Appendix B – Stakeholder Presentations

Pacific Salmon Foundation
Upper Fraser Fisheries Conservation Alliance
Skeena Wild Conservation Trust
Secwepemc Fisheries Commission

Appendix B – Stakeholder Presentations

Pacific Salmon Foundation

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PACIFIC SALMON FOUNDATION

Fraser: Rebuilding Plans

1. **Accept "new information" as allowed by MSC CR to underline the need for new or revised conditions requiring rebuilding plans for target stocks consistently below their upper benchmark on the Fraser**
2. **Encourage CAB to consider concerns of First Nations that DFO management based on run-timing groupings utilizing the FRSSI model cannot effectively implement the WSP, rebuild depressed CUs in their territory, provide FSC requirements, or meet MSC's Certification Requirements.**
3. **Encourage CAB to insert a condition requiring discussions based on Strategy 4 of the WSP with results to be evaluated in 2014**

IMM Response: The team concluded that Conditions 5 (LRPs) and 6 (TRPs) have not been completed and new milestones have been prescribed with the objective to define specific management targets which relate to the WSP 43 year average benchmarks defined in Grant et al, 2012. It is important to recognize that the BC Sockeye fisheries were evaluated using an "old style" assessment tree. Any new conditions can only be prescribed in consequence of the existing assessment tree and not the MSC Certification Requirements assessment tree.

Skeena: Benchmarks and Harvest Management

1. **Delay closing out Skeena conditions until the benchmark, stock status work is completed and peer reviewed**
2. **Request guidance in the audit that would require a technical evaluation of aggregate HRs on Skeena wild sockeye CUs once the benchmarks are complete**
3. **Demand that condition to evaluate spawning channels be met**
4. **Consider recent work undertaken and submitted by SWCT and Raincoast Conservation Foundation**

IMM Response: Pt 1. Each condition is evaluated independently. Skeena Conditions 13a, 21a, 35a, 35b, 36b were closed out during the second surveillance audit, Skeena conditions 13, 13b, 13c, 21b, 22, 35c, 35d, 36c remain open with new milestones due at the 3rd surveillance audit. Pt 2. Progress was evaluated against existing conditions, performance indicators and non-compliant SG80 scoring issues. 3) Condition 13 remains open with new milestone due by 3rd audit. Pt 4. The team has suggested that this information be considered by DFO. The team has responded to the SWCT and WWSS/ RCF submissions.

Catch Reporting and Compliance Monitoring

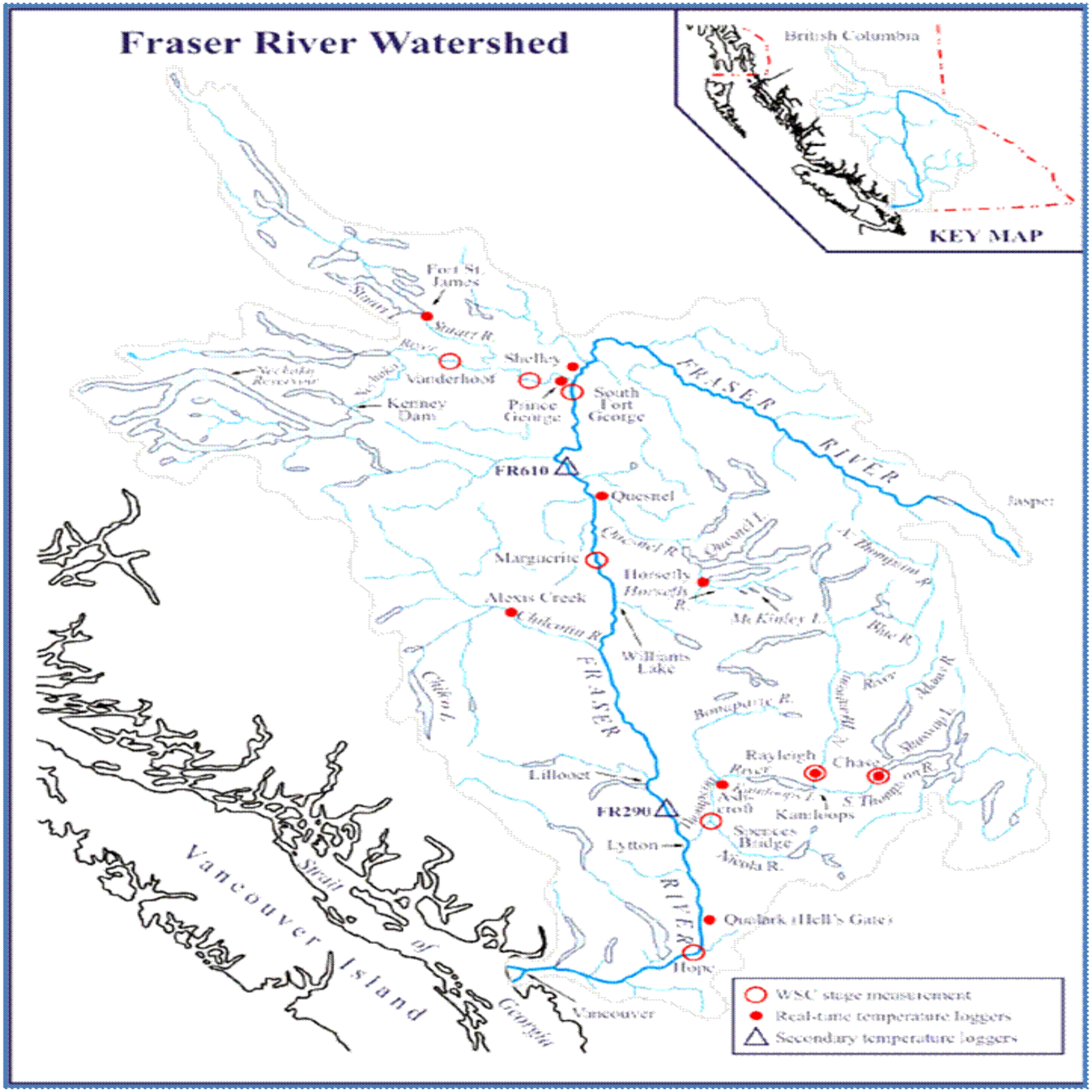
1. **Urge CAB to recognize that FAO, SFF, national and regional policies, and MSC require fishery independent catch reporting: that estimating impacts is insufficient**
2. **Urge CAB to recognize and address the poor catch reporting and compliance monitoring in BC's salmon fisheries. Improving catch reporting and compliance can benefit conservation and industry viability. Continuing to ignore it hurts both and fails to conform to MSC's Certification Requirements**
3. **Ask CAB to consider alternatives to discarding steelhead. It is costly for industry and not required for conservation**

