



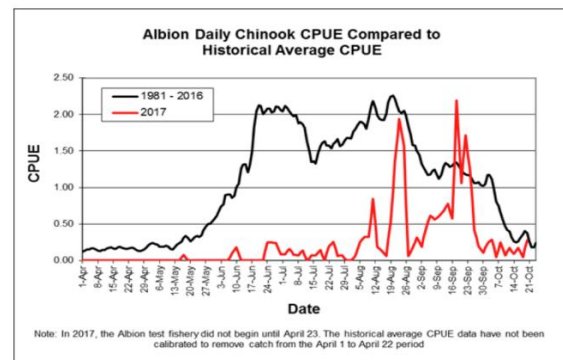
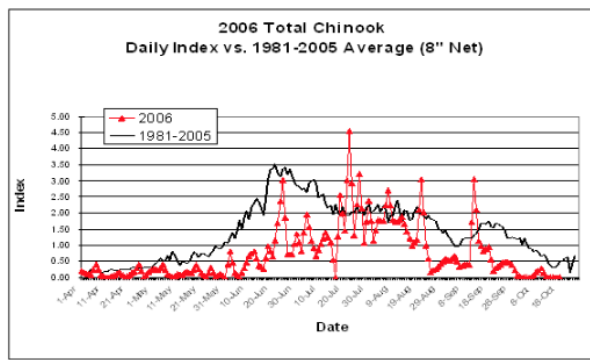
The Pacific Marine Conservation Caucus's Recommendations for the 2018/19 North and South Coast salmon IFMPs

Chinook

The Pacific Marine Conservation Caucus's Recommendations (MCC) believes the recommended 25-35% reductions in total mortalities is insufficient. The proposed reductions are in response to recent reductions in productivity. They fail to address recovery of the 11 out of 15 south coast populations DFO has determined to be in the critical zone or protect the many south and north/central coast populations seeing rapid changes in abundance, productivity, size-at-age, and sex ratios.

Further, it is unclear if reductions of 25-35% will address the reductions in productivity in many chinook populations, never mind support rebuilding or Southern Resident Killer Whale recovery. The graphs below illustrate the startling decline in abundance, migration timing, and relative population size of Fraser River chinook returns.

Changes in Fraser Chinook Abundance and Timing: 2006 and 2017



The proposed reductions reflect DFO's desire to maintain fisheries in the face of declining abundance and productivity. National Policy requires that populations in the critical zone have recovery plans in place. We believe the approach DFO took in 1998 relative to Skeena and Thompson coho is a more

appropriate response than what is being proposed for the 2018 fishing season.

Instead of guessing what kind of reduction in total mortalities might allow chinook populations to persist and recreational and commercial fisheries continue, the Department should reduce total mortalities on populations of concern to between 0 and 10%, depending on the chinook population in question.

Southern Chinook CUs in the Critical Zone

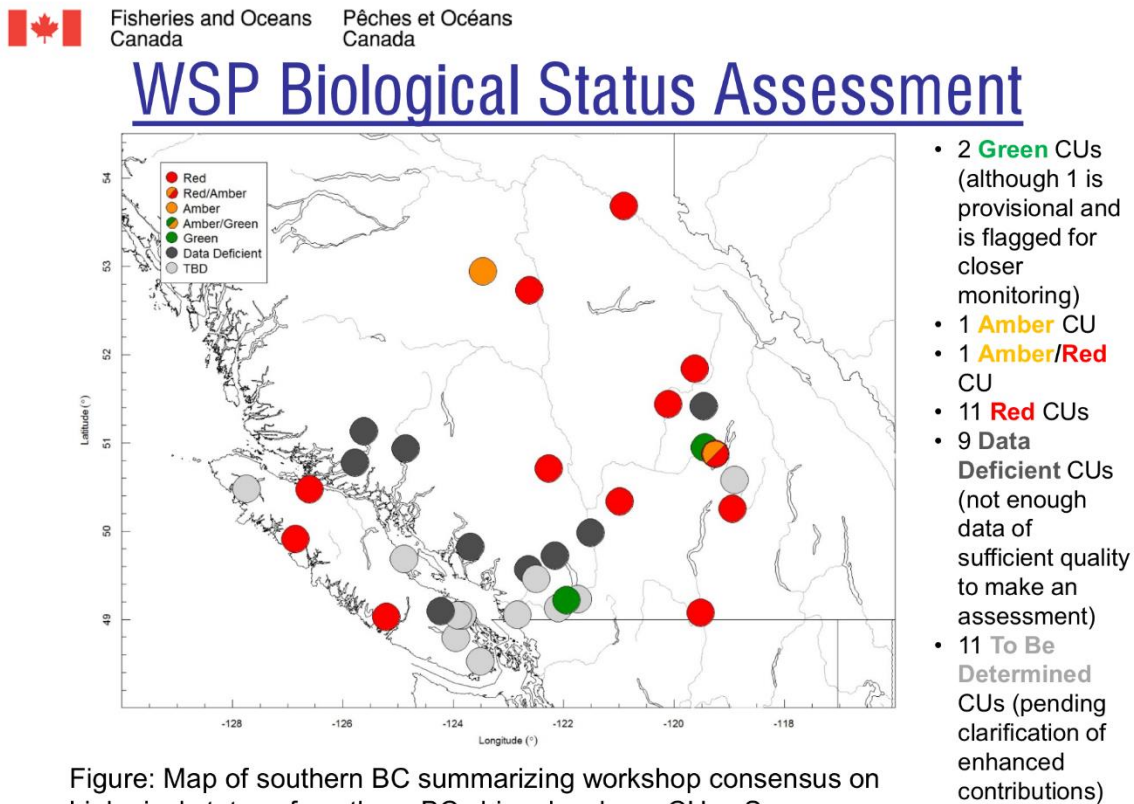


Figure: Map of southern BC summarizing workshop consensus on biological status of southern BC chinook salmon CUs. Source: http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2016/2016_042-eng.pdf



Minimizing directed fishing impacts on these populations should be the first step in any rebuilding program. The next step would be to honour the Allocation Policy and address the Section 35-1 priority wherever possible.

