

Effective Harvesting and Sustainable Fraser Sockeye

I'd like to thank Bob from the Songhees/Esquimalt for his warm welcome, and the Cohen Commission for coming here today to trying to make sense of Fraser River Sockeye – you must enjoy a challenge!

I plan on talking to two of your questions: effective harvesting and sustainable Fraser sockeye.

My background and bias

I've participated in commercial, sport, and first nations fisheries - but I'd have to say I'm biased to commercial. I was first introduced to commercial fishing around 14 – I have commercial fished for over 25 years, I've spent time in Alert Bay, Prince Rupert, Steveston, and Sointula. I've seined and gillnetted salmon all along our coast. I owe much to Fraser sockeye – they paid my way through university.

For the past 6 years I have worked for the TBS. TBS is a tool created by commercial fishermen 30 years ago to protect habitat, prevent pollution, and promote sustainable fisheries. We receive some funding from individual fishermen through the commercial conservation stamp.

With TBS my focus has been pollution prevention and promoting sustainable fisheries...

This graph shows the decline in commercial fishermen over the past 20 years. This graph correlates well with DFO's decreased productivity and increased spawner graph.

I've been involved in multiple restoration projects, locally here, and throughout the province. This photo is one example: it is Quicks Bottom on the Colquitz where we worked to reconnect the wetland to the river to provide off channel summer habitat for coho. There must be 100's of restoration projects every year, from school kids projects to some very sophisticated multiyear, multi M \$ projects.

I been involved in various stock assessment projects – I managed a counting fence at one of the local indicator streams for 5 years, monitoring both adult and smolt. All sorts of events can compromise a count from improper species id, to freshets that take out the fence. Even with a very experienced crew it is next to impossible to get an exact figure without negatively impacting the fish.

I have boxes of fisheries data plugging up my garage. I know fisheries officers have heaps more. I'm sure the commission has heaps of data to go through as well.

Yet many say we don't have enough data. Here is an example of some data gaps from DFO fish database, what we know we don't know. Of the 403 fish species found in BC marine waters, we do know a bit about the ones we fish but we don't know much on

the ones we don't. Important (keystone) species distribution and population trends are missing.

With over 10,000 marine species on the coast, the marine food web is complex. Pull from one point on the web and the connections stretch the rest. Understanding web connections is critical. Yet how do we do this without data?

Some predator species can have a huge influence on sockeye returns: 10,000s of seals and sea lions feeding at the mouth of the Fraser (the pop has grown since the nose bounty was dropped); Humbolt squid have recently been found off our coast, they travel in packs and ferocious feeders, devastating schools of fish in minutes; tuna (mackerel) are bullets in the water, they can clean up smolts as they leave the estuary, warmer currents will bring more of them.

My point: The biology is a very complex mix, as we move to an ecosystem based management regime we will likely need to cull/harvest predator species to retain a commercial fishery. I'll come back to this.

Before the Mifflin Plan we would fish for Fraser sockeye along the whole coast. We would start off the Charlottes - Hiada Gwaii. With the right current and a good south-east we could get them off Banks, even as far in as Addenbrook. The Alaskans catch Fraser sockeye off Noyes Island and Tree Point as well - - a good north-westerly this summer prevented this.

CDN & US fought together internationally for state of origin rights to anadromous species to defend against high seas fisheries. We won "special interest" rights in the UNCLOS but not ownership rights.

With international push to get anadromous rights, CDN & US had to be seen as working jointly to resolve conflict on harvesting each other's stocks.

The Pacific Salmon Treaty - this was an attempt to do this. It has 2 key principles: conservation (prevent overfishing and provide for optimum production) and equity (each Party to receive benefits equivalent to the production). It attempts to balance the US catch of CDN fish with our catch of theirs.

BC fishermen would say the PST didn't bring equity. On equity, here are the estimated differences:

98 - \$79M

97 - \$76M

96 - \$65M

95 - \$61M

94 - \$67M

93 - \$62M

\$400 M wholesale value in favour of the United States over 6 years is huge.

The 1997 Alaska Ferry blockade in Prince Rupert was an example of inequity boiling to the surface. The Tobin Transit levy was another example. There was a

series of high level diplomatic attempts to get resolution. At one point the US offered to pay us for their excesses - we declined.