IMM Response: Pt 1. The assessment team evaluates the open conditions, the non-compliant performance indicators and outstanding scoring issues within the existing tree. There is no requirement to re-evaluate these fisheries outside of the existing performance indicators used to certify the fishery. Pt 2. The team has closed out some PIs related to generation of steelhead bycatches, however, have not closed out condition 36c, related to requiring harvest information. Pt 3. There is no purview of the team to specifically consider alternatives to discarding of steelhead as this is not a current requirement under the existing assessment tree used to certify the fishery.

MSC is not Global Trust

1. **Encourage guidance that targeting the implementation of new SFF and regional policies on rebuilding and catch reporting and compliance monitoring be implemented**
2. **Encourage Assessment Team not to rely on the existence of a policy but to require policies be implemented. MSC is in the media describing how they are different from Global Trust. The reason they are different is that evaluate fishery performance, not whether a policy exists or not**
3. **Request that the CAB considers, discuss, and include sources of information in the audit other than from just DFO**

IMM Response: Pt 1, Pt 2. IMM is an accredited Conformance Assessment Body under the MSC sustainable fishery certification scheme. The surveillance audit was conducted under the requirements of the MSC Certification Requirement (CR), specifically Section 27.22. The team does not have the latitude to completely rescore the fishery, change the existing tree or to extend beyond the scope of the current conditions, performance indicators and scoring guideposts. Pt 3. The team has considered information from the client, DFO, and stakeholders who submitted information to the assessment team.


Fraser River Watershed
British Columbia
KEY MAP
Fort St. James
Stuart R.
Nechako Reservoir
Kenney Dam
Vanderhoof
Shelley
Prince George
South Fort George
FRASER RIVER
Jasper
FR610
Quesnel
Quesnel R.
Quesnel L.
Marguerite
Horsefly
Horsefly R.
Alexis Creek
Chilcotin R.
Williams Lake
Chilko L.
FRASER
Bonaparte R.
Rayleigh
Chase
Lillooet
FR290
Ashcroft
Kamloops
S. Thompson R.
Spences Bridge
Lytton
Nicola R.
RIVER
Qualark (Hell's Gate)
Hope
Vancouver
Vancouver Island
Strait of Georgia
WSC stage measurement
Real-time temperature loggers
Secondary temperature loggers

United Nations Law of the Sea, 1982

UN Conference on Environment and Development (UNCED),
Rio **de Janeiro,** 1992**, The Earth** Summit

FAO: Code of Conduct for Responsible Fisheries, 1995

6.2 Fisheries management should promote the maintenance of the quality, diversity and availability of fishery resources in sufficient quantities for present and future generations…..

6.3 States should prevent overfishing…. ensure that fishing effort is commensurate with the productive capacity of the fishery resources and their sustainable utilization. States should ….rehabilitate populations as far as possible and when appropriate.

6.4 Conservation and management decisions for fisheries should be based on the best scientific evidence available, also taking into account traditional knowledge of the resources and their habitat, as well as relevant environmental, economic and social factors….

6.5 States ….should apply a precautionary approach …. taking account of the best scientific evidence available. The absence of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species….

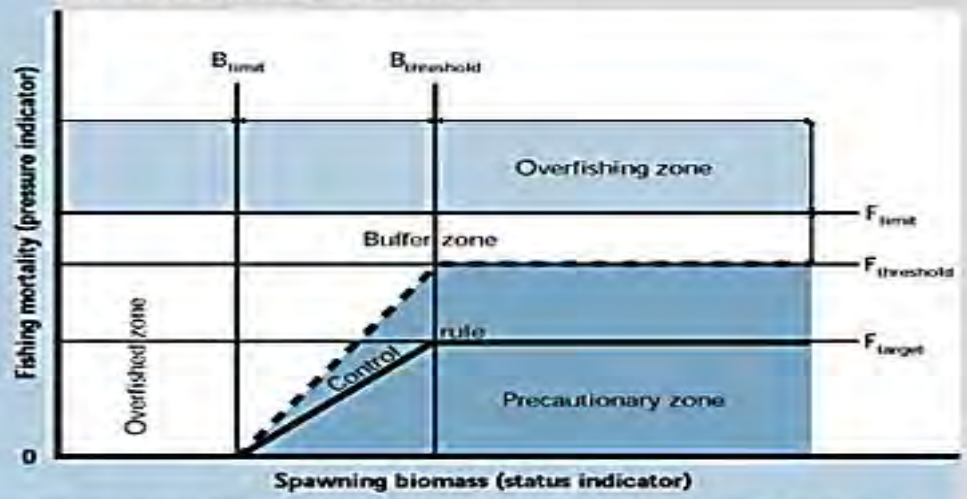
7.5.3 States should, on the basis of the best scientific evidence available, determine:

a. stock specific target reference points, and,

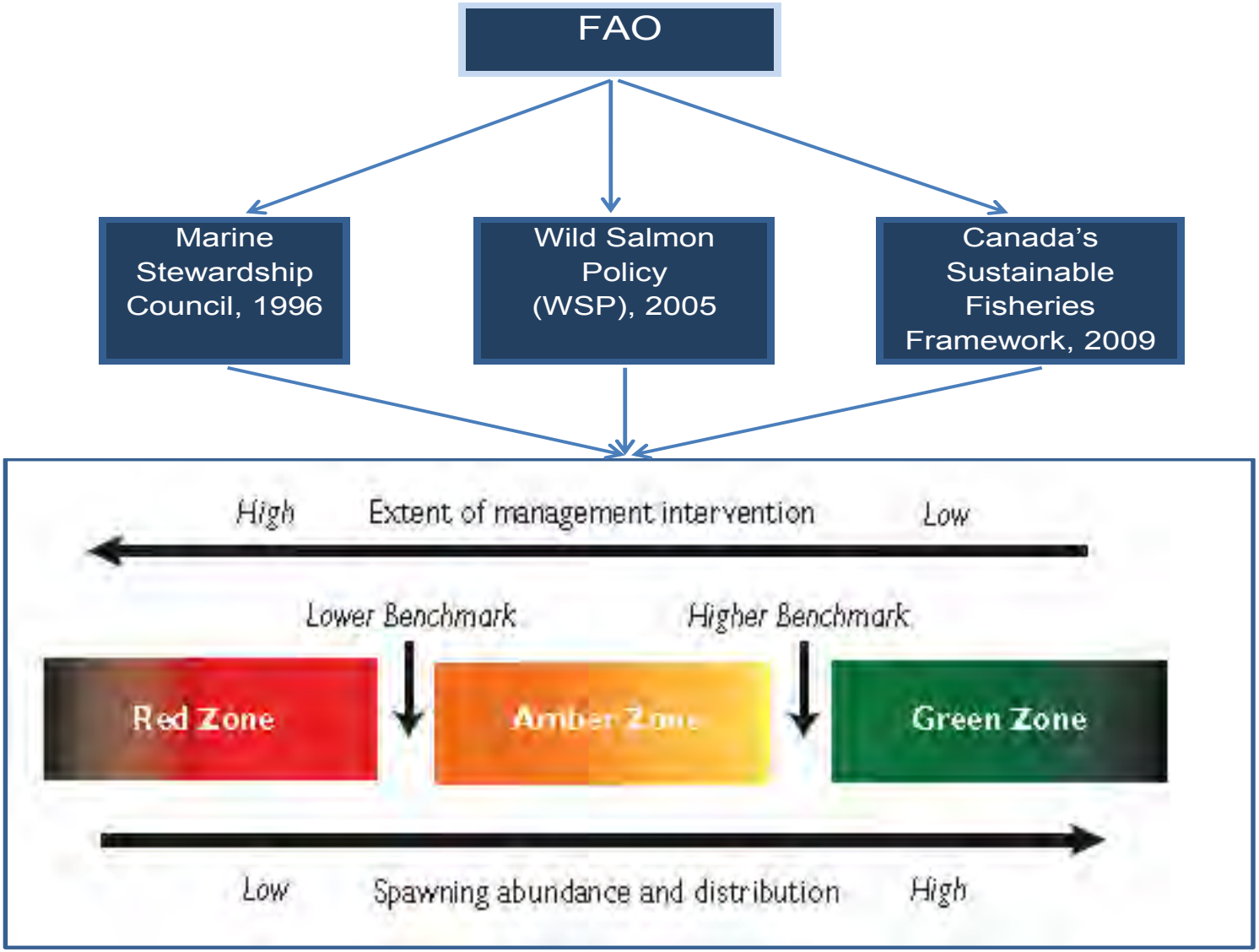
b. stock-specific limit reference points, and, at the same time, the action to be taken if they are exceeded; when a limit reference point is approached, measures should be taken to ensure that it will not be exceeded.

c. **7.2.1 long-term sustainable use of fisheries resources is the overriding objective of conservation and management. States should adopt appropriate measures, based on the best scientific evidence available, which are designed to maintain or restore stocks at levels capable of producing maximum sustainable yield....**

FIGURE 24
Type of precautionary plot used to monitor fisheries in ICES or NAFO



Source: Modified from ICES CM 1997/Assess: 7, p. 41; and F.M. Serchuk *et al.*, 1988. *In* V.R. Restrepo, ed. *Proc. 5th National NMFS Stock Assessment Workshop*, Florida, USA


FAO
Marine Stewardship Council, 1996
Wild Salmon Policy (WSP), 2005
Canada's Sustainable Fisheries Framework, 2009
High
Extent of management intervention
Low
Lower Benchmark
Higher Benchmark
Red Zone
Amber Zone
Green Zone
Low
Spawning abundance and distribution
High

Audit Requirements

6.6.1 In addition to focusing on compliance with, and progress on, stipulated conditions and any issues raised in prior assessments, the certification body shall select areas to inspect within the fishery for current or recent management activity for continued compliance with the MSC‟s Principles and Criteria for Sustainable Fishing, such as:

- Review any potential or actual changes in management systems.
- Review any changes or additions/deletions to regulations.
- Review any personnel changes in science, management or industry to evaluate impact on the management of the fishery.
- Review any potential changes to the scientific base of information, including stock assessments.

6.6.2 If, during an audit, the certification body identifies an issue requiring further investigation then the certification body shall either:

i. Report and record the existence of the issue, and/or ii. Immediately conduct a limited assessment to determine if a full re-assessment of the fishery is warranted to continue the certification status, and/or iii. Raise further conditions.

6.7.1 The certification body shall audit compliance with, and progress and performance against, certification conditions.

6.7.3 If progress against an interim milestone is judged to be behind target, the certification body shall specify the remedial action required, and if relevant, further milestones and scores to be achieved, and the time frame by which the milestone shall be achieved.

6.7.4 Certification bodies shall be guided by TAB Directive D-013 ‘Evaluating fishery client progress on meeting certification conditions' when judging and reporting the adequacy of client progress against conditions.

6.7.5 In the event that the certification body determines that progress against conditions is inadequate Section 6.9.1 shall be applied.

