



**UFFCA**  
 upper fraser fisheries conservation alliance

**TECHNICAL MEETING**

**October 24, 2019 9:00 am - 4:00 pm**

**Pioneer Complex, Williams Lake**

**Lunch & snacks provided**

**OBJECTIVE:** Facilitate Community Engagement  
 Update on Fisheries and Environment Issues in the Upper Fraser  
 Meeting theme: Post season

<b>OCTOBER 24, 2019</b>	
<p><b>General Meeting – Tier 2</b>  <b>9:00 am to 11:00pm</b></p> <ol style="list-style-type: none"> <li>1. Call to Order</li> <li>2. Welcome and Introductions</li> <li>3. Approval of Agenda</li> <li>4. Action item review.</li> <li>5. Big Bar Slide – Gord</li> <li>6. Update on Early Stuart sockeye taken for brood – Linda</li> <li>7. CSAS Recovery Potential Assessments review – Pete, Shamus, Richard</li> <li>8. Chinook/coho salmon update- Richard Bailey</li> </ol> <p style="text-align: center; margin-top: 20px;"><b>LUNCH</b></p>	<p><b>General Meeting – Tier 1 and 2</b>  <b>1:00 pm to 4:00 pm</b></p> <ol style="list-style-type: none"> <li>1. Endako chinook project – Guy/Christina</li> <li>2. Post season information – Kelsey/ Linda</li> <li>3. Salmon Coordinating Committee – Marcel</li> <li>4. Aquaculture Coord. Committee – Richard Holmes</li> </ol> <p>FN Tier Dialogue:</p> <ol style="list-style-type: none"> <li>1. Updates/developments on water-related UFFCA activities: WQQ work and the Yinka Dene Water Policy - Michelle</li> <li>2. FSMC – Thomas/Darren</li> <li>3. CFR round table and general discussion on the information provided and planning for future meetings</li> </ol> <p style="text-align: center; margin-top: 20px;"><b>ADJOURN</b></p>



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In Attendance:

Pete Nicklin	UFFCA	<a href="mailto:pnicklin@telus.net">pnicklin@telus.net</a>
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Kent Gerow	BLB	



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1. Call to Order

- Called to order at 9:05am.

2. Welcome and Introductions

- Opening prayer – Thomas Alexis.

3. Approval of Agenda

- Agenda approved.

4. Action Item Review

- Action items followed up on.

5. Big Bar Slide – Gord

Shared Governance – Joint Executive Steering Committee included reps from FN, DFO and the Province; FNLP was engaged to make decisions and endorse options as presented; 3 Incident Commanders (Fed., Prov. and FN) jointly managed the operation in an Incident Command Structure, which is a standardized hierarchical structure that allows for a cooperative response by multiple agencies. Government-Government-Government collaboration let us highlight our unique strengths and overcome national obstacles as a unified force.

Government agencies involved with the slide were DFO, Canadian Coast Guard, BC Wildfire Service, FLNRORD, BC Emergency Services, FRAFS, High Bar First Nation, St’at’imc Eco Resources and various other FN organizations.

Rock Scaling and Manipulation – Crews aided in restoring natural passage by manipulating rocks to create pools and small jumps along the base of the slide and are now moving to rock demolition. This is challenging work, it is a very small area with extreme safety and access risks for people and equipment, dependent on weather and water flows. The rock scalers continue to be a key component to restoring natural fish passage.

The 2 primary fish capture techniques were Beach Seining and Fishwheels. FN, DFO and BC Wildfire Service crews worked long days in extreme weather to capture fish to be loaded into the fish transport tanks.

Helicopter and Truck Transport – Helicopter transfer operations of salmon at the Big Bar landslide have ceased. Natural Fish Passage realized 270,000 naturally migrated past Churn Creek (40km upstream from the slide) as of September 26, 2019, this includes the 60,000 that were transported by helicopter and truck.

Fish Monitoring – Two main sonars were placed downstream at Big Bar Ferry and 40km upstream at Churn Creek. Fish tagging operations are ongoing. Survival Estimates -Early Stuart run size is known, 26,000 past



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Mission; DNA samples from brood stock have been processed, 100% Early Stuart; Early Stuart escapement is known, 89 expanded (59 live and dead); Early Stuart Sockeye transport numbers and estimated 1340-5203.

Key Findings – 50% of helicopter transported fish were radio tagged Chinook resumed upstream migration to Chilcotin Confluence with Fraser River; 59% helicopter transported Sockeye were radio tagged resumed upstream migration to Chilcotin Confluence with Fraser River.

Next Steps – Transition from ICS to Project Team to manage the required winter work of removing material created by the landslide to allow for fish passage for future years; Continued to monitor fish passage and if restricted look at options for passage; HOTWASH (airs dirty laundry/debrief), work with the ICS for “lessons learned”; Review and implement contingency plans for 2020 and beyond; Predicting this to be at least a 5 year project.

Q – Thank you to everyone that was up there and helped, very busy place, if you didn’t see that slide in person, it was intense the water flow going through. Is money an object now?

A – Funding in response to the incident wasn’t an object, and it’s not right now, but we are moving to a project phase, that’s a different animal. Funds need to be identified and submitted to treasury board. We are trying to find ways to get in and start doing work now. A lot of the work needs to be done in prep for next year, the low water is from December – March, we only have to mid-March to do a lot of the work before the water starts to rise in the Spring.