Last year they offered us \$30 M to shut down our WCVI Chinook fishery for **10 years**? We accepted.

Some believe our government uses the treaty to achieve other domestic objectives (like saving the auto-pact), I don't think so. Our neighbours are tough negotiators', they shouldn't be faulted for this.

We need to look at how we negotiate the PST: the US approach with Alaska, Washington, and the Tribes each having an effective veto may be worth mirroring.

This year US fishermen tell me that without their biologists insisting on a fishery we would have had 2002 all over again. In 2002 we had 19 hrs of fishing time, 13 hrs of a scientific variety, 6 on an ebb tide. We watched sockeye swim by for weeks...

This is the hydroacoustic data for 2002. It is a combination of 2 statistics: the upstream count minus the downstream count. It tells us that at least 10M fish passed Mission. The Commission may want to look into these two statistics for this year – what passed through the Straits and showed up on the spawning grounds was huge, the 10M doesn't seem to equate. (Why the gap in data at in early Aug? Was the downstream count inflated to prevent a fishery?)

Historically we estimated run size based on the commercial harvest - low harvest low run size. We managed for:

- biomass
- then for maximum sustainable yield
- then to reduce bycatch
- then for priority allocation
- then for genetic diversity
- now we try for ecosystem management

With these changes the regulations on fishermen have increased and the ability of fishermen to diversify has decreased:

- An A license could fish the whole coast for just about everything
- Privileges were striped into distinct fishery licences
- The A license was further broken into areas, fishermen can't fish whole coast without multiple licenses

This year

- Northern fishermen will starve
- Southern ones had no packers - a huge problem for small boat fleet
- Limited processing capacity
- Few ice facilities

Do we really want an effective sockeye harvest? If we do we need to talk about what this looks like.

The BC Gov't should get involved. Under the BC Terms of Union *Canada will assume and defray the*

charges for the following services: Protection and Encouragement of Fisheries.

We are currently negotiating the Fraser River annex to the treaty... I understand they are looking at a short term agreement with a hope that this Commission's report will change our approach...

Let me talk about pesticides for a minute - in BC we apply between 5,000 and 10,000 metric tons every year. Most ends up in aquatic environment - the biggest impact is with non-target species.

The early migration of late run sockeye - up to 90% were dying in river. One correlation tied it to pesticide application in our watersheds. (Ross 2002) Possibly an endocrine disruptor effect in smolt development. See *Diminishing Returns Salmon and Pesticides*.

Over the last 20 yrs environmental issues like early migration of late run, shrinking habitat, low flow, and high temperature regimes garnered the same response: send more fish into the river.

The same for management issues like precautionary management, weak stock management, illegal fisheries, upriver allocation. The response: send more fish into the river.

Graph more fish into the river lower productivity coupled with graph of increased spawners. Over the last 4 cycles we have doubled and tripled the # of

spawners to receive devastating returns. This bolsters the argument that you can have too many spawners unless of course we don't want a commercial fishery.

Number of commercial fishermen declining: they're an educated group in comparison to other fishermen, average age is over 60, few new fishermen. Need net, boat, fishing and business skills

Pre season run size forecasts: what a variation below 1M to over 40 M. We had no idea what was coming, again! The model they recommended had a 90% probability of 29M, we have over 34M?

Does sustainable Fraser sockeye include a commercial fisheries ???

I hope so!

Recommendation: We need to change our management framework at the top, in the Fisheries Act. We need to include a Ministers Advisory Council to advise the minister on all fisheries matters. Take advice out of the bureaucracy. Use DFO as the science and enforcement tool.

Sustainable Fraser Sockeye

- needs to include a vibrant commercial fishery
- We need to work together
- Protect Entire Ecosystem
- Enhance Sustainable Harvests
- Develop Local & Global Markets

- Safe & Green Vessels
- Green our Harbour Facilities
- Thriving Coastal Communities
- Enhance Small Vessel Access
- Bring Local fishing knowledge into processes

We need to lead by example in protecting our
Oceans!!!

Thank you for listening to me. I wish you well with
your deliberations