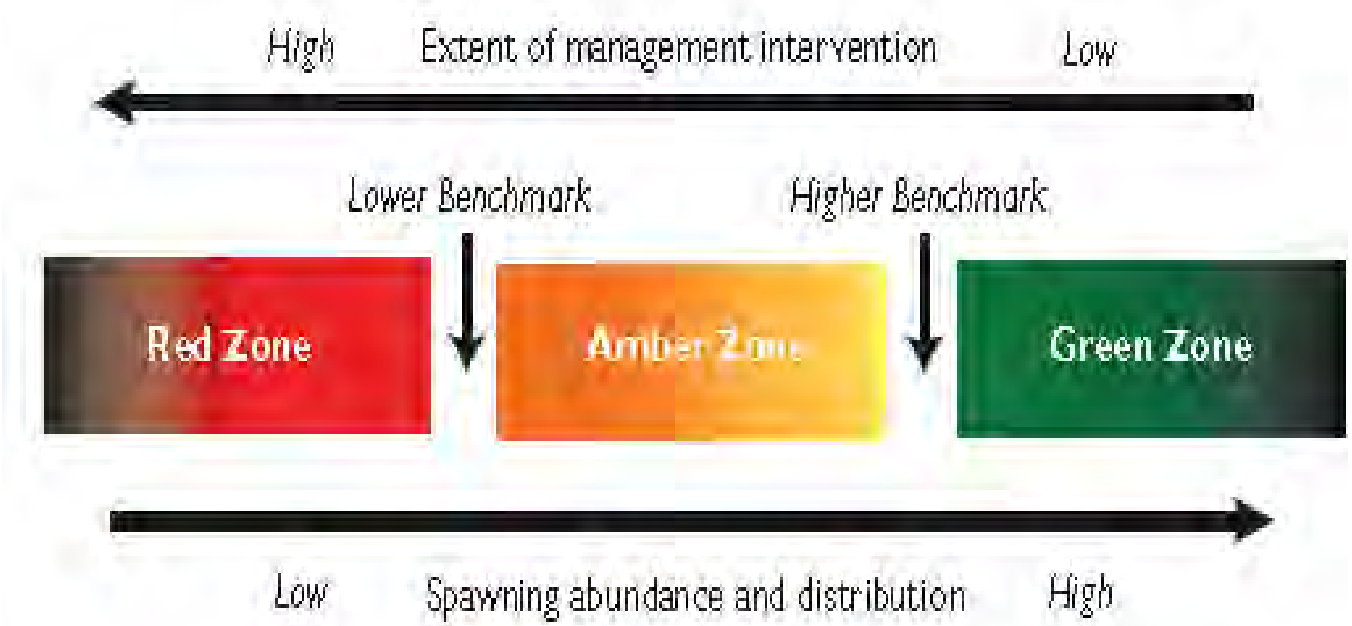
6.7.6 In the event that the requirements of any condition are changed, the certification body shall provide written justification for this in the Surveillance Report.

IMM Response: The fishery surveillance audit was conducted in accordance with the MSC CR version 1.2, Section 27.22 Surveillance. Section 6.6.1, quoted above, was taken from the MSC Fisheries Certification Methodology, version 6, which was superseded by the MSC CR in October 2011.

What is MSC's definition of a depleted stock?

"The Assessment Team shall consider a stock to be depleted when it is consistently below its TARGET REFERENCE POINT"

MSC's TRP = WSP's Upper benchmark



IMM Response: The concept of a depleted stock was established under Performance Indicator 1.1.3.1in the BC Sockeye Public Certification Report as follows:Indicator 1.1.3.1: Limit Reference Points or operational equivalents have been set and are appropriate to protect the stocks harvested in the fishery. The Limit Reference Point (LRP) or operational equivalent set by the management agency has been defined above as "the state of a fishery and/or a resource, which is not considered desirable. Fishery harvests should be stopped before reaching it.
If a LRP is inadvertently reached, management action should severely curtail or stop fishery development, as appropriate, and corrective action should be taken. Stock rehabilitation programs should consider an LRP as a very minimum rebuilding target to be reached before the rebuilding measures are relaxed or the fishery is re-opened."

Rebuilding Target Stocks

MSC – Objective is more defined, rigorous, and prescriptive than either Canada's WSP or SFF

1. **A rebuilding timeframe is specified for the depleted stock that is the shorter of 20 years or 2 times its generation time. For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years.**

2. **There is evidence that the rebuilding strategies are rebuilding stocks, or it is highly likely based on simulation modelling or previous performance that they will be able to rebuild the stock within the specified timeframe.**

WSP

The presence of a CU in the Red zone will initiate an immediate consideration of ways to protect the fish, increase their abundance, and reduce the potential risk of loss. Biological considerations will be the primary drivers for the management of CUs with Red status. In the critical zone, management actions must promote stock growth and removals from all sources must be kept to the lowest possible level until the stock has cleared this zone

Canada's SFF

If a stock is already in the critical zone, a rebuilding plan must be developed and implemented on a priority basis.

