

Participants

Michael Staley, FSMC Co-Chair	Madeline Thompson, DFO Co-Chair
Shamus Curtis, UFFCA	Max Veilleux
Herb Tepper	Colin Schwindt
Aidan Fisher, LFFA	Les Jantz
Marc Labelle	Cory Lagasse
Janice Billy, STC	
Pete Nicklin, TNG	
Kim Charlie, Sts'ailes	Kristin Hrapchak, FSMC Staff
	Dawn Steele, Note Taker
ONLINE	
Damon Nowosad, QARS	Patricia House
Michelle Walsh	Melissa Risto
Dominic Hope	Antonio Velez-Espino
Nicole Frederickson	Mike Hawkshaw
Kelsey Campbell	Bonnie Adolph
Murray Ned	Kevin Pellett
Laura Tessier	Thomas Powell

Welcome, Agenda Review

Following a welcome poem and introductions, Mike S reviewed the draft agenda and participants proposed a few changes.

Forum 2 Questions: DFO Technical Response

Colin Schwindt & Max Veilleux, DFO

DFO provided responses to the following technical questions from Forum 2 and invited discussion.

1. LAER Use/distribution

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- Tables provided showing proportion of impacts by fishery during the LAER period: catch distribution by MU, fishery and region:
 - 2019 - mostly for test fishery and BCI.
 - 2020 — similar.
 - 2021 — separated estimated impact in unsanctioned fisheries.
 - Average: 2019-21.
 - Analysis: Results without test fisheries.

Discussion

- Q/A: For BCI, some unsanctioned fishery catch was included in previous years. Also had terminal fisheries in Chilcotin and Late Stuart (2021). So a portion of those impacts were for targeted fisheries (ESSR-type (non-commercial) terminal fisheries).
 - Chilcotin fishery exceeded catch and benchmarks. Fishery was triggered due to a large in-season abundance estimate.
 - Late Stuart was somewhat different: FNs decided not to fish Early Stuarts, so concession was made to permit a later fishery on the Late Stuarts.
 - The aggregate reached a level late in the season that permitted a non-LAER fishery.
- Q/A: DFO confirmed the summary includes all that catch — 2021 was definitely complicated.
- Would be helpful to show total catch in numbers compared to total LAER allowed and total run size.
 - DFO can share the Excel sheets for JTWG members to work with (will add total LAER, etc).
- The other problem was that Mission was under-estimating — started to see evidence of discrepancy in late August at Big Bar/Qualark, but the actual adjustment wasn't made until September.
- Q/A: Terminal harvest was included in 2021.
 - Q/A: DFO to explore but think it's possible to separate that out?
 - Interest in seeing how much of LAER was used each year by run-timing group.
- Where are we going with LAER sharing? This is very important for LFFA because it's constraining key fisheries.
 - DFO: We've been raising the need to discuss this for some time, because we hear the concerns about current sharing. Believe additional funding is being explored to support those discussions.
 - Discussion of uncertainty/why started with non-retention in 2022, due to no confirmation of return size until early September, which negatively impacted access in marine/Lower Fraser. So that's the other challenge: how big a return must be confirmed before we start retention. The other consideration is how such decisions affect US fisheries (and their ability to retain sockeye in pink-directed fisheries).

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- Hope to get movement on when to permit sockeye retention in Lr Fraser FSC fisheries when we're in LAER situation. (Less conservative escapement option would have permitted fisheries mid-August).
- Q/A: There hasn't been a formal discussion amongst FNs yet on sharing in low years. This question also came up last year. Maybe the sharing approach isn't about a single year but about sharing across the 4 years.
 - There's lots of nuance to the discussion, so the first step is to look at the data and to clearly understand what they are showing and how they can inform difficult discussions needed for years like 2023. Important that we look in depth at how DFO has been using LAER and get clarity before we start to discuss sharing.
 - DFO can provide the proportions for the last 3 years, and people can use that to game out what 2023 would look like.
 - Discussion: Whether TNG terminal fishery was counted/should be counted under LAER, since it could quickly use up all the LAER. It also relates to PSC and US access. Unsanctioned fisheries were another tricky issue with the US.
- LAER is described as allowing for impacts in non-target fisheries, but people will increasingly be looking at it as a target, so more focus needed on sharing plans for it, and also looking at what is the target.
 - DFO: In very low years, the numbers are so small they are really hard to manage.
- This is helpful. Once we digest it, we can provide useful info to the Forum.
- This discussion suggests the sharing dialogue proposed for FSMB's work plan will need to be informed by a strong technical process that's broader than the JTC.