Q – If we don’t blow up those big nuggets, we’ll be here for a while and have the opportunity right now, I would encourage all in this room that max heat is put on the process to get that job done. The heat best be applied from the very top down, there’s a communication issue vertically. There is an absolute need, if this gets mired in the 45-day contracting process, if it’s November or December it will never get done. We have failed if we don’t at least blow up one of those nuggets. It’s incumbent upon us who care about these fish in the Fraser to keep the heat on the respective governments.

Q – Fantastic job, it’s such a huge scale project. Pretty early on after trap and transport started, despite a lot of skepticism, for Upper Fraser Chinook, you guys saved stocks from not returning. There’s basically fish in every system in the Upper Fraser, which is incredible given the timing this slide happened. You did the best under a difficult circumstance.

Q – I wanted to say from a person who’s spent some time at the site and observed the site with the drone through different water conditions. Being a field person, I’ve spent a lot of time on the Fraser and have a strong opinion on what should have been done right away. It was Gord who I would talk to.

Q – During this emergency, everyone was freaking out, to have Gord at the helm of this, we had so much comfort. What do we understand about the risks of these rockslides and the Fraser, is it a one off, are we to expect this to happen again?

A – Could happen any time any place, there was a gravel slide about 7 years ago that crossed the river, but because it was gravel, the water just pushed it out of the way. Who knows when and where? Some people have suggested doing surveys on the Fraser to predict future slides, but we want to focus on this slide right now.

A – This is the narrowest spot, so this is the most vulnerable area anywhere upstream of Bridge rapids.

**Action** – Linda to inform UFFCA on next level survival of Early Stuarts that went to hatchery from Big Bar.

6. Update on Early Stuart Sockeye Taken for Brood – Gord

Covered above.



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## 7. CSAS Recovery Potential Assessments Review – Pete/Shamus/Richard

Fraser Chinook (COSEWIC) – Recovery potential assessment underway for Fraser Chinook Designable Unit's (DU), led by Lauren Weir and Dan Doutaz; Elements 1-11 paper to be CSAS reviewed in Kamloops in December includes discussions of threats and limiting factors assessments for all 11 DU's. A threats calculator workshop was held in Kamloops in October, Shamus Curtis, Mark Labelle and Michelle Walsh attended for Fraser FNs, done in partnership with PSF; Elements 12-22 work started, expected CSAS review in late February 2020.

Q – This is purely biological threat process correct?

A – We are not considering social economics at this moment. This is part of informing the Minister on what the recovery potential items are. We hopefully, in some solid science to pick up and run with to start to do real recovery work on the ground.

CSAS Overview – Papers were initiated based on COSEWIC Fraser Sockeye Assessment (2017); Recovery Potential Assessments (RPA's) and Science Advisory Reports (SAR's) are the products; RPA's developed for all Endangered and Threatened DU's; This review, process isn't complete yet, 4 draft documents are still being worked on, one paper from this process was sent back for more work (includes the SAR).

RPA Working Papers Reviewed – Cultus Sockeye DU, All SARA elements addressed, paper accepted with revisions, paper was well done, draft SAR initiated but not completed yet; 9 Fraser Sockeye DU's, Elements 12-15, 19-22, paper accepted with revisions and much feedback about remodelling, paper was good but should have been delayed, maybe broken up considering there were 9 DU's, draft SAR initiated but not completed and contingent on companion paper, which will address elements 1-11, 16-18.

Cultus Paper Takeaways – Key threats: fisheries mortalities and anthropogenic habitat impacts including climate change; Modelling: hatchery intervention to prevent extinction; It takes more than cut back on "fishery" lever to recover this population: lake must be fixed. This is a situation that you want to avoid for any populations we have in the Upper Fraser. Once you get to this point, you only have a couple tools you can use. Hatchery will work. Dan and his team of limnologists are doing great work on Cultus Lake right now. I see using Dan's expertise to use with some of the issues we have in the Upper Fraser.

Endangered/Threatened Paper – 9 DU's: Modelling/projection part of RPA process; George Box "all models are wrong, some are useful"; Models built on data and assumptions and simulating into the future, incorporating the known knowns, adding in the known unknowns, and accounting for unknown unknowns via many iterations to assign probabilities of "possible futures"; Variables to contend with, big returns, small returns, poor productivity, Big Bar slide, data poor systems, papers "in press".

Early Stuart, Late Stuart, Stellako, Bowron, Quesnel, Taseko were all addressed in the paper.

Early Stuart – 1 CU, endangered; Early Summers – Bowron, endangered, Nadina, not at risk, Taseko, endangered; Summer CU's – Quesnel, endangered, Late Stuart, endangered, Chilko, not at risk.

Endangered/Threatened Paper Takeaways – Needs companion paper to provide context/completion to RAP and SAR; Regardless of that is likely: Bowron and Early Stuart won't have "allowable harm", Late Stuart, Quesnel may be able to sustain some exploitation and get off endangered/threatened list; Stellako is special concern, and is likely to make EN/TH list under low productivity and ER's and a coin-flip from the EN/TH list at higher productivity and low ER's; Taseko, needs escapement data.

Next Steps – Draft SAR for Cultus; Companion paper for 9 DU's (March-ish); Draft SAR for 9 DU's.