This policy would likely require chinook non-retention in many mixed-stock recreational fisheries. However, neither DFO nor the recreational fishery has the necessary fishery independent catch/encounter reporting and compliance monitoring programs in place to ensure a fishery stays under its assigned ceiling. Further, DFO does not have a plan in place to shut down recreational salmon fisheries when a fisheries ceiling for total mortalities has been reached. And finally, no fishery manager, to our knowledge, has evaluated key recreational chinook fisheries relative to the guidance in the recent CSAS SAR on fisheries related incidental mortalities. (*Guidance to Derive and Update Fishing-Related Incidental Mortality Rates for Pacific Salmon. Patterson et al, 2017* <http://waves-vagues.dfo-mpo.gc.ca/Library/40602758.pdf>)

Marine chinook non-retention recreational fisheries in times and areas chinook populations of concern are present should remain closed until:

1. Fishery independent catch reporting and monitoring programs are in place
2. There is commitment to close fisheries once ceilings have been reached
3. Recreational fisheries encountering chinook populations of concern are evaluated relative to the CSAS SAR on FRIM and this is incorporated in any management actions

A similar approach should be taken with commercial fisheries, including the Area F fishery. DFO's approach to protect WCVI populations in this fishery provides an example of how to incorporate such a population specific ceiling in a commercial fishery.

Alaska's Approach to 2018 Chinook Management

Alaska's Department of Fish & Game announced its restrictions for Southeast Chinook Fisheries on March 29th.

<http://www.adfg.alaska.gov/static/applications/dcfnewsrelease/898242345.pdf>

Alaska's announcement was delivered in time to produce meaningful benefits in 2018. Recreational fisheries in both Alaska and BC have begun. If past history is any guide, the Minister may not sign off on the IFMP until July, after many chinook populations of concern have passed through Canadian recreational and commercial fisheries. The MCC recommends DFO announce its restrictions on by the end of April to ensure they take effect when chinook populations are at most risk.

Alternative Management Actions

Should DFO decide to downplay its National Rebuilding Guidance, SRKW recovery requirements, and Section 35-1 Rights, and prioritize harvest over rebuilding, the minimum it should do is to implement the proposed reductions but focus them on reducing harvest impacts on larger age classes and female chinook. We would propose a maximum retention size of 72 cms for Areas 3 and 4 recreational fisheries and 65 for Haida Gwai, Hakai Pass, and south coast fisheries. However, the MCC would challenge any such management actions that were unaccompanied by a scientifically defensible fishery independent catch reporting program and a commitment to evaluate each fishery relative to the CSAS SAR on FRIM.

North Coast Chinook

The MCC is concerned that DFO response on the North Coast has been to focus on Nass and Skeena Chinook, while ignoring Area 5 and 6 issues, and broader, coast wide, productivity declines.

If the issues with Nass and Skeena Chinook warrant closure, than why have we not seen any proposals for coast wide closures to protect other conservation units experiencing similar productivity declines? We are also troubled by DFO's quick response to close the Skeena and Nass, while not putting forward any similar actions for marine fisheries impacting these and other stocks of concern. This is not simply a Nass and Skeena issue. If DFO believes closures are warranted on the Nass and Skeena, then similar action should be taken coast wide. Further, the MCC strongly believes the conservation burden should be equally shared across all sport and commercial Chinook fisheries, and that priority should to be given to constitutionally protected First Nations food fisheries.

Fishery Independent Monitoring of Recreational Chinook Fisheries

The recreational fishing industry says it is unable to introduce fishery independent monitoring. This is nonsense. They are rehashing the same arguments the BC groundfish, halibut, black cod, and crab fisheries used before DFO told them fishery independent monitoring was required if their fisheries were to proceed. Once representatives from these fisheries were told fishery independent monitoring was required; the fisheries implemented programs suited to their fishery in short order.

DFO managers and C&P officers will continue to hear the same excuses until they have the courage to stand up to their clients and tell them to implement fishery independent monitoring for all marine mixed stock chinook fisheries.

Possible Model for Fishery Independent Monitoring of Commercial Rod and Reel Operations

A significant proportion of the recreational chinook catch is taken by the lodge and charter boat industries. In some key areas such as Areas 3 and 4, Haida Gwai, Hakai Pass, WCVI, and Area 13 the majority of the catch is taken by commercial rod and reel operations.

Commercial operators could be told that a proportion of the lodge/charter-boat catch taken in these areas must be monitored by observers hired through one of the several DFO approved companies offering this service. Internationally, 20% coverage is often cited as a useful standard.