2. Window Closures: Protections for different options

DFO explained how they arrive at proposed 3-week closure dates: a specific objective of protecting X% of the run, combined with run timing curve, provides the ideal dates, then DFO tweaks that with FN partners to accommodate preferred fishing times. An extra week was added to protect early Early Summers. Caveats include lower precision for estimating protection of small/at risk stocks (Bowron, Nadina, Taseko). One approach is to use sub-aggregates, but for Bowron and Taseko, the run is spread out, with no clear peak, so it's hard to estimate a window to protect 90% of those runs. The 4 and 5-week dates don't provide the same 90% protection for early Early Summers, more like 60% for 4-week and 80% for 5-week. DFO can provide estimates but precision rates will be low.

DFO will share this, including info for Lower Fraser stocks, e.g. Pitt.

Discussion

- This is helpful for JTWG reps in deciding what to recommend.
- PSC provided the data but with strong caveats that it's not intended to be used at the finer scale of individual stocks (intended for MU management scale).
 - DFO did not remove(?) 2020 run (returns at a much later date and skews run timing).
 - There is additional data originally collected for Upper Adams. Thompson also has some species at risk data. How are stocks like Barriere, etc protected?

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- Shift to weak stock management at Fraser Panel represents a generational change.
- There are additional mechanisms to protect weaker stocks besides window closures, including lower TAM caps and LAERs.
- It would be helpful to have an explanation on paper of protection for the weaker Early Summer stocks: Momich, Upper Barriere, Upper Adams will fall within Momich timing.
 - DFO: Will take a look. **ACTION**
- 2023 and 2024 will be very complicated, so we need space for detailed technical discussions to identify both potential opportunities and conservation requirements. We can no longer use a blunt hammer approach. So look at where we have data and where further data/analysis will be needed to inform future weak stock management.
- Interested in the extent to which (and where) window closures have been the driving force protecting weak stocks (as opposed to other measures like levels for identifying TAC or lower reference points). Window closures exclude flexibility for small food fisheries such as dry rack, which is a small but very important fishery to Lower Fraser.
 - DFO: Agree. This discussion is also linked to the discussion around sharing.
 - Q/A: The window has been shifted in season by a few days to reflect run timing updates, although run timing for Early Stuarts has been challenging in recent years. This tool was useful in the past when we had bigger fisheries, but is perhaps less useful in the current context.
- Would be helpful to also have run timing by MU by week.

3. Total 2019 escapements vs. other metrics

DFO provided a table on implications of the high proportion of 5-year olds expected this year. It's not a full apples-to-apples comparison. DFO can provide the data in other formats if desired. DFO table drew on the 2020 paper. Stock Assessment will look at how best to compare spawning assessment to brood year for future years when 5-year olds are dominant.

Harrison/Quinsam Chinook Update

Antonio Velez-Espino, DFO

- This presentation provided an overview of Canadian PST obligations for managing ISBM Chinook populations.
- Conservation status commitment is based on evaluation of a running average (3 year) of ERs and escapement goals.
 - The ER metric is based on computing a 3-year running average of CYERs (Current Year Exploitation Rate) once data from both parties for 2019-2021 is available.
 - 2 different calculation methods used for stocks with/without management objectives.
- Calculation method of 3-year average for 9 Canadian and US stocks without management objectives (just a true running average).

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- Did this analysis in 2022 and only Quinsam was non-compliant (even with the buffer allowed).
- Based on updated 2023 analysis, Quinsam is no longer non-compliant (but close).
- This info will be part of the Commissioners summary report released in October every year (and also released in June annually in the ERA report).
- For stocks with management objectives, the “Option B” calculation method is used. It requires 3 years of valid data.
 - The second criteria provides incentive to meet escapement goals, because you can use that to bring down the 3-year average.
- For Atnarko and Cowichan, we now have 4 years of data.
- Harrison: New data for 2022 shows significant reduction in 2022 CYER and improved escapement, but it’s close to the buffer.
- Non-compliance that “triggers 7c” means the management agency (DFO) must take necessary action to mitigate fishery impacts and report to PSC by the end of annual meetings in February. So DFO needs to provide a plan and CTC needs to do technical work to inform options to meet the ISBM limit.