Q – After companion paper, you'll know what allowable harm means? No allowable harm to me means no more LAER, so that's cut to 0, there will be push back. We've tried to lower that LAER in past years, but



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always hit a roadblock. Would it change management of Early Stuart? That's what I'm paying attention to, there's always justification for some exploitation on them. Once the papers and process are done, how will that roll out?

A – From the science part of things, it hit home to me when I read the draft paper to see things about lack of allowable harm for some of these DU's. This is the strongest justification on protecting stocks I've seen before. 30 scientists and biologist talking about consensus decisions on science, if you're on the conservation side of things, looking for technical weight, this is going to be it. It will be stronger than anything produced by Cohen Commission. It's not just commercial and recreational fisherman that are going to try to find a way around this allowable harm, some FNs will be pushing back as well. This is getting in the trenches and fighting for what you think is necessary.

A – Allowable harm, there was a lot of discussion about IFMP says, the IFMP is a socio-economic document partially powered by science. A 50% hit to population potential, because you're so far down stock-recruitment situation. Don't let anyone fool you that we have a recovery potential of 20%. All you're doing by fishing is changing the slope into the ground. You can address the things causing that downward slope. This needs to be taken to heart, when it comes out; realize when it says no harvestable surplus we have to identify the root causes and find ways to address the issues.

On Sockeye papers, they did not go down the threats calculator process, it became very evident that that companion paper was going to be crucified because it didn't have assessment based process. If you take these issues and add Big Bar, there needs to be a re-think of any application of harvest to up-migrating stocks.

Q – With regards to recovery potential assessments, we were engaged on how these processes were supposed to roll out, a large part was authoring these papers. To what extent do FNs have as authors on these papers? We've seen previous RPAs with FN involvement, agreement already established and less frustration on how the papers roll out.

A – I provided significant information directly to Anne-Marie early in the process to set up modelling, I was comfortable with where she was going with that. Another observation, the conversation was between 4 people in the room that were knowledgeable about the modelling. This is one of the problems that we need to start thinking about in terms of what's happening with overall salmon management approach and how you manage biological approach. In many cases, we're seeing modelling taking precedence over real world knowledge. One of the main reasons for that, is because it's cheap, cheaper than putting in some serious money into test fisheries, stock assessments, etc. It's a sign of things to come.

Richard – In terms of FNs participation, right now we have our drafting team, we have 6 or so FNs, and have done a good job in incorporating local knowledge. On Patricia's paper, there were issues that they will retroactively fix, it is a waste of time.

Q – With regard to all these conservation practices, our community has abstained from fishing for several years now, I see that it's more of a loss of culture in our community in a large way. We have youth that used to fish that are now losing interest in fishing and don't know how to cut, dry or preserve fish in any way, which used to be a norm. Conserving the fish is good, one of the reasons I come to these meetings and our community is very supportive in that aspect, but we are losing a big part of our culture and who we are.

Q– I was looking at Steelhead action plan yesterday, where and how the discussion of congruency takes place? If it's a threat for Chinook, it's a threat for Sockeye and Steelhead?

A – We have major problems that we have groups saying they're saving the world and not talking to each other, the Species At Risk Act says that species encountering the same threats, we have the province on one side, Feds doing their own thing, but there is zero political will or coordination to work together, or to put peoples' feet to the fire and get some work done. Four levels of government need to profess they care and move towards recovery.



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Q – Is there an example of that coordination?

A – Big Bar.

A – What needs to happen is a third party, needs to shame and drag parties to the table in public, so they have little option.

Q – Need to bring in the right people, it's evolved with the Big Bar slide, we shouldn't need to have a third-party shame you.

A – I agree with you, right now we have the province refusing to participate. As long as we have politics going on, where someone's not able to play. Feet to the fire needs to happen.

Q – Having the first initial meetings is important, we went into that meeting at Big Bar and said this is about saving the fish and not a political tug of war. That set the stage for the whole process.

Q – It's easy to say hindsight, we've been calling for action since 1984. It was very eloquently put that we're losing our culture. I keep hearing about these think tanks and being locked into rooms and doing graphs.

What's lacking in this process, is someone who come and look at Early and Late Stuart and the people associated with those fish. When a genocidal action is considered, who's going to bring that message, that we're going to commit another genocide. I've been trying to tone things down, but there's no way I'm going to deliver this message. We've been on every table to change this ship for years, and now for science to come out and say we're going to kill the rest of your fish but eventually we're going to save these fish, that's quite a statement. We haven't had any direct community consultation on this process other than community reps at meetings, but I'm curious as to how you're going roll this out? Two of the things that have come up lately, food security and genocidal model of colonialism. You have people outside of our culture using western science to finish us off. Who's going to deliver that message, I'm not going to go home and deliver it.

A – There is no response to that. What I will say is, something a lot of people will consider controversial, I've felt for a long time, if you kill all the fisheries in the salmon world, no one cares. That is the surest way, I think, to guarantee we won't have any salmon left, is if there's no fisheries. I think there's a place for fisheries in this changing world. If you're going to talk about no allowable harm, maybe that's in the context of the only lever we have. One thing I've learned from Cultus, you can keep a stock going despite annihilating it's habitat, there is great hope for the rest of these fish. In this changing world we're in, productivity in the toilet, ocean conditions, heat, etc., it will have to go beyond complaining and looking at other dials and levers that need to be changed. On the technical side of things, hatcheries aren't a bad thing anymore. It's time to consider the whole picture and look at some other tools, that's means stepping out of the management box we're in right now with DFO and it will have to involve the province.