Lodges could hire one observer from an approved company who could randomly go out with clients. Or the lodge could provide them with their own boat. Charterboat Associations could hire the necessary observers to roam the fleet, randomly observing catch and compliance.

Managers and C&P could compare observer's results with fishery dependent Creel and IRec data. Like many industries, commercial operators could add a regulatory surcharge to their client's invoice. Their clients could see they were contributing to the proper management of the fishery.

This could be introduced as a pilot project for key fisheries in 2018. We recommend DFO float this proposal as soon as possible so commercial operators can integrate it into their 2018 operations.

Interior Fraser Steelhead

DFO's proposed 'rolling window' is based on a data set that fails to incorporate the full range of information available on the diverse population structure of interior Fraser steelhead, migration timing distribution in the absence of harvest, and several studies on migration speed. Nor does DFO probe how including information available from the Province might impact its conclusions. Correcting for this could lead to a conclusion the proposed 'rolling window' is inadequate to protect and rebuild these populations.

The MSC Assessment Team for the recent certification of BC salmon foresaw the need for this and required the following Condition to be met if the BC fishery is to remain certified:

DFO and the Province of BC will form a technical working group (TWG) to review the key inputs, parameters and assumptions of the existing steelhead impact assessment model to improve the understanding of key fisheries, assumptions and parameters that influence projected Interior Fraser (IF) steelhead exposure or impacts in salmon fisheries. TWG may recommend refinements to model as required. This work will include development of fishery profiles that overlay fishing effort and IF steelhead run timing in the various fisheries to evaluate where steelhead impacts are most likely to occur. This could include a retrospective analysis of past years and a sensitivity analysis of key uncertainties and assumptions to provide insight into where most effective measure can be put in place to reduce impacts on steelhead stocks of concern. Incorporation of information from additional studies or analyses that would improve understanding of key model uncertainties will be considered.

DFO and the province will work towards agreement on conservation and management objectives for IF steelhead and other salmon stocks where salmon harvesting may have impacts on IF steelhead. A fishing plan evaluation framework for assessing impacts of alternative fisheries management approaches will be explored.

The potential set of fishery management actions will be consistent with the precautionary approach to management.

Management strategy evaluation via simulation will be used to assess the efficacy of different salmon harvesting approaches on IF steelhead stock recovery and rebuilding.

BC and DFO have failed to come to an agreement on:

1. the data that should be employed
2. critical assumptions on steelhead migration timing and speed
3. the population structure of Interior Fraser steelhead.

Rob Bison from the Province has provided the MCC with a critique of DFO's approach. DFO has made no obvious attempt to incorporate Mr. Bison's concerns into its decisions.

Mr. Bison, who has extensive knowledge and experience working with steelhead states:

'A 3-4 week rolling closure window protects about 60% of the run at one point along the migration route. Over a broad fishing area, a 3-4 week rolling closure at correct migration rates protects less than about 60% because extra days of protection are required to account for the lag time for protected fish to complete their migration through the area. That lag time depends on length of area and the time it takes for protected steelhead to clear and exit the area.

