, there are management options available for impacts that can be controlled.

In order to increase the numbers of returning steelhead, any incidental impacts (including, but not limited to, by-catch) associated with all fishery sectors (recreational, aboriginal and commercial) should be reduced to a level where no harm is imposed on returning steelhead, at least during the current inhospitable trends associated with smolt out-migration and ocean survival. Any type of fishing that results in either direct mortality (e.g. harvest) or high stress induced from by-catch (which usually results in post-release mortality anyway) should ideally be eliminated for a period of at least two cycles (eight years). This will take considerable collaborative effort between all user groups and governments, but reducing stress and mortality imposed on returning fish is key to the survival of the species. The fact that by-catch occurs during both the adult steelhead return period and the adult post-spawner (kelt) out-migration highlights the extreme importance of eliminating stress and mortality imposed due to by-catch. Recreational angling regulations can help reduce impacts to returning adults and out-migrating kelts, through modifications to angling techniques, limiting the numbers of fish encountered, and

ensuring proper fish-handling techniques (e.g. keeping steelhead in the water prior to release). Modifying angling regulations, however, would be of limited use if other user-groups were engaged in activities that resulted in direct steelhead mortality (whether it is through accidental by-catch or intentional harvest). Conservation measures must absolutely be universally-employed in order to be effective. We understand that this is a difficult proposition, but there is reason to believe that interior Fraser River fall-run steelhead have the innate ability to overcome population decline, if the fish are given a chance to do so.

Based on the apparent current trend of low smolt to adult survival, whether it is as a result of mortality of out-migrating smolts in the freshwater environment or poor ocean survival, it is extremely important to protect rainbow trout and associated habitat throughout the system. Rainbow trout represent a genetic bank of future steelhead production, which allows for increased steelhead returns as and when ocean survival conditions improve. Angling regulations must consider potential impacts to this important genetic insurance bank, based on the fact that the rainbow trout and steelhead are one and the same species.

Due to limitations imposed by the carrying capacity of freshwater habitat in areas affecting interior Fraser River fall-run steelhead, it is extremely important to preserve the integrity of critical rearing habitat. Levy and Parkinson (2014) have identified the limiting habitat units that are exploited by rearing steelhead parr in the Thompson River system (generally consisting of specific fast flowing riffles and rapids). It is of paramount importance, therefore, to restore non-functioning freshwater habitat and also enhance existing habitat to ensure that the carrying capacity can be maximized. Impacts associated with riparian vegetation removal, water withdrawal, loss of cool groundwater inputs and high water temperatures are also negatively impacting the ability of the steelhead population to rebuild. The appropriate implementation of regulations such as the Water Sustainability Act, Fisheries Act and Riparian Area Regulations (e.g. through increased enforcement) would help reduce some of these impacts.

Maintaining the services provided by ecosystems on a watershed basis would ultimately help increase the viability and resilience of freshwater habitat. Intact, functioning ecosystems are more likely to survive the rapidly changing conditions imposed by climate change and associated negative impacts to fluvial systems such as an increased frequency in peak flows, extreme low flows, bank/channel instability and increased sediment movement.

Concluding Discussion

In summary, it is extremely unlikely that the implementation of a conservation fish culture initiative would be of any benefit to interior Fraser River fall-run steelhead. As has been shown in the scientific literature, the very introduction of hatchery fish in a supplementary capacity may actually impede the natural ability of a population to recover and to be viable over the long term. We cannot risk losing the unique life history traits and genetic integrity of steelhead such as the population found in the Thompson River, especially if the fish are currently under stress from uncontrollable external forcing factors (e.g. inhospitable ocean conditions or high mortality of out-migrating smolts in the freshwater environment). It is at these times that we need to rely on the natural resilience of the population to allow the numbers to rebuild naturally, instead of introducing another factor that may impede that process. During lower return years, it may be tempting to put more fish into the system, but it has been shown that this activity does not necessarily result in the return of more fish, and we run the risk of negatively impacting upon the long term viability of the steelhead population. The approach on intervention should practice the precautionary principle and attempt to eliminate the possibility of

harm, and, since there are reasons to believe “conservation fish culture” can do harm, it should be avoided. We need to understand and act upon the current barriers that are reducing the innate ability of the steelhead population to rebuild (e.g. interception, injury or mortality of returning adults). Responsive measures that actually address these barriers must be implemented, as opposed to investing what would be significant monetary and human resources into a management option that has been proven to be ineffective.

