



The Pacific Marine Conservation Caucus's Recommendations for the 2019/20 North and South Coast salmon IFMPs

Strategic Framework for Fishery Monitoring and Catch Reporting: Risk Assessments

The MCC has begun reviewing the draft Risk Assessments. It has thus far reviewed two: Area A sockeye and pinks. In both cases the Risk Assessments contain multiple errors, poor understanding of the fishery, a lack of current stock status information, little knowledge of current relevant published research, and are inconsistent with international best practices when it comes to the monitoring, surveillance, and control (MSC) of fisheries as set out by FAO. The result managers did not appropriately score these fisheries leading to a improper determination that they require 'generic' monitoring.

This highlights an issue the MCC has been clear about through the development of the Strategic Framework. If there is not an inclusive, transparent process for completing the Risk Assessments, serious errors will be made. These initial draft Risk Assessments confirm our concerns. If only the managers and clients are engaged in the Risk Assessments, it is unlikely that a fulsome discussion of the issues will be convened. It is not in either the managers' or their clients' interest to do so. Further, our experience is harvesters often point out how they can't employ effective fishery monitoring because of cost, installation or operating considerations, rather than considering alternative solutions. Manager's tend to accept this because most managers have little knowledge of monitoring solutions being introduced in fisheries around the world.

The MCC insists that it be directly engaged in completing the Risk Assessments. These should be done at the regional level so there is consistency across fisheries. In any event, the current Risk Assessments should be clearly identified as preliminary, MCC's concerns noted, and not be employed for development of management or monitoring plans.

North Coast AABM Recreational Chinook Fisheries

The IFMP should require lodge operators to report catches *and releases* of chinook on a weekly basis. DFO should report this information in its in-season reporting. The IFMP should also require in-season stock composition reporting based on DNA analysis as it does for the Area F fishery.

DFO needs to provide in-season weekly reports of estimated total mortalities using PSC methodology and expressed in a probability distribution to capture the uncertainties associated

with estimating FRIM and the lack of fishery independent estimates of compliance and encounters.

Area 4 Sockeye Fishery

Management Reference Point

Following the logic that saw the lower trigger point increased to 600,000, the Smsy of wild Skeena stocks is now 600,000. Therefore at 40% enhanced 1,500,000 would have to pass through Tye to 'ensure' an escapement of 600,000 wild sockeye. The Lower Management Reference Point for Skeena sockeye should therefore be 1,650,000 (1,500,000 + 150,000 FSC).

The MCC recommends the draft IFMP be amended to reflect this.

Late Season Harvest of Babine River sockeye

Preamble:

- Babine River sockeye continue to remain depressed relative to their interim target.
- In 2018, marine commercial harvest of Babine River sockeye continued well into August, with both gillnet and seine fisheries targeting Skeena River sockeye.
- In August, the majority of the enhanced Fulton and Pinkut populations have moved up river, and Babine River sockeye are present at a much greater proportion.
- The IFMP states: *Directed fisheries for Skeena Sockeye after August 1 will be constrained by Sockeye and Chum salmon stocks of concern. While the aggregate harvest rate schedule shown in Figure 13.5-6 guides the overall commercial exploitation rate, other important considerations include protecting and rebuilding identified stocks and species of concern, incorporating concerns expressed by First Nations and stakeholders and impacts of other fisheries in setting weekly harvest rates. These additional considerations will guide weekly harvest rates in late July and early August* (pg. 292, 2018/2019 Salmon Integrated Fisheries Management Plan – Northern BC).

The MCC recommends:

- Late season (August) fisheries targeting Skeena River sockeye should be severely constrained as per the IFMP. Managers ignored the restrictions contained in the IFMP in 2018. It is therefore clear that the wording needs to be more specific to ensure identified conservation concerns as expressed by the MCC and Skeena First Nations are adhered to in-season.

Area 4 Pink Fisheries

Skeena pink salmon abundances have been very poor in recent years. This is particularly true for the important Lakelse population. Yet, DFO continues to allow the Area A fleet to delay

taking its sockeye allocation until later in August when it is hoped there will be a harvestable surplus of pink salmon. In recent years, come late August, a harvestable surplus of pinks has not been available, yet DFO has allowed the Area A fleet to harvest its sockeye allocation with the attendant harvest of pinks. This is not consistent with any definition of a precautionary management plan. The MCC recommends the Area A fleet harvest its sockeye allocation prior to the end of the first week in August. There should be a separate fishery for any harvestable surplus of pinks in mid to late August.