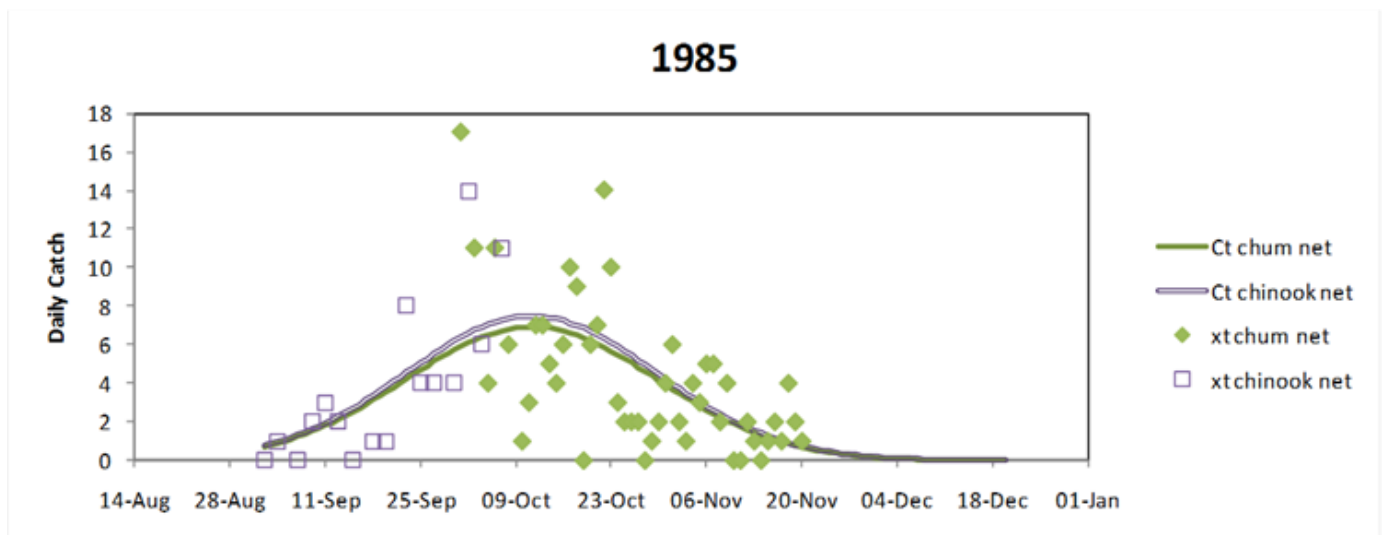
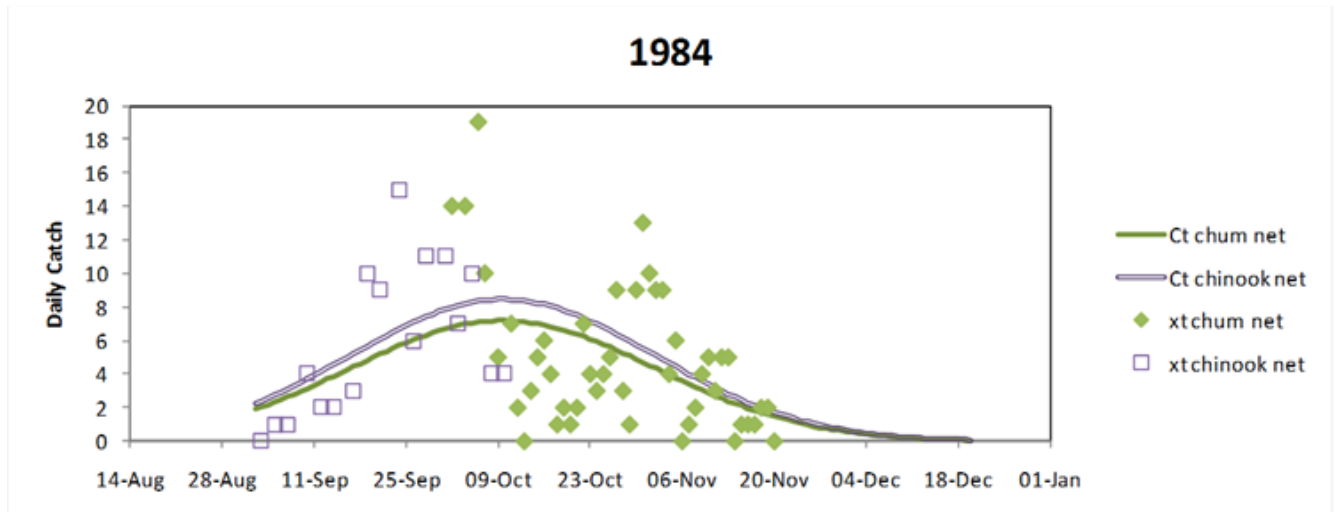
Without accounting for run timing, migration speed and compliance uncertainties, and if 90% protection is the prescribed level of protection, and using the published marine migration rates for steelhead of 17 km/day (Ruggerone et al. 1990) , the window dates for the various areas listed in Table 1 should resemble the following:

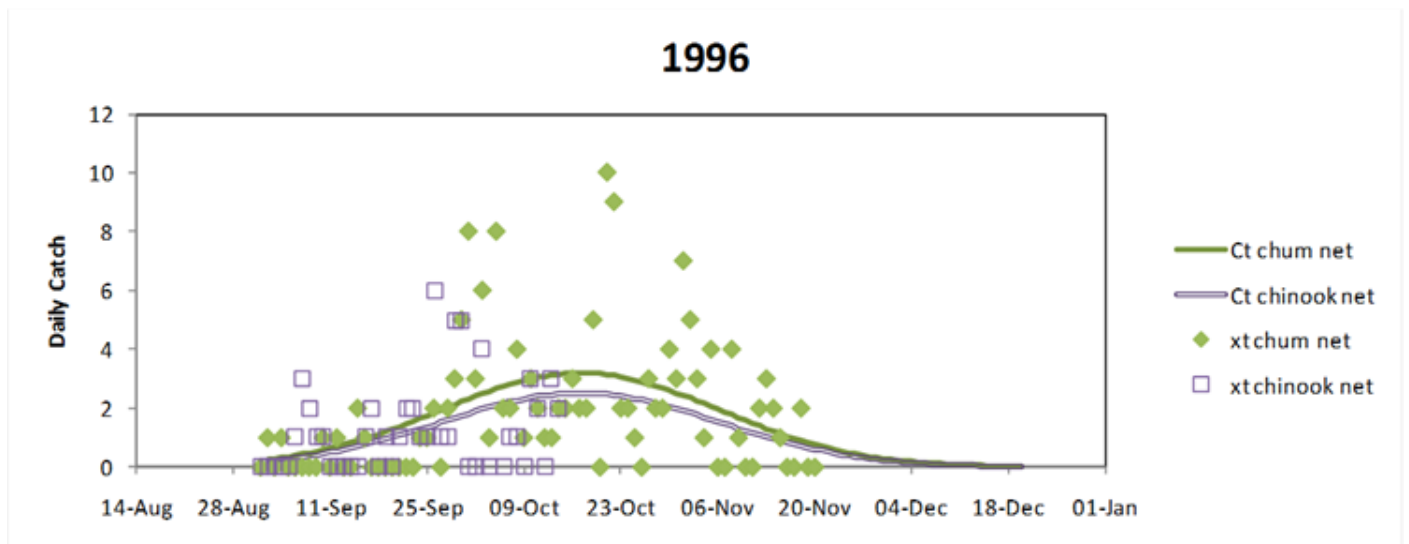
Fishery Location	Start Date	End Date
Area 11	11-Aug	15-Oct
Area 12	14-Aug	23-Oct
Area 13	22-Aug	28-Oct
Area 21/121	22-Aug	25-Oct
Area 20	24-Aug	26-Oct
Areas 4b/5/6c	25-Aug	01-Nov
Area 7	01-Sep	05-Nov
Area 7a	04-Sep	07-Nov
Fraser to Mission	06-Sep	11-Nov