Discussion

- What drove the huge reduction for 2022 for Harrison, as management did not change significantly?
 - The CYER is based on CWT data. If you have greater abundance and escapement, even with the same management, you will have reduced CYER for that year. CYER is not a true ER (total mortalities in all fisheries plus escapement = 100% CYER, so it’s the relative share of that).
 - CTC expected to provide a guidance memo. Both DFO and CTC must respond.

Presentation, continued:

- 2019-2021 ISBM fisheries impacts on Harrison Chinook across CWT regions by month based on 2022 ERA and MRP data. Example of info that could be provided.
- New CWT results show reduced rec fishery mortalities in 2022.
 - Consideration: Many Chinook released without CWTs during COVID so 2022 results may be linked to the “pseudo recovery” statistical approach used to address the gap.

Discussion

- What proportion of 2022 returns were 3-year olds? **ACTION**
- Scale for AEQ total mortality: This is CWT expanded by fishery sampling rate (adult equivalents).
- “Pseudo recoveries:” In past years with data gaps due to no hatchery releases, no calculations were needed because the fish aren’t there. But in a situation where millions of fish were released without tags, Canada developed a statistical approach based on the ratio of age classes across the time series and tested different models to see which best predicted results for previous years. They decided to favour the under-forecasting options

because the US was very concerned about potential over-estimation of impacts in their fisheries. This approach will be used in the next few years to estimate the ratio of age 4s, 5s and 6s. Validation will never be possible (no real data to compare) so we can only use statistical inference, but we will produce a document reviewing the results at the end.

- Pseudo recovery protocol document: <https://www.psc.org/download/35/chinook-technical-committee/14884/tcchinook-23-01-supplementary-material.pdf>
- What are next steps for management? Example of substantial drop in 2023 CYERs.
 - DFO: DFO is advocating waiting for the 2022 US data, which is available next year, based on a PST note that info is available from both parties. This will give Canada an additional year of grace to comply. For Quinsam, the updated result is within the buffer, so we don't need to respond to the PSC, though we still need to be cautious to keep stocks within the green.
- Canada can still take a conservative approach to ensure the situation doesn't get worse.

Salmon Bycatch in Groundfish Trawl

Cory Lagasse, DFO

DFO presentation highlights included:

- GF trawl is managed via ITQs (Individual Transferable Quotas).
- Two licence types: Option A is the bulk of the fleet and includes wet boats (which land fresh catch) plus ~6 freezer boats.
 - Q/A: Option B is bottom trawl, a small part of the fleet and we don't expect they would catch much salmon as most bycatch is in the mid-water trawl).
- Overview of monitoring and catch disposition.
- Timeline for implementing enhanced monitoring from 2020 when the issue was identified:
 - Program objectives, overview of new requirements effective September 2022.
 - Salmon bycatch may not be targeted or sold but must be retained/counted by independent observers, with heads sent to lab for analysis.
- New Salmon bycatch data: hope to complete end of May; will discuss how best to share.
- Info from monitoring database, 2007-2021, shows chinook is by far the most common species, with highest numbers in 2021. Most are caught when mid-water trawling, or targeting hake and pollock (WCVI, Inside, JS and NC).
 - Q/A: Previously required to release salmon bycatch, most would be dead.
- Previously, most reported catch was in the fresh boats; recent increased share in freezer boats, also change in monitoring/fleet changes at that time.
- Chinook catch broken down by month and area — shows variation between years and throughout the year.
- Q/A: Number of vessels has been fairly constant; salmon bycatch proportion is fairly small relative to total hake catch. Hake biomass has come down in recent years.

Discussion

- A closer look shows bycatch is higher in winter months. We don't have DNA yet, but it suggests it's affecting returning adults and rearing resident adults/juveniles, which is concerning.
- IMAWG also looked at herring bycatch and saw similar trends. The GF fleet is dynamic, so there are many changes from year to year. In recent years, with fishery measures and COVID, we've seen significant rec fishery reductions to conserve stocks of concern, so it's concerning to see more being caught as bycatch in these fisheries.