Area 8 Chum Fishery

It is noted DFO has made little attempt in the 2019/20 IFMP to address the outstanding Marine Stewardship Council Conditions (1, 2, and 4) regarding the Area 8 fishery. This failure could lead to the suspension or withdrawal of the MSC Certification of not only this fishery, but all north coast fisheries. The Assessment Team that audited the Condition in 2018 detailed what needs to be done to bring this fishery into compliance. The MCC brought this issue to the attention of DFO in its submissions to previous versions of the draft IFMP. DFO's decision to deliberately ignore the Assessment Team's recommendations by not incorporating them into the 2019/20 IFMP will be reported to the Assessment Team when it reconvenes this October to determine whether the required changes were implemented.

MCC recommends DFO comply with Condition 2 of the Marine Stewardship Council's Certification of BC Salmon that requires producing a comprehensive annual report with:

- 1) catch and escapement statistics used to develop reference points,
- 2) total catch mortalities including chum salmon discard estimates that incorporate adjustments for under-reporting in logbooks,
- 3) methodology to calculate reference points,
- 4) evaluation of performance in achieving reference points (including how wild salmon are managed in large enhanced fisheries),
- 5) evaluation of CU status,
- 6) a discussion of assumptions, findings and uncertainties.

The IFMP should state that such a report will be provided in the 2019 Post-Season Review so that managers are made aware of the need to collect the necessary information in-season.

Chinook

In 2018, COSEWIC identified seven populations of Fraser Chinook salmon as endangered, three as threatened and one as special concern. Based on data to 2015, the only Fraser Chinook unit that COSEWIC considered 'stable' was the South Thompson population. DFO has identified this population as a stock of concern and recommended harvest reductions because of its declining productivity. At this time, there are no wild populations of Chinook salmon in the Fraser River considered healthy.

Early timed Chinook: Fraser 4-2 and 5-2

Early timed Chinook to the Fraser River have been considered a conservation concern for the past decade. Since 2012, DFO's efforts to implement conservation measures - that would recover these Chinook through abundance based management zones - have failed.

The Marine Conservation Caucus (MCC) has been clear in its correspondence to DFO regarding the 2019 fishing season that *total mortalities* on endangered 4-2 and 5-2 Fraser Chinook populations must be held to a maximum of 5%.

Furthermore, existing total mortality estimates (i.e. all fish that die from their interaction with the fishery, whether retained or not) as calculated by DFO managers likely significantly underestimate the true total mortality of Chinook in marine recreational salmon fisheries.

This conclusion is based on analysis by DFO's own Science Advice (<https://waves-vagues.dfo-mpo.gc.ca/Library/40602758.pdf>) and the Discussion Paper the MCC provided to you in our recent meeting (<https://www.mccpacific.org/2019/03/discussion-paper-on-frim-in-south-coast-recreational-fisheries/>).

The underestimation of total mortalities is driven by non-retention fisheries and the methods used to calculate the Fisheries Related Incidental Mortality (FRIM) associated with releasing salmon. Figure 1 illustrates the importance of incorporating an appropriate FRIM estimate and the impact of underestimating it.

Importantly, the science information provided only speaks to FRIM; it does not incorporate other identified uncertainties associated with compliance, catch/release reporting, uncertainty in genetic information, or the effects of management measures (e.g. slot size).