*I've included the areas in US waters (Area 4b,5,6c; Area 7; and Area 7a) for completeness. Note that these simple reasonability estimates do not account for uncertainty in peak timing, or spread, or migration speed which would broaden these window periods. It is noteworthy that the estimated average marine migration rate of *O. mykiss* is very consistent with freshwater migration rates at comparable water temperatures to that of the approach marine waters during the late summer and fall.*

There is a substantial amount of information on steelhead migration timing. The simplest way to get accurate information on timing is to choose years when abundance was high and years when cyclical late-run Fraser sockeye were not abundant, so as to avoid distortion and erosion of run timing information in the Albion test fishery due to "outside" fisheries. The peak and spread of run timing in these relatively clear images are consistent with estimates that include all years, but where the information is more difficult to interpret due to lower abundance and the more erratic nature of the catch observation when survival and abundance is low. An important way to see all of the steelhead run timing in the Albion test

fishery, especially in the past when chum test fishing did not start until Oct 1, is to combine both the chinook and chum test fisheries and to check on their respective efficiencies. Luckily, for the years which I illustrate below, the steelhead catchabilities between the two nets are very similar (as you can see by the fitted curves), so one can simply combine the two data types into one overall pattern of run timing.



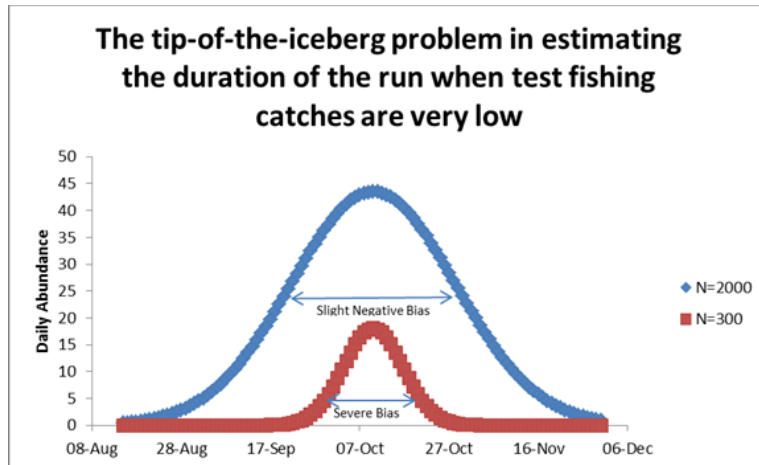


With respect to additional information on timing in various areas around and away from the Albion test fishery, there are numerous observer studies starting in the 1970's that report the onset and general timing of occurrence of the larger interior Fraser steelhead in the various approach fisheries. I can provide these if need be.

The issues Mr. Bison raises are persuasive. DFO needs to provide a detailed technical explanation for why it has chosen to ignore the Province of BC's technical expert on Interior Fraser steelhead. DFO should provide more complete information on:

The population structure of IFR steelhead. There is evidence IF steelhead are comprised of 11 different populations which have distinct migration timing and migration rate phenotypes and genotypes. DFO should describe how fitting a normal distribution for the aggregate would provide adequate protection to the 11 different populations, particularly those that are of early or later timing.

DFO should provide an analysis which examines if the way it analyzed Albion test fishing results may bias pre-fishery timing estimates of unfished IF steelhead populations. Would the distribution of the return be different if there was a deeper exploration of pre-fishery migration timing by looking at years with higher steelhead abundance and lower fishing pressure? Relying mostly on years when abundance is low injects severe bias into the analysis as shown below. DFO's work does not attempt to address this critical shortcoming.



There are several studies that raise questions about DFO’s migration speed estimates. DFO should incorporate such studies (examples are Ruggerone et al, 1990; Renn et al, 2001; Cook et al, 2016) and develop a sensitivity analysis on the model results if the migration timing is much slower than what DFO has employed.

Mr. Bison’s evidence undermines key assumptions upon which DFO has built their model. There can, therefore, be little confidence in DFO’s conclusion the proposed rolling window will provide the degree of protection DFO promises.

DFO should be to ask CSAS to prepare a SAR. A independent, transparent review would allow for consideration of the assumptions and data incorporated in DFO’s model. The SAR would provide management guidance utilizing the full range of data, literature, and expertise available.

As this will not be available for the 2018 season, the MCC recommends DFO, in the interim, expand the rolling window to better capture the questions asked of its assumptions and data. The increased level of uncertainty warrants a more precautionary approach.

MCC Recommendations

The MCC recommends the rolling window be extended by two weeks on the front end and one week on the back end. The rolling window can be further adjusted once CSAS concludes its deliberations and issues a SAR.

The lack of steelhead encounter rates in most recreational and commercial fisheries compounds the uncertainties. The MCC recommends the following:

1. All chum fisheries have third-party validation of landings

2. All commercial fisheries have, at a minimum, 20% fishery independent at-sea monitoring
3. All lower Fraser recreational fishing from September through late November have fishery independent estimates of steelhead encounters
4. C&P should include a comprehensive compliance monitoring and enforcement plan for recreational and commercial fisheries that may impact IF steelhead in the 2018 IFMP.
5. DFO consider the potential impact of drop-outs from FSC and commercial gillnets
6. Any new selective fisheries within the rolling window closure have 100% fishery independent monitoring.