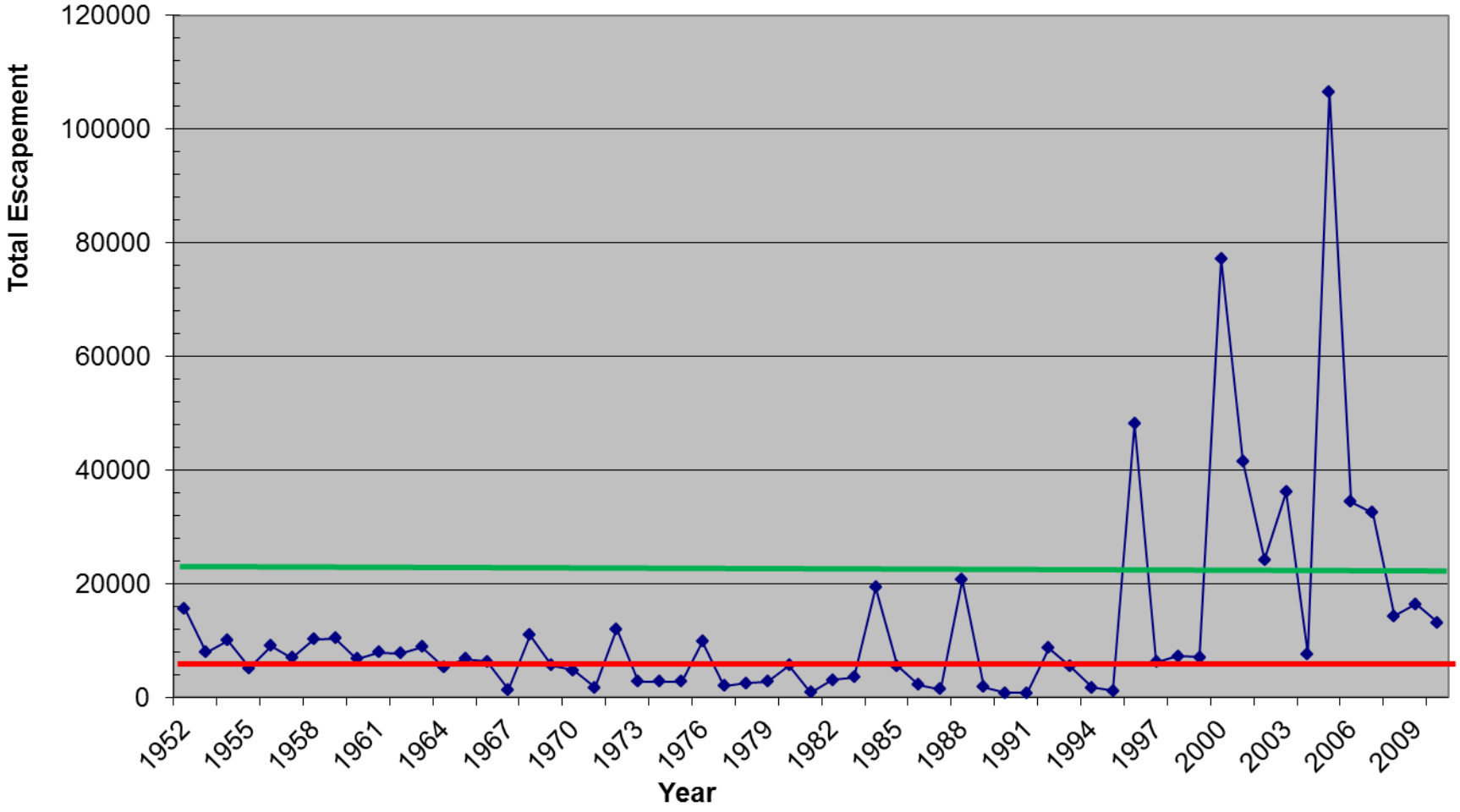
When a harvested stock is in the critical zone below the LRP, long-term sustainable fishery benefits can only be realized by emphasizing considerable restraint through the stock recovery phase… While some flexibility may be found in the pace established to reach recovery objectives, it is crucial that rebuilding strategies and rebuilding objectives are identified that are supportive of the PA.

IMM Response: The rebuilding requirements used to evaluate these fisheries are defined in PI 1.2.1, and not the above, which is defined in the MSC CR.

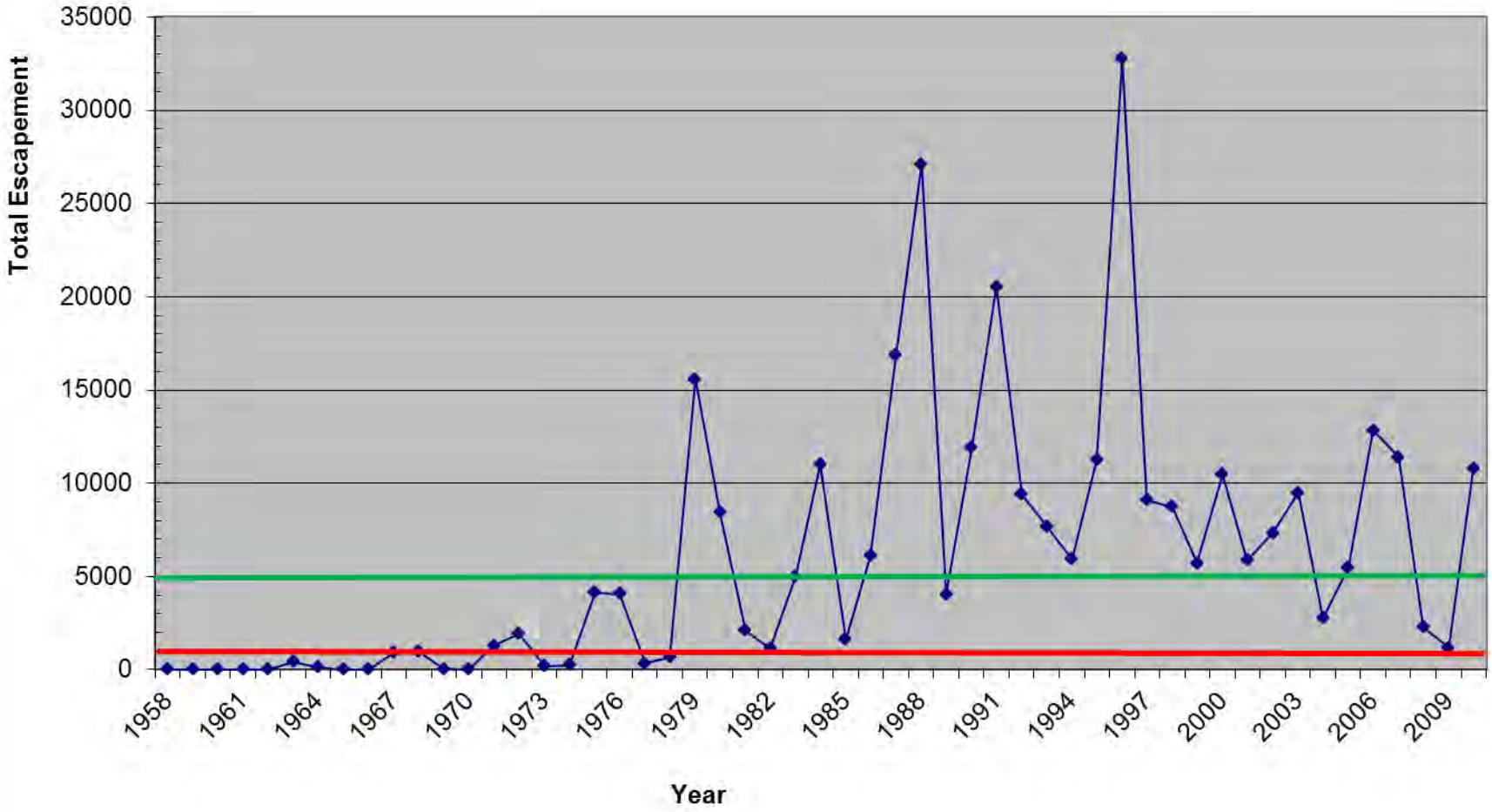
Timing Group	2012 Cycle Year	2013 Cycle Year	2014 Cycle Year	2015 Cycle Year	Lower Benchmark	Upper Benchmark	Integrated Status	Holtby Synoptic
Early Stuart								
	Takla-Trembleur	Takla-Trembleur	Takla-Trembleur	Takla-Trembleur	68,000	218,000	Red	Red
Early Summer								
	Nadina-Francois	Nadina-Francois	Nadina-Francois	Nadina-Francois	17,000	58,000	Red	Amber
	Bowron	Anderson	Bowron	Bowron	4,000	17,000	Red	Red
	Taseko		Taseko	Taseko	N/A	N/A	Red	Red
	Anderson		Anderson	Anderson	3,000	19,000	Red/Amber	Red
	Shuswap		Shuswap	Shuswap	89,000	198,000	Amber/Green	Red