Presentation

- Pollock catch increasing in recent years.
- Next steps: Reviewing monitoring results, DNA analysis (expect late May). Funding not yet secured for 2023/24 but expecting a decision shortly.

Discussion

- Q/A: Sampling based on trips, or random.
- Q/A: Funding has come through PSSI.
 - Funding for this program is very important to understand fishery dynamics, so important for groups to give DFO that feedback, urge that PSSI continue funding this.
- Q/A: Sampling program is pretty complicated. We will know more in coming months how effective it's been (in terms of how defensible the results are).
- Q/A: Groundfish trawl fleet is pretty open and proactive. They understand it's an issue they need to address. We don't yet know the catch composition. Alaska NOAA have a bycatch reduction program.
- Q/A: Receiving tank vessel licences (currently 6 — gone up from 4 in 2019) and why their bycatch has gone up so much, it could be the result of a change in target species. Also changes in monitoring with COVID/suspension of at-sea monitoring.
- Analysis of bycatch relative to effort, and identification of hotspots would be useful.

MSF Questions: Preliminary Info

Mike Hawkshaw, DFO

DFO provided info responding to questions about impacts of previous years' MSF pilots..

- Table summarizing results from encounters, releases and catch, from CWT and GSI data, suggesting very low numbers of Fraser Spring and Summer 52s were impacted.
- Overview of monitoring plan for MSFs:
 - Creel survey model.
 - Many monitoring enhancements are about auditing critical assumptions, e.g. plan to fund audits to validate info from angler interviews, and a reference fishery to independently verify estimates of at-sea releases (currently provided by Avid Angler program), plus biological sampling to understand fishery impacts by stock.

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- Resources to shift from the current creel sampling with effort-based expansion would be considerable/not realistic so proposed approach is focussed on audits and verification.
- Key differences between commercial test fishery and recreational reference fishery: for the latter, the focus is on a sample of fish that are most vulnerable to that particular fishery as opposed to estimating abundance, and auditing key assumptions of the catch monitoring program.
 - Key differences from the Washington test fishery model.
- Reference fishery: prioritization questions:
 - When and where — e.g. focus on Chinook MSFs in 2023.
 - Other considerations/objectives; logistical factors.
- Supplementary biological sampling: creel (retained only); Avid Angler program and FN fishery sampling.
- Forecast of fishery encounters and mortalities by MSF pilot PFMA (this data table is just for the new MSFs).
- Map: proposed 2023 MSFs.

Discussion

- Re Slide 9, it would be helpful to review the available finer-scale stock composition data.
 - DFO: With GPS tracking, it will be increasingly possible to provide finer scale tracking, so useful to explore how to get and share more of that info.
- Although these are characterized as low numbers, they can significantly impact how fisheries are managed upriver, so the numbers are not insignificant.
- Re the 2021 mortality estimates, with encounters being so rare, what are the confidence intervals and were appropriate expansion techniques used for such low numbers? Also how many of these were Chilliwack vs the ones that we're trying to protect?
 - DFO: There were ~600 samples and 3 stocks of concern were encountered. Agree re the need for more discussion of appropriate statistical methods in future.
- Question about the reference fishery and how results will be used to inform management.
 - DFO: A DFO stock assessment technician will fish to collect samples for the reference fishery (regular monitoring will also continue).
 - Is it independent if DFO staff are doing it? Having an independent service might be appropriate.
 - Q/A: The plan is to use DFO staff, but definitely open to discussing involving FNs in their territories.
- So this is what DFO will do to meet the objectives for enhanced monitoring?
 - DFO: We're still struggling with which fisheries will go forward, what monitoring programs, etc, but there will certainly be a post-season report.
 - Recommend that DFO involve FN technical staff to advise on an appropriate monitoring and evaluation program for these fisheries. DFO has not provided enough information yet to satisfy the questions and concerns.

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- It's a concern to hear DFO suggest things will be discussed post season. DFO said that last year, but adequate post-season review has still not been done and meanwhile, these are becoming status quo fisheries. I want to be clear that we need a full evaluation before these fisheries are rolled over for future years.
 - DFO: We recognize the concerns about process timelines, as we are still getting data on last season's fisheries.
- Has DFO given any thought to just conducting these reference fisheries alone for the first year before opening it to the public?
 - DFO: I'm more familiar with where we do that for commercial fisheries, or where there may be FSC fisheries that can provide data. Makes sense to me.