Q – I understand where Pete E. is coming from, Esketemc hasn't been able to fish the past 3-4 years. I always told everyone that wherever we go, we need to bring in Aboriginal Title and Rights. I'm not in favour of fish hatcheries at all, I don't like the smell or taste of them. In our community, a lot of people have died or are survivors of cancer, and we think that the fish have something to do with that. When we're asked to stop fishing, that nothing is done about commercial fisheries. What bothers me is I've watched documentaries on food waste, you see tons of salmon getting thrown out, where's the justice? I'm only interested in how we are going to change things to save our fish. On the other hand, I'm thankful for the science the UFFCA is doing, that's going to give us grounds for good argument and any political backing. When you're out and about doing these things, keep Aboriginal Title and Rights at the forefront.

A – That behooves all, Aboriginal Title and Rights, that's a good point you bring up. This all needs to be a concerted effort, we need to think about how we want to work together.

Q – FSMC does want to get involved in this. In terms of getting the province involved, they had the ESI table going with CSTC G2G process. They've done a lot of research, a goal off that was to change logging practices to protect moose populations. Licensees will need to reduce cutting areas, is when they backed off.



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But that table might be helpful to consult with. FSMC feels the power we have is all the FN's that back this table, the pressure we can put on ministers and RDG's has some weight and an avenue we can take. We do have good response times with both ministers and RDG's now that we've developed.

Q – What about bringing municipalities and province on board with FSMC?

A – We must utilize the G2G discussions happening. We can even bring things to the leadership council. Marcel – Maybe the leadership council should develop a Sockeye focused table.

A – Let's be clear that this paper is providing advice to the competent ministers on whether or not we can rebuild these stocks, the allowable harm is part of that process, it's not part of advice to fisheries management as to what should or should not be fishing plans for the following year. It's aimed to inform ministerial bodies. The information shouldn't be lost on fisheries management. Once papers are out, that's when it's time to take information to much higher levels.

Q – Once it gets to fisheries management level, that's when it becomes the problem. We must be proactive, because it will get convoluted.

A – On the Chinook side, unless something goes horribly wrong, I think you'll see both Chinook papers by late March, early April. The Sockeye I see will be problematic, minimum of 6 months before that paper will be released.

Q – Our stories are familiar with losing our culture. We've realized that and come up with ways to bring our culture back. If people are interested, we can give you an idea of what we've been doing, things such as living off the land, etc. We do have members that have lost interest in fishing, but we're bringing that back.

## 8. Chinook Salmon Update- Richard Bailey

Escapement Program Overall Comments – Big thank you from Upper Fraser FN for being helpful and flexible in rescheduling of ground and aerial programs in mid and Upper Fraser streams to be sure count returns above slide. Tremendous efforts of Fraser FNs, BC Wildfire and DFO to catch and move fish, to run the sonar, marking and tracking programs to evaluate fish passage and migration success.

Albion Test Fishery predicted poor escapement for Spring and Summer 5-2's but best since 2015, basically zone 1 on June 15, ocean management apparently helping as apparently greater numbers at Albion than any year since 2015, it will be difficult/nearly impossible to determine actual terminal run due to effect of slide.

Fish condition improved this year at Nicola and Harrison, too early to determine if sex ratio skewed, female size more normal than last year, but some indications of females successfully completing migration above slide in earlier returning stocks. Most estimates are based on observations from the air, only very crude field estimates available from indicator programs, aerial program plus dead pitch only at Chilko, normal programs at Nicola, Lower Shuswap, Middle Shuswap and Harrison.

Dave Patterson's crew should be invited to provide story on passage and still ongoing telemetry study.

Estimate at preliminary stage except for run-reconstruction work (which may not even be possible). Lower Fraser indicator programs still ramping up so it's too early to give indications for those returns, other than very few Chum and Sockeye handled so far, very unusually poor, no pinks captured yet at Harrison and this is an on year.

Evidence poor natural recruitment at Nicola, 4800 spawners (2015) ~ 1500 natural-original spawners (2019), 160,000 hatchery smolts > return of ~ 2500 plus catch so >1+% survival which is in normal range, system is in distress for producing yearly smolts.





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**Action** – Gord to send invite to Dave Patterson’s crew to attend a UFFCA meeting regarding Chinook work done over the summer.

Bonaparte fishway restored, resistivity counter not up and running through entire return, so estimate (960) was by helicopter, >5000 parent brood. Escapements were poor elsewhere, Nicola ~4000 incl >60% hatchery returns (BY ~4800, goal ~7800). Spius and Cold water also both 200-300.

### 1.3 Springs – Focusing on CTC time series.

Lots of challenges for estimate development, high water, poor weather and timing messed up by the slide passage issues. No fish observed in some earlier timed upper river systems, while a handful were observed in others. Overall, we believe that MU escapement was very poor, preliminary indications are for <<3500 total from a brood of ~28,000. Current total with most larger systems accounted for is ~2800 or 10% of brood year.