	North Barriere		North Barriere	North Barriere	1,000	5,000		
	Kamloops		Kamloops	Kamloops	6,000	23,000	Amber	Green
	Nahatlach		Nahatlach	Nahatlach	N/A	N/A	Red	Red
	Chilliwack		Chilliwack	Chilliwack	8,000	16,000	Amber	Amber
	Pitt	Pitt	Pitt	Pitt	8,000	22,000	Amber	Green
Summer								
	Takla-Tembleur	Takla-Tembleur	Takla-Tembleur	Takla-Tembleur	104,000	489,000	Red/Amber	Red
	Francois-Fraser	Francois-Fraser	Francois-Fraser	Francois-Fraser	42,000	195,000	Red/Amber	Amber
	Quesnel	Quesnel	Quesnel	Quesnel	121,000	701,000	Red	Red
	Chilko	Chilko	Chilko	Chilko	39,000	273,000	Green	Red
Late								
	Shuswap		Shuswap	Shuswap	355,000	1,288,000	Amber/Green	Red
	Lillooet	Lillooet	Lillooet	Lillooet	11,000	77,000	Green	Green
	Seton	Seton	Seton	Seton	1,000	8,000	Red/Amber	Red
	Widgeon	Widgeon	Widgeon	Widgeon	N/A	N/A		
	Cultus				12,000	32,000	Red	Red
Early Stuart								
	None	None	None	None				
Early Summer								
		Bowron			4,000	17,000	Red	Red
		Kamloops			6,000	23,000	Amber	Green
		North Barriere			1,000	5,000		
		Shuswap			89,000	198,000	Amber/Green	Green
Summer								
	None	None	None	None				
Late								
		Cultus	Cultus	Cultus	12,000	32,000	Red	Red