Update: Coho Assessment Fishery

Kevin Pellett, DFO

DFO presentation highlights included:

- Fishery objectives: To estimate wild coho escapement to ECVI to fill data gaps.
- Use PBT (Parental Based Tagging), DNA from harvest sampling and escapement estimates to hatchery systems.
- Map: Area 13 - 15 study area.
- Program design: Requires unbiased mix of wild and hatchery fish sampled at random.
- Results: Catch sample rate ~10% (need 30% sampling rate).
- Sample results for 2021 (late start), and 2022.
- 2021 and 2022 ECVI coho returns and mark rates.
- Overview of preliminary results: still working on DNA samples, PBT and hatchery returns.)
- Next steps: Further analysis, increasing sample size.

Discussion

- So in 2021 1,000 coho were kept (with only 106 samples); and only 314 samples in 2022 but over 3,000 caught.
 - Fishery is open to the public. Regs were altered to permit retention of marked and unmarked coho. Samples were collected from the creel survey and Avid Anglers. It was also opened to FNs but without much results.
- Concerns that Northern Georgia Strait coho stocks haven't been doing well but DFO is opening a rec fishery for assessment without requiring anglers to submit samples. It feels like DFO is just opening a rec fishery under the guise of assessment when there are conservation concerns for these stocks.
 - DFO: There are good returns to ECVI hatcheries, so there is room for impacts there, while avoiding IFR coho.

JTC Update

Mike Staley gave an update on technical work requested by FSMB to explore scenarios for reducing fishery impacts on Fraser Summer 52 Chinook, as measured by the Fisheries Mortality Index (FMI), including what kinds of management changes might be required to achieve that.

Maddie Thompson walked through the FMI worksheet showing FMI impacts on Summer 52s by fishery, and explained the modelling tool to develop scenarios gaming effects of different approaches to setting/distributing fishery mortality reductions.

They also reviewed a list of caveats, including notes/questions regarding Chilliwack hatchery fish, test fishery notes, uncertainty around Chinook forecasts, model outputs and the 2022 near-final estimates, catch data/related assumptions, future Big Bar data.

Noted that this JTC exercise is just about exploring/better understanding the potential effects of setting FMI targets. Identifying specific management measures to achieve target reductions is a separate exercise, once those targets are set for each fishery. Getting down to 10% overall would require very significant management changes coast-wide for both recreational and commercial fisheries, plus reductions to test fisheries.

Discussion

- Q/A: The scenarios and work results shared here do not reflect a recommendation or decision, just exploring/demonstrating the potential implications of what it would take to get to 10% on the FMI.
- Q/A: To achieve 10%, despite widespread closures rec/commercial closures, there would still be incidental impacts in non-target fisheries. Another consideration is that substantial reductions to rec and commercial fishery impacts would result in more FSC impacts.
- Is it possible to show what proportion of the fishery's total harvest is represented by the Summer 52s to better understand cost/benefits of avoidance?
- Looking at these impacts, there may need to be an exercise exploring a contribution instead.
 - Agree. Maybe we need an incremental approach, where we move in steps and learn from changes to fisheries instead of gutting them. Making one huge step would be extremely challenging to do.
 - At the very least, an incremental approach must ensure the bleeding has stopped. Chinook management keeps changing, so maybe stop changing until we learn what the real number is.
 - 2022 results will be informative.
- The other question JTC explored was how to ensure that distribution of permitted impacts respects priority rights. So other options for gaming include exploring ways to redistribute allowed mortalities in a manner seen as respecting that.
- Q/A: Measures to achieve the reductions would be timed for when these stocks are present.
- So in short, this is an experiment for the board: a case of learning by doing.
- JTC will review the draft tool but can't distribute yet.

Forum Renewal

- Suggestion that JTWG reps consider timing of information needs/availability and provide advice to inform future Forum timing and agendas accordingly.
- One issue in the past has been the final IFMP being based on final feedback that we didn't get the chance to review, so there may be need for a final technical review.

Final Thoughts

Appreciation to DFO staff for the information shared today — very helpful; good discussion.

Adjourned: 3:30 pm