### 1.3 Summers

All surveyed stocks decreased in spawner abundance compared to parent brood levels. Information in now for most CTC stocks. Total return might reach about 5000 when all are reporting from a parent brood of ~28,500. Above the slide, fish did make it to all the monitored summer stocks, but nowhere near the parent levels. Chilko ~2150, Quesnel ~175, Nechako ~1450. Clearwater ~780 only from a parent brood of >2800. Sustained rebuilding will require a period of improved FW and ocean conditions, and much reduced fishing mortality. Essential to restore fish passage but clearly there are other issues to resolve as well.

### 0.3 Summers

Aerial counts almost finished and mm/r’s winding down, mixed returns and estimates for Lower and Mid indicate returns under ½ of brood, rest of South Thompson watershed fairly good.

Mid Shuswap ~1100 from 2900 in parent brood, plus 150K hatchery smolts. Lower Shuswap was disappointing the preliminary estimate is ~18,000, which is similar to last year but not even half of the parent escapement (~41,000). Adams appears to be about 60% of brood (8500 from 12,750).

South Thompson and Little River at about brood escapement.

### Harrison River – Fraser Fall Run

Underway, too early to say. We are now in a period of concern, returns this year and next are from very depressed parent brood.

Fraser Chinook, more issues. Portage Creek escapements far below critical levels, strategic enhancement attempts underway. Nahatlatch River is being considered for similar strategic enhancement next year, over 50 spawners seen this year. Trying to buy time so they don’t wink out, may consider captive brood work.

Q – You have 10 pairs? Was it problem getting space for Portage?

A – We have 5 pairs, fecundity was great. It was a big issue getting space, we’ve set up at Tender Foot.

Q – With regards to downhill slide and the added issue of these fish returning and gaining passage past the slide, the one thing we were looking at is strategic enhancement of Early Stuart and Bowron sockeye pre-season and responded to Early Stuart in-season. However, we missed this year on a lot of returns of Chinook, however in saying that they can potentially replace themselves in that cycle line. If we miss next year, we are in trouble, and if we miss the year after that, that’s it. This is an opportunity for us in the Upper



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Fraser to continue the strategic enhancement component, to access funding, also use current capacity (SCWA), we need to have our ducks in a row and have proposals ready.

A – Because you have multiple age returns off brood year, you have that plasticity to recover. In that process, we need to bring in qualified personnel into hatchery situations. If we have a screw up in the hatchery, it would be catastrophic. That’s why DFO was hesitant about the work Spruce City and other groups were doing.

Q – But for that plasticity you need abundance.

Q – Sounds like you might be advocating doing practice rounds in a hatchery situation before going up and running.

Q – Recreational and commercial fisheries, do we have any statistics on that? Is that portion of the population affecting the endangered/threatened species? How much money does that bring in? When you’re talking about rights fishery, that needs to go to FSMC, we don’t fish up here, so they shouldn’t be fishing down there, we’re at the mercy of whoever makes those decisions. Doesn’t the government consult with biologists on window closures? My stomach gets queasy when looking at hatcheries as a solution, I’m thinking what will happen in the long run, when we are protecting wild salmon, the people in charge will just give our people the hatchery fish. Then commercial and recreational fishers will end up with our wild salmon. If we are truly looking at fish hatcheries, we better do it right.

A – Pete and I should think about doing a “how Chinook salmon are managed” presentation. Where assessment comes from and where that fits into the treaty. The Gulf of Georgia, retention fishery was closed July 15 into August, so vast majority of Spring Chinook came in without any directed commercial fisheries on them. A large part of Gulf catch done by Puget Sound and Lower Fraser. I think it’s critical that we do not treat hatchery fish as the solution to this problem, because extinct is forever, and we don’t want to lose those genetics. But if we can buy some time, we are talking about a 30-50 year timeline, if we have the opportunity to strategically use those populations to get us through the short term, the fish that are there will be able to adapt to those climate issues that are out there. I am confident adaptation is possible. Where do we want this world to go? We dug ourselves to the bottom of the trench, the hatchery is the step on the ladder to buy us some time.

Q – Issues about sports fishing, when the Big Bar slide happened, two and a half weeks of nothing coming to the Chilcotin area. So technically everything down south should have been closed. I don’t think an actual number that was caught for sport fishing.

A – There was no commercial retention prior to July 15<sup>th</sup>.

A – There was a 5-year review, assuming results will come out soon, some work done to inform that review might try to be used to figure out what happened in 2019. We have south coast creel but won’t tell you how many fish were Fraser bound. It appears there was a weird thing happening, Puget sound fish were in good form, so sport fishery when it did happen, catches were high.

A – We look at all CWT stocks and determined which fishery caught what, and at what ages. Stay tuned in March or April, we can go through ER analysis and look at impact rates on Chilko of the Gulf recreational fishery last year. As Chilko matures into more of an indicator stock, going to be our window on what actual impact on that stock.

A – Spending extensive amounts on the mid-river, I’ve never collected a CWT in an FSC fishery, we caught 8 this year.

Q – Even in the ocean, fish numbers by 2020 will be down by 20%, not sure how true that is.

Q – Numbers may sound good for Chilko, but it’s a big drop from when I first started.

Q – There’s a lot to be very concerned about, FNs will need to be diligent about these issues, it is terrifying. We might create a genetic bottleneck.



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Q – There is a great example in the Okanagan about a hatchery, they used their own facilities, ONA built their hatchery 4 years ago and brought back a stock that was on it's knees, so much so they were able to have a fishery on those fish this year. So, there are some good news stories out there. The enhancement potential in the Upper Fraser is needed and necessary.