Southern Resident Killer Whales

We refer DFO to the advice we submitted in February 2017 in response to DFO's SRKW discussion document. To this we add the following:

1. DFO should, as of April 15th, consider the advice it has been given by all parties, and follow through with its plan to introduce SRKW foraging area closures. It is unacceptable that DFO do nothing until after the early chinook populations have migrated through SRKW foraging areas. Waiting for the Minister to sign off on the IFMP, and thereby delaying action into June, or even July, is an affront to process and the Government's regulatory and legal responsibilities.
2. DFO should not, in 2018, leave 20-1 and 20-5 open to recreational fishing to allow for research programs, DFO has not met its commitment to provide stakeholders opportunities to comment on research design. If a research program is introduced, it should not be until there has been a transparent discussion of the research program's purpose, design, and objectives.
3. Any research programs that are permitted should be delayed until August 15th to allow for many of the early, less abundant, chinook populations to have cleared the foraging areas.
4. If DFO does decide to leave 20-1 and 20-5 open for recreational fishing, it must require fishery independent monitoring of retained catch and encounters. Monitors should collect DNA samples from both retained and discarded catch.
5. Whale watching activities should not be allowed in SRKW foraging areas

Commercial Salmon Allocation framework

DFO should not permit any new fisheries under the CSAF that are not fully compliant with DFO's *Strategic Framework for Fishery Monitoring and Catch Reporting*. It is inappropriate for DFO to introduce new fisheries without ensuring they are consistent with current policy and guidelines. While the new fisheries are required to have compliance monitoring and catch reporting in place; the compliance and monitoring plans are not required to be consistent with DFO regional or national policy. No new fisheries should be permitted until they go through a risk assessment and their monitoring and catch reporting plans are compliant.

Fraser River Sockeye

MCC supports increasing ESSR opportunities for Fraser sockeye as described. However, it believes the table on page 419 is too restrictive for Terminal Wild populations. While it agrees harvests should be conservative; setting a pre-season harvest rate ignores the realities of managing these opportunities. Harvesting can be managed to begin conservatively and expanded as more information becomes available through the course of the migration.

The First Nation involved can work with DFO to access escapements relative to the escapement target and adjust harvest opportunities as uncertainty is reduced. The location and timing of the harvest will also guide decisions.

The percentages in the last column should be eliminated and a note be added saying the degree of uncertainty will influence the proportion of the return to be harvested.

The MCC supports Option 2 for Early Summer/Summer and Late Run sockeye. The allowance for ESSR opportunities will reduce the amount of foregone catch allowing for increased precaution and economic/employment benefits. It also makes real Canada's commitment to Reconciliation.

Due to the great uncertainty in this year's forecasts, the LAER for all run-timing groups should be decreased if their forecast approaches the 25p.

There is considerable uncertainty for Late Run sockeye considering the 2017 jack return. Further, the Pacific Salmon Commission has significantly overestimated, in its in-season estimates, the amount of Late-Run sockeye it expected to spawn in recent years. Therefore, DFO should be very cautious if in-season estimates of Late Run sockeye fall below the 50p.

Interior Fraser Coho

The MCC supports with the 3-5% total mortality rate, understanding some of the difference between the 3 and 5% will be reserved for potential terminal fisheries on identified in-river surpluses. The MCC also recommends managers look at fisheries which may impact IFC though the guidance provided by: *Guidance to Derive and Update Fishing-Related Incidental Mortality Rates for Pacific Salmon. Patterson et al, 2017* <http://waves-vagues.dfo-mpo.gc.ca/Library/40602758.pdf>

Strategic Framework for Fishery Monitoring and Catch Reporting

The chart below is a tracker developed by DFO showing the progress BC fisheries have made relative to completing their Risk Assessment as required under the Strategic Framework. The failure of salmon management and C&P to make any progress towards fulfilling their responsibilities in regards to compliance and catch reporting in salmon fisheries is disturbing.

The 2018 IFMP should commit the Department to ensuring all BC salmon fisheries undergo a Risk Assessment prior to the 2019 season. It should then provide an annual report in the IFMP tracking where each salmon fishery is relative to the requirements of the Strategic Framework.