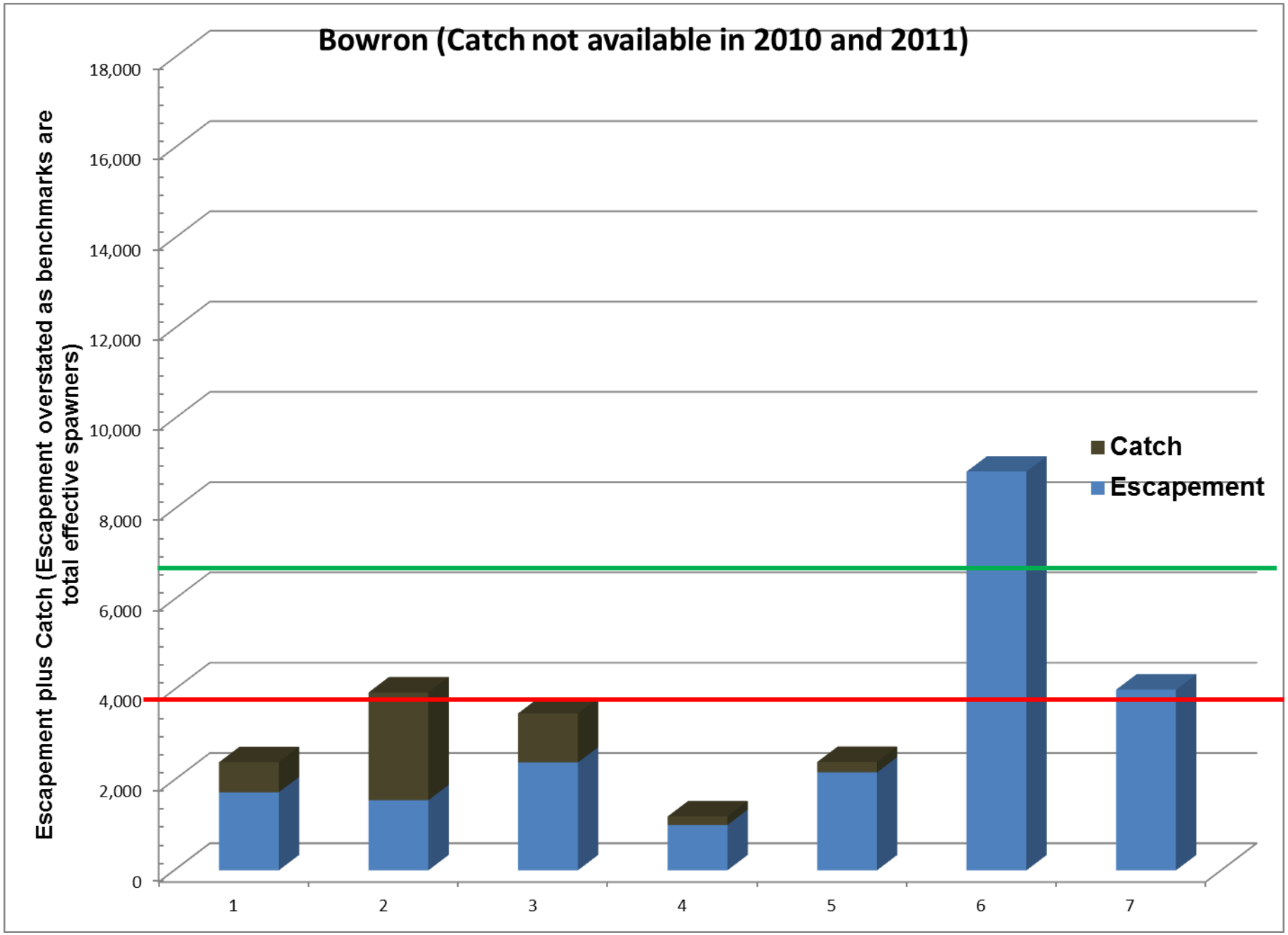
Run Timing Group	CU Name (1)	Abundance Metric (2	Long Term Trends (4)	Recent Trends	Recent Productivity	Cyclical	Abundance if Ricker/	Abundance if Larkin Used	Workshop Consensus	Holtby Synoptic	CU Code	Long Term Trend	Short Term	Abundance	COSEWIC Trend	COSEWIC Abundanc	COSEWIC RATING A / D
Early Stuart																	
	Takla-Trembleur	N/A	Amber	Red	Flat	Y	Red	Amber	Red	1	20	1.54	-85%		END		END /
Early Summer																	
	Bowron	Red	Red	Red	Declining				Red	1	16	0.28	-88%	<1000	END	THREAT	END / THREAT
	Kamloops	Red/Amber	Green	Green	Flat				Amber	6	13	0.76	46%	<250		END	/ END
	Anderson	Red/Amber	Green	Red					Red/Amber	2		1.75	-39%		THREAT		THREAT /
	Nadina-Francois	Red	Green	Red	Declining				Red	3	8	0.91	-44%		THREAT		THREAT /
	Pitt	Green	Green	Red	Variable				Amber	6	17	2.17	0%				/
	Shuswap	N/A	Green	Red	Variable	Y	Red/Amber	Amber	Amber/Gree	2	23	0.89	-34%	<1000	THREAT	THREAT	THREAT / THREAT
	Nahatlach	Unavailable	Amber	Red	Unavailable				Red	1	12	0.54	-82%	<1000	END	THREAT	END / THREAT
	Chilliwack	Red (Carr Cap	Unavailable	Unavaila	Unavailable				Amber	3	3	no data	no data	<1000	ND	THREAT	ND / THREAT
	Taseko	Unavailable	Red	Red	Unavailable				Red	1	10	0.22	-88%	<250	END	END	END / END
	North Barrier - Fennel ES		Green	Red								1.27	-68%	<250	END	END	END / END
Summer																	
	Chilko	Amber/Green	Green	Red	Declining				Green	1	5	1.23	-74%		END		END /
	Takla-Trembleur	N/A	Green	Red	Declining	Y	Red	Amber	Red/Amber	1	24	1.72	-82%		END		END /
	Quesnel	N/A	Green	Red	Declining	Y	Red	Amber	Red	1	21	5.74	-92%		END		END /
	Francois-Fraser	Red/Amber	Green	Red	Declining				Red/Amber	3	1	1.31	-38%		THREAT		THREAT /
Late																	
	Cultus	Red	Red	Red	Declining				Red	1	14	0.09	-69%	<250	END	END	END / END
	Shuswap	N/A	Green	Green	Declining	Y	Amber/Green	Red	Amber/Gree	4	22	0.76	46%	<250		END	/ END
	Seton	Red/Amber	Amber	Red	Declining				Red/Amber	2	18	0.67	-67%	<250	END	END	END / END
	Harrison U/S	Amber	Amber	Red	Flat				Amber	3	7	0.65	-39%		THREAT		THREAT /
	Harrison D/S	Unavailable	Green	Green	Unavailable				Green	6	11	13.3	2.74				/
	Harrison (river type???)	Green	Green	Green	Increasing				Green		9	6.96	24.53				/
	Lillooet	Green	Green	Green	Declining				Green	6	15	1.27	3%				/
	Widgeon	Amber	Amber	Green						2	2	0.46	736%	<250		END	/ END
	Kamloops	N/A	Green	Red	Declining	Y	Amber	Amber/Green	Amber	3	19	2.23	-31%	<1000	END	THREAT	END / THREAT