A – I'm not saying hatcheries are the preferable answer, but it's the most logical one.

Q – For the hatcheries, the issue we have to go through, we fish off the Skeena and the Fraser, we get the tail end of both fish. It's hard for us, every year for Skeena, it takes the fish 1 week to swim the Babine, and they have to pass the Pinkut fishery. Not only the salmon, but our resident fish as well on our side of the lake. There are issues with that too.

#### 9. Endako Chinook Project – Guy/Christina

For years, we've included they're in dire situation, 32-35 fish, sending to DFO and not getting back any solutions or advice, etc. We wanted to do a hatchery project on these fish, but DFO wasn't interested at all, but Dustin from Spruce City contacted us. A trap was installed on the Endako with nets as well, also go help from Cryogenics.

Dennis Abelson and Marcel collected milt from Sockeye and Chinook, stored it at Cryogenics. Tested the genetics, which was 80% virility, so we were able to use it. Funding was approved by DFO, after the fact, we had volunteers from SCWA.

We were successful in catching 7 males in total and 2 females. The plan was then to preserve milt if we didn't get any females. We brought the eggs and milt and fertilized them, fertilized 1000 eggs. Overall 10,000 eggs were fertilized. We did radio interviews about it, because it's seeming to work. We have successfully fertilized eggs with milt from 1998. A lot of work, a lot of volunteer hours, a lot of butting heads with DFO. Also took sperm from additional males, which can potentially fertilize another 18,000 eggs.

When we saw our first Chinook after the slide, we were so happy. Caught 4 females in that net. Isaiah Reynolds from Stellako, went down to the ONA hatchery for some training if we do develop a hatchery.

Q – If this cryosperm works, is that something that we should be thinking of doing more of?

Marcel – If it wasn't for the foresight of Dennis Abelson back in the 90's, this wouldn't even be an option.

A – The fish that are less likely to make it back to the spawning grounds would be females, so if there were some way we could store their eggs, then that would be the answer.

#### 10. Post-Season Information – Kelsey/Linda

##### Sockeye

- Smallest Sockeye run size (1893-2019): 486,000 (10% of forecast)
- Latest Summer run timing (excluding 2005): August 19<sup>th</sup>.

##### Pinks

- Earliest pink timing (1959-2019): August 17<sup>th</sup>
- Lowest pink northern diversion (1987-2019): 11%
- Narrowest pink spread (1987-2019): 19 days



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- Longest pink travel time to Area 20 to Mission (2009-2019): 23 days

2019 Run Size: Early Stuart

- End of season estimate: 37% lower than p50 forecast, similar to the p25 forecast.
- P50 – 41,000; July 19 – 27,000; Sept 12, 26,000; Final, 26,000.
- A lot of concern for retention and fishing induced mortality, marine test fishery hasn't started until later in the season. Marine test fishery didn't start until July 20<sup>th</sup>.

Q – Is Mission the last test fishery, or is it Qualark?

A – Qualark is the last test fishery.

2019 Run Size: Early Summer

- End of season estimate: 80% lower than p50 forecast, Chilliwack was similar to the p25 forecast, Nadina/Bowron/Gates was similar to the p10 forecast.
- Final run size 94,000.

Q – If those predictions could be made earlier, maybe we would be able to save some of those salmon. Someone is making some bad forecasting decisions.

A – Forecast is for a range of probabilities, for the last 10 or 12 years we are consistently landing at the low end of the forecast. The panel, for pre-season planning purpose tend to focus on the p50 forecast, but many from this room suggest we start looking at the p25 forecast.

Q – Sue Grant recommended we should be starting at p25 level.

A – To be fair, pre-season planning is one thing, in-season planning is what's important. Good news, Early Nadina group return was a higher proportion of the return.

2019 Size: Summer

The 2020 end of season estimate: 91% lower than p50 forecast, all stock groups were below the p10 forecast. P50 estimate 3,930,000. Final run size 343,000.

Chilko

- Chilko comparison 61.5% of the pre-season forecast.
- 71.7 million smolts out-migrated from Chilko Lake in 2017. This is roughly twice the cycle line average (32M).
- Adult return was ~205,000 which means for every 1000 smolts, 2 adults returned. Models assume smolt to adult survivals in the range of 25 per 1000 to 164 per 1000.

2019 Run Size: Lates

- End of season estimate: 94% lower than p50 forecast, Late Shuswap/Portage was similar to the p10 forecast (36% higher).
- P50 forecast 359,000. Final run size 23,000.

2019 Run Size: Pinks

- End of season estimate: 79% higher than p50 forecast and exceeding the p75 forecast. Implied marine survival rates: 4.5%
- P50 forecast 5,018,000. Final run size 8,700,000.

A – We are starting to see more pinks in the upper river than we have in the past.



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Q– There's more and more pinks coming to the Upper Fraser, they're part of the ecosystem. Every fish counts. Witnessing less sockeye and so seeing a shift. There's a market and appetite for pinks. May have to rely on pinks while we get these other stocks back on their feet.

A – This is marine derived nutrient, if it didn't come with Sockeye and Chinook, it's nice to see it coming from the pinks.

Q – Our best product for cost recovery was using pinks for salmon leather, it's been our most successful product by far.

Q – I know very few people that know about pinks, they are excellent for barbequing and for candy.