TELUS 2:45 PM 38%

Done Delivery against Round 1 RAs_Mar 20, 2018.pdf

Last updated: Mar 16, 2018

Sector	Species/Fishery	Area	Draft RA complete?	Draft RA consultation with harvester complete?	Draft RA consultation with other sectors complete?	RA finalized?	RESULTS		Notes
							Draft RA current monitoring level	Draft RA target monitoring level	
Groundfish									
Commercial	Groundfish Hook & Line	Coastwide	Y	Planned 2019 IFMP			Enhanced	Enhanced	
Commercial	Groundfish Trap	Coastwide	Y	Planned 2019 IFMP			Enhanced	Low	
Recreational	Rockfish	Inside/Outside	Y	Poss SFAB			Generic	Enhanced	
FSC	Groundfish Hook & Line, Trap	Inside/Outside	Y	Prob 2019 IFMP			Low*	Enhanced	*dual fishing-licensed fishery currently Enhanced
Pelagics									
Commercial	Roe Herring (by seine)	All major & minor stock assessment areas	Y	In progress	via IHHPC/IFMP		Enhanced	Enhanced	
Commercial	Roe Herring (by gillnet)	All major & minor stock assessment areas	Y	In progress	via IHHPC/IFMP		Generic	Generic	
Commercial	Spawn on Kelp	All major & minor stock assessment areas	Y	No advisory body	via IHHPC/IFMP		Generic	Generic*	*open pond fishery target is Low
Commercial	Tuna	Canadian EEZ; Offshore; US waters	Y	In progress	via TAB		Low	Low	
Recreational	Tuna	Canadian EEZ	Y	In progress	via TAB		Low	Low	
FSC	Eulachon	All DUs (Nass/Skeena; Central Coast; Lower Fraser)	Y	Prob 2019 IFMP	via IFMP		Low*	Generic	*Fraser fishery currently Enhanced
FSC	Spawn on Kelp/Boughs	All major & minor stock assessment areas	Y	Prob 2019 IFMP	via IHHPC/IFMP		Low	Low	
Shellfish									
Commercial	Shrimp Trawl	Coastwide	Y	Draft requires redo			Generic*	Enhanced*	*Draft RA requires redo given recent mgmt changes
Recreational	Clam	Coastwide	Y	Poss SFAB or 2019 IFMP			Low	Low	
Recreational	Crab	Coastwide	Y	Poss SFAB or 2019 IFMP			Low	Generic	
Recreational	Prawn and Shrimp Trap	Coastwide	Y	In draft 2018 IFMP			Low	Generic	
FSC	Clam	Coastwide	Y	Planned 2019 IFMP			Low	Low	
FSC	Crab	Coastwide	Y	Planned 2019 IFMP			Low	Generic	
FSC	Prawn and Shrimp Trap	Coastwide	Y	In draft 2018 IFMP			Low	Enhanced*	*non-commercial trap and ringnet gear target is Low
Salmon									
Commercial	Chum	Fraser	No commitment given	competing priorities and limited human resources					
Commercial	Chum	Central Coast							
Commercial	Sockeye	WCVI-Barkley/Somass Sockeye							
Commercial	Sockeye	Skeena							
Commercial	Pink	Fraser							
Commercial	Chinook	Southern ISBM Chinook							
Commercial	Coho	Northern BC							
Recreational	Chum	Fraser							
Recreational	Chum	Central Coast							
Recreational	Sockeye	WCVI-Barkley/Somass Sockeye							
Recreational	Sockeye	Skeena							
Recreational	Pink	Fraser							
Recreational	Chinook	Southern ISBM Chinook							
Recreational	Coho	Northern BC							
FSC	Chum	Fraser							
FSC	Chum	Central Coast							
FSC	Sockeye	WCVI-Barkley/Somass Sockeye							
FSC	Sockeye	Skeena							
FSC	Pink	Fraser							
FSC	Chinook	Southern ISBM Chinook							
FSC	Coho	Northern BC							

LEGEND:
 On track
 Ongoing
 Needs attention
 Target monitoring level is higher than current

Monitoring and Compliance

Conservation and Protection is responsible for ensuring there is effective catch reporting and compliance monitoring in place for all fisheries. While all the fisheries summarized in the draft IFMP have a section on Fishery Monitoring and Catch Reporting, none are compliant with the Strategic Framework.

But more importantly none of the sections on monitoring and compliance describe what level of accuracy and precision is required of the fishery. How the monitoring actions are designed to achieve the required levels of precision and accuracy. And what enforcement plans will be in place to ensure the required actions are delivered to meet C&P's quality control standards.

There are numerous reports and reviews that have shown Conservation & Protection has been unable, or unwilling, to effectively monitor or enforce fisheries. One of the latest is the '*Estimation of coho encounters and Interior coho impacts in Lower Fraser gillnet and Interior Fraser fisheries in 2014*'. DFO has access to many internal reports essentially saying the same (Dr. Marc Labelle, pers. Comm.)

Managers and C&P are aware of these shortcomings but have done little to address them. There are significant monitoring and compliance issues related to several populations in 2018 fisheries. They include Fraser, Skeena, and Nass River chinook, IF coho, and IF steelhead in First Nations, recreational, and commercial fisheries.

Yet, managers and C&P have not ensured there is either effective fishery independent monitoring or C&P managed monitoring, compliance, and enforcement programs in place. A good example is IF steelhead. It is recognized by all involved there is an absence of good catch and encounter data and this compromises the effective assessment and management of the affected populations. But there is nothing in the 2018 IFMP that addresses the identified shortcomings. The same is true for IF coho and recreational chinook fisheries.

The MCC urges DFO to rewrite all the sections on monitoring & compliance to include a description of the accuracy & precision of compliance monitoring and catch reporting required in each fishery and why. It should also include what monitoring actions will be undertaken and how their effectiveness will be assessed post-season. Finally, the section should describe how C&P will be enforcing the required actions: random checks in fisheries requiring low levels of accuracy and precision to regular attendance or the auditing of fishery independent monitoring in the case of those fisheries requiring greater levels of accuracy and precision.

The above is particularly urgent for North Coast pink fisheries with relatively high levels of chum discards, recreational chinook fisheries employing C&R to protect specific populations of co-migrating chinook and recreational, commercial, and First Nations fisheries harvesting IF coho and steelhead.