Appendix 5 - Pledges

Thompson Steelhead Pledge

Draft pledge form as at Nov 9, 2016

Name: Greg Barrows

Organization: BC FDF

Phone: _____

Email: BARROWSG57@GMAIL.COM

The following is what I or my organization pledge to do to address the decline of Thompson Steelhead:

CONTINUING WORK AT LEARNING AND UNDERSTANDING
TO MAKE A DIFFERENCE SUPPLY SUPPORT.
WHAT EVALUATION TAKES
GREAT TEAM SOLUTIONS NEEDED NOW!

I am willing to allow the Thompson Steelhead Working Group to share my pledge with others:

Yes _____

No _____

[Signature]
Signature

Nov. 2/16
Date

Thompson Steelhead Pledge

Draft pledge form as at Nov 9, 2016

Name: BRIAN GILBEY

Organization: B.P. FED. OF DRIFT FISHERS

Phone: 250 315-2898

Email: bgilbey@telus.net

The following is what I or my organization pledge to do to address the decline of Thompson Steelhead:

CONTINUING TO KEEP WORKING TO PROTECT AND IMPROVE
FRASER STEELHEAD STOCKS.

I am willing to allow the Thompson Steelhead Working Group to share my pledge with others:

Yes _____

No _____

Brian Gilbey
Signature

Dec 2 2016
Date

Thompson Steelhead Pledge
Draft pledge form as at Nov 9, 2016

Name: Mike Ramsay

Organization: FLNRO

Phone: 1-250-267-4304

Email: mike.ramsay@gov.bc.ca


The following is what I or my organization pledge to do to address the decline of Thompson Steelhead:

continue to identify the responsibilities of
government to conserve the wild steelhead
populations of Thompson / Chulcotin

I am willing to allow the Thompson Steelhead Working Group to share my pledge with others:

Yes _____

No _____


Signature

Dec 2 / 16.
Date

Thompson Steelhead Pledge
Draft pledge form as at Nov 9, 2016

Name: JOAN STEVENS

Organization: U.F.A.W.U.

Phone: 604-946-9902

Email: johnstevens@lightspeed.ca

The following is what I or my organization pledge to do to address the decline of Thompson Steelhead:

WE WILL WORK WITH ALL STAKEHOLDERS AND GROUPS TO
FIND SOLUTIONS TO THE DECLINE OF THOMPSON STEELHEAD
AND RESTORE ALL SALMON POPULATIONS TO SUSTAINABLE
LEVELS.

I am willing to allow the Thompson Steelhead Working Group to share my pledge with others:

Yes _____

No _____

John Stevens
Signature

Dec 1, 2016
Date

Thompson River Steelhead (TRS) Pledge

Kamloops Fly Fishers (KFF)
lpiggin@telus.net

The following is what Members of the Kamloops Fly Fishers Association will do to address the decline of the TRS;