2019 Timing Summary

Early Stuart 3 days late; Early Summer 1 day early; Summer 9 days late; Lates were 1 day late.  
Pinks were 11 early.

2019 Sockeye Northern Diversion. While total diversion deviated from the pre-season forecast, the daily diversion pattern followed pre-season expectations.

2019 Pink Northern Diversion

- Pre-season assumption for planning purposes: 50%
- Panel adopted pre-season: 50%
- DFO in-season forecast: 53% (50% PI = 38-67%).

Early Stuart 2019 Escapement: 89

**Action** – UFFCA to develop a letter to Jamie Scroggie regarding the Sockeye production file.

Q – From Nadleh, Bev was asking how many fish are past the fence, I couldn't give her the number. That started the whole conversation about data. It's our data, but we don't have it.

#### 2020 Salmon Coordinating Committee - Marcel

Marcel participates on the SCC Policy table with FNFC. The last meeting on Oct 1<sup>st</sup>, was largely work planning. Some of the larger issues right now is the push for regional management on commercial fisheries. Also been discussing the role of FSMC, and how that rolls out regionally. The SCC provides IFMP feedback directly to DFO. Fisheries policies review is about allocation, back on the table from 1999, we are about 2 years out from coming to any conclusion on that.

Q – UFFCA December session, will largely be focussed on policy.

Q – Two main policies, access and allocation, and salmon allocation, you should be concerned with both. We will talk about those in December.

WSP implementation, we were given update on implementation from DFO, still a lot of work to do. It's our job to keep DFO's feet to the fire, to stay committed. Dual fishing is more interesting to the coastal folks. FNs presence in test fishing is important, so we can use those fish to feed people, it's the vision most nations share here in BC. CSAF continues to roll out, projects being slated for this year. Skeena was also a bust this year, just barely make their escapement target. There



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was a late food fishery. DFO would like to sit down and talk about a roadmap for SCC. Jansen has been tasked to put some dollars towards this work plan.

#### 2021 Aqua Culture Committee – Rick Holmes

ACC is hosted by FNFC, meet 5-6 times a year to discuss opportunities but work closely with DFO to manage aqua culture. In June of this year, DFO approached us with increasing our role in regard to aqua culture farms and their implications on wild salmon migration. Turned into a tier 3 endeavour, which we tried to avoid. With direction through FN and FNFC, there should be a government to government structure. These 4 new committees meet monthly and supposed to be finished in December. Ottawa asked to extend to March. Stocked with people from all walks of life who know about aqua culture.

Reason we continue to be involved in the tier 3 process is merely to provide information, and it was a recommendation from the minister to help design and implement a new aquaculture act, Assembly of FN's are adamant with DFO, that they want to be a part of it. Only in development stage of that. We've been in discussions with DFO about aquaculture enhancement.

Cariboo Envirotech has managed a facility for DFO in Horsefly since 1989, holds 23,000 Sockeye, we had 28 Sockeye this year. But I'm optimistic, we know what the problem is, and we know how to fix it. A group we work with from Ontario have developed their own fisheries management policies, don't be afraid to assert your rights and move this forward.

Q – In the design and implementation of an aquaculture act, does that include fresh water?

A – Yes.

Q – We've gotten a licence to grow 200 lbs. of rainbow trout in our aquaponics facility out at Sugar Cane.

#### 2022 Updates/Developments on Water-Related UFFCA Activities: WQQ Work and the Yinka Dene Water Policy – Michelle

Nicola River Watershed – Water conflict and cooperation to find new solutions.

- Merritt area is one of the hottest and driest areas of BC, they've had many years of water conflict. It was always a fight between water for agriculture or water for fish.
- Lessons from Nicola: Looking at a watershed approach, limitations of emergency response, water storage.

Drought and Critical Environmental Flows

- Legislation – Water Sustainability Act
- Definition for critical environmental flow threshold – In relation to the flow of water in a stream, the volume of water below which significant or irreversible harm to aquatic ecosystem is likely to occur.
- This can then trigger Section 86, 87, 88.



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- Section 88 – If the Minister considers that the flow of water in a stream is or is likely to threaten the survival of a population of fish, the minister may make an order respecting stream diversions regardless of FITFIR precedence.
- This has been the tool used in the Koksilah and Coldwater Rivers.

#### Role of UFFCA in Supporting Water Management and Governance

- Leading in data collection for critical decision making: small stream water quality and quantity program.
- Implementing solutions to address watershed degradation and climate change, i.e. water storage.
- Asserting First Nations standards for watershed health – implementing indigenous law (Yinka Dene Water Law)

#### Yinka Dene Water Law

- 3 technical elements: Narrative Water Management Objective; Water Classification System; Numerical Water Quality Standards.
- Which feed land use planning processes, environmental assessment processes, environmental regulatory processes.
- Water management policy used in the Blackwater Mining decision.
- Develop spatial data/analysis to inform classification system:
  - Fish values, fish sensitivity.
  - Inherent watershed sensitivity to disturbance.
  - Climate change resilience.
  - Development and disturbance – current/cumulative effects.
  - Anticipated future development/disturbance.

Q– Are you looking into watersheds over prescribed with water licenses? Even in our watersheds up here, more use in valleys and watersheds, more licences continue to arise, primarily for agricultural. Working with province, if there was a means to look at sensitive watersheds and their licences, bringing it to the attention to the governments.

A – It is on our radar; a big part is the data that is available. The next time we meet, I will talk on anticipated water use.