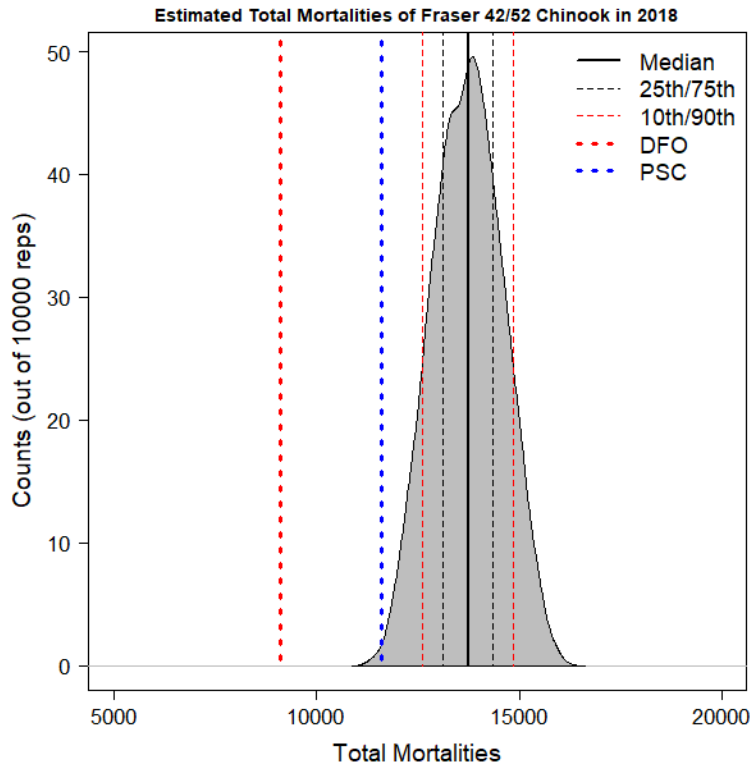


Figure 1. Total mortality estimates of Fraser 4-2 and 5-2 Chinook in BC’s South Coast recreational fisheries (PFMAs 18,19,20,29,121,123) in 2018 using various approaches. The grey shaded area represents the probability density generated through a stochastic model following the guidance in Patterson et al. 2017. The solid vertical black line shows the median of the model estimate, with dashed vertical lines showing various percentiles. The dotted vertical blue line is the estimate derived from FRIM calculation methods used by the PSC. The dotted vertical black line is the estimate derived from FRIM calculation methods used by DFO. Total mortality as determined by DFO managers may be a significant underestimate.

It would be impossible for the MCC to support any proposed ceiling on total mortalities of Fraser 4-2 and 5-2 Chinook if the associated management actions do not specifically and quantifiably incorporate the uncertainties associated with FRIM, compliance, and catch reporting.

Ensuring that total mortalities of Fraser 4-2 and 5-2 Chinook are kept below 5% will require, at a minimum, the following:

- Marine recreational salmon fisheries in the Juan de Fuca, Gulf Islands and Southern Georgia Strait (Areas 18, 19, 20, 121, 123, and 29) be closed from May to early August.
- Northern Georgia Strait Recreational Fisheries (Areas 13 to 17, 28) be Chinook non-retention from May until early August.

- Johnstone Strait and Queen Charlotte Sound be Chinook non-retention May to early August
- WCVI AABM Recreational (Areas 124-127) be Chinook non-retention from May to early August.

Unfortunately, any credible analysis shows that neither the 5% nor the 10% total mortality ceiling can be met without closing these fisheries if DFO is to honour its Section 35 constitutional obligations to First Nations. As with marine recreational fisheries, there are outstanding uncertainties associated with FRIM, compliance, and catch reporting in First Nation's FSC fisheries that must be considered as well.

Closing salmon fisheries in these areas has the added benefit of supporting SRKW threat reduction and recovery. As the MCC pointed out in recent TWG meetings, closures are the most cost-effective and efficient management measure DFO could adopt to reduce competition, and improve the availability and accessibility of 4-2 and 5-2 Chinook. These are preferred prey for SRKWs. Continuing these closures through to October is also necessary for SRKWs in SRKW critical habitats.

Concerns for Fraser Chinook 4-1 (South Thompson) and Lates (Harrison).

As DFO (and COSEWIC in the case of Harrison) has identified, there are conservation concerns for both these populations. DFO has recommended that total mortality not exceed 20% and harvest be reduced by at least 25%. Given that last year's efforts to achieve this reduction failed, and given the on-going concern for the abundance of south migrating Chinook to SRKW critical habitat, the MCC is recommending the following:

Recreational Fisheries

Georgia Strait North, Areas 13 to 17, 28

- Aug 1 to September 15th 2019, 1 Chinook/day and manage fisheries so encounters (retained catch and releases) do not exceed the 2015-2018 average. September 16th to April 30th, 2020, 1 chinook per day

WCVI AABM Recreational (Areas 124- 127)

- Aug 1 to September 15th 2019, 1 Chinook/day and manage fisheries so encounters (retained catch and releases) do not exceed the 2015-2018 average. September 16th to April 30th, 2020, 1 chinook per day

Johnstone Strait and Queen Charlotte Sound

- Aug 1 to September 15th 2019, 1 Chinook/day and manage fisheries so encounters (retained catch and releases) do not exceed the 2015-2018 average. September 16th to April 30th, 2020, 1 chinook per day

Langara/Haida Gwaii

- 1 Chinook/day (see note below regarding managing all North Coast fisheries so total mortalities of South Thompson chinook do not exceed 10%). DFO should report catch and releases from a creel survey on a weekly basis. Total encounters (retained catch and releases) should be managed so as not to exceed the 2014 to 2018 average. It must be acknowledged that total mortalities due to FRIM, non-compliance, and lack of fishery independent catch reporting are currently underestimated. These uncertainties must be explicitly taken into account in the management of this fishery so their impact on South Thompson Chinook are fully accounted for. These uncertainties should be captured in the IFMP along with how they will be accounted for.