For the past several years DFO on the North Coast has refused to release data collected by third party operators even when privacy concerns are addressed, arguing that since industry paid for it, industry can do what it will with the information. Conservation & Protection, who is responsible for both compliance and enforcement and overseeing certified fishery independent data collection, needs to address the situation in the 2018 IFMP.

Additional Advice

Page 40. This section should list National Policies first, namely the Sustainable Fisheries Framework. Regional Policies are nested within Canada's National Policies.

Page 43. Section 1.6.4 would be the appropriate place to include the 'Tracker' above along with a discussion of progress per salmon fishery.

Page 44. This would be the appropriate place to discuss the proposed new advisory processes being considered under the CSAF. These local processes do not 'fit' well within the current structure. It would be useful to describe how DFO intends to integrate them in the larger consultative framework.

Page 49. The third paragraph is indicative of why little progress has been made in implementing the WSP since it was introduced. DFO confuses 'people's values and preferences' with its 'client's preferences'. Most Canadian's – as shown by polls – would put protecting and rebuilding salmon populations well ahead of the interests of commercial and recreational harvesters. It also ignores First Nations as their Rights are not captured in the simplistic trade-off trap DFO describes. The goal of the WSP is to '*Restore and maintain healthy and diverse salmon populations for the benefit and enjoyment of the people of Canada in perpetuity*' (WSP, 2005) not to find facilitate a trade-off between conservation and users. The third paragraph needs to be rewritten by someone who has read the WSP.

Page 68. There should be a short section on terminal (ESSR) fisheries and how they have increased harvest and processing opportunities.

Page 73. This section should speak to the WSP's requirement that, '*The presence of a CU in the Red Zone will initiate an immediate consideration of ways to protect the fish, increase their abundance, and reduce the potential risk of loss. Biological considerations will be the primary drivers for the management of CUs with Red status*', and how this is directly related to National guidelines for rebuilding populations out of the critical zone and proposed changes to the Fisheries Act.

Page 97a. Paragraph 2 describes what should be done to rebuild SRKWs before going on to describe measures to protect key foraging areas. Unfortunately, the two are not in agreement with one another. It accurately describes what the best science says should be done, and then recommends actions which leave the foraging areas with the highest recreational catch and effort open. It is impossible for the proposed actions to deliver what DFO says is required if SRKWs are to be protected and recovered.

Page 97b. The second shaded area is a distortion of the truth. Leaving the key foraging areas open to fishing will not reduce disruption of SRKW activities to the extent suggested. These sections should be rewritten to be more transparent as to what DFO intends to deliver relative to what it says is required.

Page 103 (6.3) Rebuilding Guidelines under the SFF state populations in the critical zone need be rebuilt, not conserved. If this is the objective of the IFMP, it is inconsistent with National Policy, the SFF, WSP and proposed changes to the Fisheries Act. The lead should be rewritten to state the objective for Fraser chinook populations in the critical or Red zone will be that rebuilt. Rebuilding actions will include limiting harvest related total mortalities.

Page 121. This section should be retitled 'Fishery Related Incidental Mortality' and, include a discussion of the 2017 CSAS SAR: *Guidance to Derive and Update Fishing-Related Incidental Mortality Rates for Pacific Salmon*. Patterson et al, 2017 <http://waves-vagues.dfo-mpo.gc.ca/Library/40602758.pdf>. This is guidance offered by DFO science to managers. The discussion should state that managers will be working to implement the SAR over the coming years which will likely lead to adjustments in current FRIM estimates.

Page 126a. Conservation & Protection has included three bullets related to their compliance strategy. We have some concern about the veracity of each. C&P has not been actively supporting the development and implementation of the Strategic Framework in salmon fisheries. If they were, one would think some progress would have been made (see Tracker). There is little evidence C&P has been actively monitoring fisheries for compliance. Reports of non-compliance in all fisheries are legion, some by C&P itself. But little has been done to address the situation. There is not a lot of evidence to suggest C&P has effectively improved voluntary compliance through education. If we are wrong, the section should be rewritten with specific examples of successful actions. If not, it should be rewritten or removed.

Page 126b and **Page 137.** C&P should commit to consulting on what First Nations and stakeholders believe should be priorities. This advice could be used by C&P when establishing priorities. Annual priorities relative to compliance in salmon fisheries should be outlined in the final IFMP.

Page 140. The third paragraph under 10.1.3 speaks to why little progress has been made in implementing the Strategic Framework in salmon fisheries. Discussions with harvesters will always be unhelpful for long as the

incentive structure encourages delay. Until managers inform harvesters the Strategic Framework will be implemented and by when, nothing will happen. If managers changed the incentive structure by saying the Framework will be implemented, and by when, it would look the innovation and creativity inherent in all fishers. Examples abound around the world where fishermen quickly, and cost-effectively, improved compliance once challenged to do so. The way this section is written guarantees continued inaction.

Page 146. The third paragraph is misleading. The iREC survey methodology was peer reviewed, but it only reviewed it against another fishery dependent methodology: creel surveys. And then with several caveats. At a minimum, this section should make clear that iREC and creel surveys are both fishery dependent measures, and inadequate for fisheries requiring 'enhanced' monitoring.

Page 148. The section on CWTs should describe what the current sampling rate is relative to objectives, and efforts are underway to improve it.