Q– Looking at the next steps, it aligns with things we're doing with the Salmon Explorer, I hope to meet with you to talk about that.

**Action** – Michelle to contact Charlotte from the Salmon Explorer regarding Michelle's presentation and Salmon Explorer overlap.

FSMC – Thomas/Darren

Signed a management agreement with DFO back in June of 2019. Have 76 FNs signed on, who have decision making power. After agreement was signed, we had to work quickly to develop a structure of



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the committee. Currently we are in transition from FRAFS process to FSMC process. Working quickly to get things in place for this upcoming season. In the middle of hiring an executive director. Will be developing a board, which will include 4 FNs and 4 DFO members. Tony Roberts Jr. – Approach, Mike Baird – Lower Fraser, Tracy Wimbush – Mid-River, Christina Ciesielski – Upper Fraser are the FNs representatives on the board.

We were directed to respond to the Big Bar slide by developing a response letter to the leadership board.

Q– Where do you fit in after this, if you're the president?

A – We will still be guiding the process on the main table. Will be involved in the Forum. Will also have strict FSMC member meetings.

Q– FRAFS is still operating, the transition is the agreement, the executive committee isn't there anymore.

A – When Darren talked about JTWG, any one of our biologist or technical people can be nominated. The agreement is set out in 3 different structures: executive, management board, and JTWG. The JTWG fits into the management board, they make their decisions based on technical group recommendations, if no consensus, then it goes up to the executive (the minister and Darren). The main table directors support Darren at the executive level, as well as oversee the Fraser Salmon Management Council's operations within the Constitution and Bylaws. The other question DFO asked us, is how do AAROM bodies fit into this structure? The AAROM bodies can go directly to the main table directors and give advice to them, or they can go to the JTWG. We must plan it carefully, there's a lot of moving parts behind the scenes. We are also going to try to sign a memorandum of all the AAROM bodies in the watershed. We should be inclusive not exclusive. The inclusivity, we're still holding forums at the same time every year as FRAFS did. Those are the venues where anyone can attend.

Q– Is there going to be a call for TOR?

A – Yes, Mike Staley will be heading that.

#### CFR Round Table and General Discussion on the Information Provided and Planning for Future Meetings – All

NSTC – Busy summer due to Big Bar slide, put in 4 weeks at the slide. Running 8 catch monitors up here. Currently would be running Coho fence at McKinley, but water is too high. Running a sonar project out at Likely.

BLB – We had people work on the Big Bar slide as well from Burns Lake Band.

TI'azt'en – Early Stuart count was at 59, expanded was 89. Sent a couple people to the Big Bar slide as well. Counted 3000 fish in Tachie River. At around 4000 for Late Stuarts visually counted. Wasn't expected to be a big year, but we are happy with the fish that did return. We helped with a Kokanee/Grizzly Bear relationship study. It's a huge food source for us, shows how busy and active the creeks get.

**Action** – Darren to present on Kokanee/Grizzly Bear relationship study at March or April UFFCA meeting.





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Nakazdli – We managed to get pinks. Pinks are a totally different fish, so people have troubles with them.

Lhtako Dene – We didn't fish this year.

Yekooche – From the Big Bar, our people all agreed we wouldn't set our fish in the water, not even on our resident fish. We showed our band members the water monitoring stations. Did some beaver management, use the meat and fur in the fall. In Cunningham Lake, our Kokanee, white fish and rainbow trout were much bigger because of the cold water. Working with our forestry now, have a new wood lot, locating all fish bearing streams. Our buffer zones are now double, which is a good news story.

Esketemc – Before I left, we didn't sign any agreements with DFO, didn't do monitoring for them or anything. This year, we got 5 Chinook from our fishing spot, so we didn't fish after that. We got a notice saying we could fish pinks if we wanted to. We haven't done any fishing, got some fish from NSTC. I'm quite excited to be back, and the new organization that Darren's a president of. I'm hopeful they can take us to a place where we can hold DFO to the fire. I appreciate all the work that went into the slide as well.

TNG – When we first started, there was no fishing. July 6<sup>th</sup>, a lot of rain, water was so high. Two and a half weeks of high water, no Chinook fishing. Our license was up on July 12<sup>th</sup>. Regarding the Big Bar slide, there was an opportunity to get pinks, we got a call from Diane from FNES, to open UFFCA warehouse. We helped out with Dave and Andrew, helped distribute 8000 fish. Chinook stock assessment was no rod and reel, so only aerial, no tagging, last day was October 18<sup>th</sup>. 168,000 was the count. Over the summer we had 24 people working for us as monitors. We had opportunity to do our DIDSON project on the Taseko, but we canceled it due to Big Bar. Took an environmental DNA course in PG. Did some pink salmon priming, took samples.

#### Summary of Action Items

**Action** – Linda to inform UFFCA on next level survival of Early Stuarts that went to hatchery from Big Bar.

**Action** – Gord to send invite to Dave Patterson's crew to attend a UFFCA meeting regarding Chinook work done over the summer.

**Action** – Gord to develop a letter to Jamie Scroggie regarding the Sockeye production file.

**Action** – Michelle to contact Charlotte from the Salmon Explorer regarding Michelle's presentation and Salmon Explorer overlap.

**Action** – Darren to present on Kokanee/Grizzly Bear relationship study at March or April UFFCA meeting.