1. We have established a TRS committee that will deal with all issues and keep our Membership up to date. To attend all further meetings of the TRWG.
2. To lobby the Politicians to take action so that TRS are not extirpated.
Encourage Members to contact Politicians via letters &/or emails.
3. Ensure COSEWIC completes the SARA application in a timely manner.
4. The bio diversification of the TRS needs to be maintained, therefore, hatcheries should not be used.
5. TRS need to be returned to historical numbers before they can be harvested.
6. To participate in projects that will enhance TRS spawning habitat.
7. DFO & Province need to jointly agree that immediate & substantial recovery actions are needed and implement them forthwith.
 - a. DFO needs to adopt a 'mindset' that steelhead are basically another species of salmon. Placing a lower priority on steelhead concerns because it is a species that is a provincial responsibility is basically a 'cop-out' by DFO and an excuse to avoid the tough decisions that need to be made so TRS have any chance of recovery.
 - b. Integrate a fishery management 'objective' within the 2017/2018 Integrated Salmon Management Plan (ISMP) that states "salmon fisheries will be managed in a manner that will minimize the exploitation of TRS (total exploitation rate not to exceed 5%)."

The first four items could be implemented immediately.

1. What can be done to start the recovery is ;
 - a. Even though Natives say they have asked that their fellow Natives not fish for and harvest TRS this is still being done and needs to be stopped and enforced. If the local DFO/MFLNRO office hasn't gone through the required protocols to ensure enforcement can take place this need to happen.
2. Provincial Fishing Regulations need to be changed for Region 3.
 - a. On the Summary page the following needs to be added;
 - b. Heading: **Thompson River Steelhead**
 - c. When the Thompson River is open from October 1st to December 31st for ALL species of fish Anglers require a Classified Waters license and a Steelhead license.
 - d. Currently the Thompson River is closed to Angling for ALL species of fish from November 1st to May 31st. The Thompson River will open from November 1st to December 31st only if the Steelhead Abundance level is >850 Steelhead. (page 8 of report). If it is to be opened check the "In Season" regulations for changed.
 - e. Natives could add something that could be particular to All Natives.
3. The following rivers – Spius, Bonaparte, Nicola and Deadman Rivers, Cold Water River and their tributaries need to be closed to FIN Fish angling from November 1st to May 31st. NOTE: If there are other rivers/streams that TRS spawn in then they need to be added to this list.
4. The Fraser River requires a "Rolling Closure" for Anglers for Fin Fish from September 27th to November 30th while the TRS are migrating (5%-95%) through to the Thompson River. (page 8)


Note: Chinook salmon fishing on the TR closes always on September 24th to allow a virtually extinct run of Coho to proceed through. The Anglers on the Fraser River can do the same for TRS.

5. During the major migration (September 27th to October 28th) of TRS it would be ideal if all Chum fisheries could be closed but this isn't realistic. What can be done though to lessen the interception of TRS is the following;
 - a. Gill nets changed to small mesh so Fin Fish (TRS) are caught by their teeth and not their gills making for higher survival rate. The science on this change needs to be reviewed to ensure this is an effective procedure.
 - b. Have observers on all boats during the migration (5%-95%) period of TRS. Great employment initiative for all (Students studying in this field) etc.
6. A long term objective for DFO and MFLNRO is to initiate a co-ordinated plan to review all spawning Rivers and tributaries for TRS. If there isn't Federal or MFLNRO to carry out the assessment then it needs to be tendered. Deliverables would be a list for each river of projects that need to be undertaken in priority order.
7. Another long term objective is to review the science regarding TRS (new and old information) and see what gaps exist or what questions need to be answered and move to have these studies completed. THIS DOESN'T MEAN WE DO NOTHING UNTIL THE SCIENCE IS IN.
8. The report entitled "Thompson Steelhead Recovery and Management Plan draft as at 2016 November 23rd" is not a plan but a compilation of data that outlines opportunities that could be

entertained. We look forward to reviewing the action plan that is put forward in the Spring of 2017. With implementation forth with in 2017.



Leonard Piggini
President KFF
KFF Steelhead Committee Member



Tracy Murdoch
Vice-President KFF
KFF Steelhead Committee Member

Fish for food, fun, Culture and for the future for everyone.

We are willing to allow the TSWG to share our pledge with others.



L. P. Piggini
President KFF
Steelhead Committee Member



Tracy Murdoch
Vice-President KFF
Steelhead Committee Member