Commercial Troll

- NBC AABM Area F Troll closed to July 17. The fishery should be managed so total mortalities of the South Thompson population in all north coast fisheries (FSC, troll, and recreational) do not exceed 10%. If this ceiling is exceeded, fisheries should be closed.
- WCVI AABM Area G Troll closed to August 1 (Option A)

Additional Considerations

DFO needs to take the following uncertainties into consideration when managing these Chinook populations:

1. DFO's estimation of total mortalities fails to incorporate drop-outs, long-term mortality associated with being released, predation after release, or recapture
2. Uncertainties associated with the lack of fishery independent estimates of compliance and catch reporting

These uncertainties should be described in the IFMP along with a description of how they are incorporated into management decisions. This is of particular importance where DFO is recommending the employment of non-retention fisheries as way to reduce fishery impacts. Where non-retention fisheries are used to reduce impacts on stocks of concern the IFMP should contain a section that clearly sets out how each of these uncertainties will be addressed. Further, the IFMP should state that where non-retention fisheries are employed, total mortalities will be reported as a probability distribution.

Finally, until DFO generates a Risk Assessment as recommended in Patterson et al. 2017 and the subsequent CSAS SAR, DFO should, as a bare minimum, use PSC methodology in the

estimation of total mortalities. Although the PSC acknowledges its estimations are likely low, they are likely a better estimate of total mortalities than the single estimate of immediate mortality DFO employs. The proposed reductions should therefore be calculated relative to PSC methodology for 2019.

Management Adjustments need to be incorporated in the management of Fraser chinook. Many Fraser chinook populations are returning when Fraser water temperatures are high and water levels low. The Management Zone approach fails to take the impact of environmental conditions into account. The management of Chinook should require that escapement targets be increased to account for environmental conditions, FRIM, drop-out in gillnet fisheries, and uncertainties due to lack of fishery independent compliance and catch monitoring.

Fraser Sockeye

The MCC believes neither Option A or Option B is sufficiently precautionary considering the poor returns some key component CUs have experienced in the past few years. We believe that more protection is required for Early Summer and Summer CUs such as Bowron, Taseko, and Late Stuart.

The TAM curves, particularly in the 25p to 50p forecast provide insufficient benefits in terms of decreased total mortalities for these populations. Furthermore, the fixed escapement from the LFRP to the UFRP limits rebuilding at low abundances. The option for rebuilding is provided only when the TAM is reached, which is counter-intuitive, as it is when abundances are low that the need for rebuilding and protection is greatest.

The analysis provided in the draft IFMP of the potential results for late-timed CUs is disturbing. It is of particular concern when the poor returns seen over the last few years are combined with the Fraser Panel's proven inability to estimate the strength of the late-summer return in-season. The MCC therefore recommends that the LAER for late-run sockeye be reduced to 10%. The MCC further recommends that in-season run-size estimations be delayed until abundances can be confirmed at Mission and that MA's not be adjusted in-season. Last year proved that the Fraser Panel does not have the necessary tools to accurately estimate the stock strength of late-summer sockeye. DFO and the Fraser Panel excused their 2018 failure, arguing lower escapement targets were achieved. They do not have the same luxury in 2019.

The MCC strongly supports the expansion of ESSR fisheries where terminal surpluses are identified.

Interior Fraser Steelhead

The MCC supports the Province of BC in calling for additional protections for Interior Fraser steelhead in 2018. The current proposed 'rolling window' is inadequate protection. Not only does it fail to provide sufficient protection; it does not incorporate uncertainties associated with FRIM and the lack of fishery independent compliance and catch monitoring.

Interior Fraser Coho (IFC)

The MCC does not support any change to the ER cap on IFC. Similar to steelhead and chinook, current management fails to incorporate uncertainties associated with FRIM and the lack of fishery independent compliance and catch monitoring.

Monitoring and Compliance

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 Interior Fraser 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 2019/20 IFMP.

Fishery Related Incidental Mortality (FRIM).

All sections of the 2019/20 IFMP should include a section describing how 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> is incorporated in the associated management plans. This is particularly important for those fisheries encountering salmon returning to the Fraser River and other south coast streams.