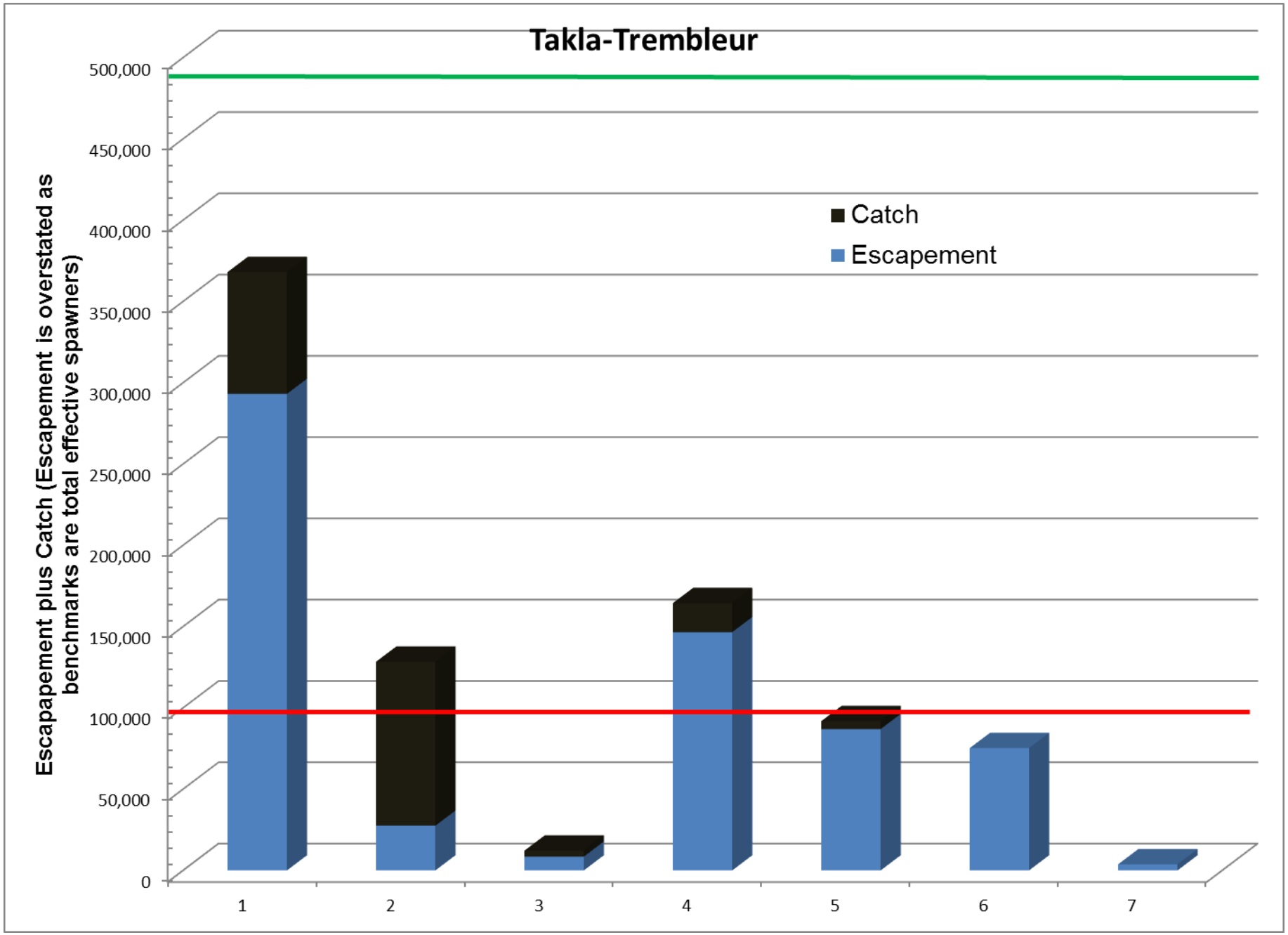
(012) Fraser-ES-Kamloops

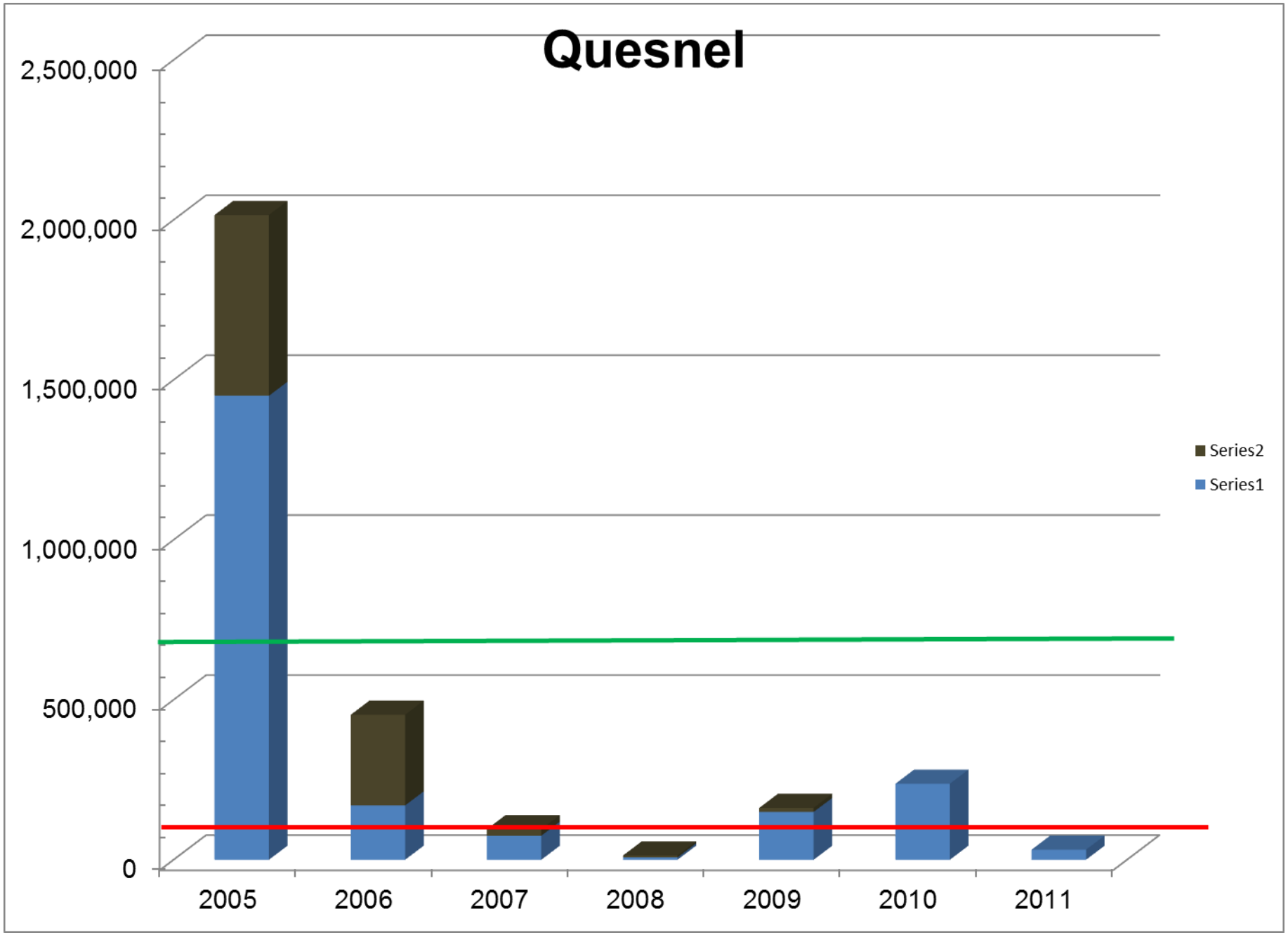


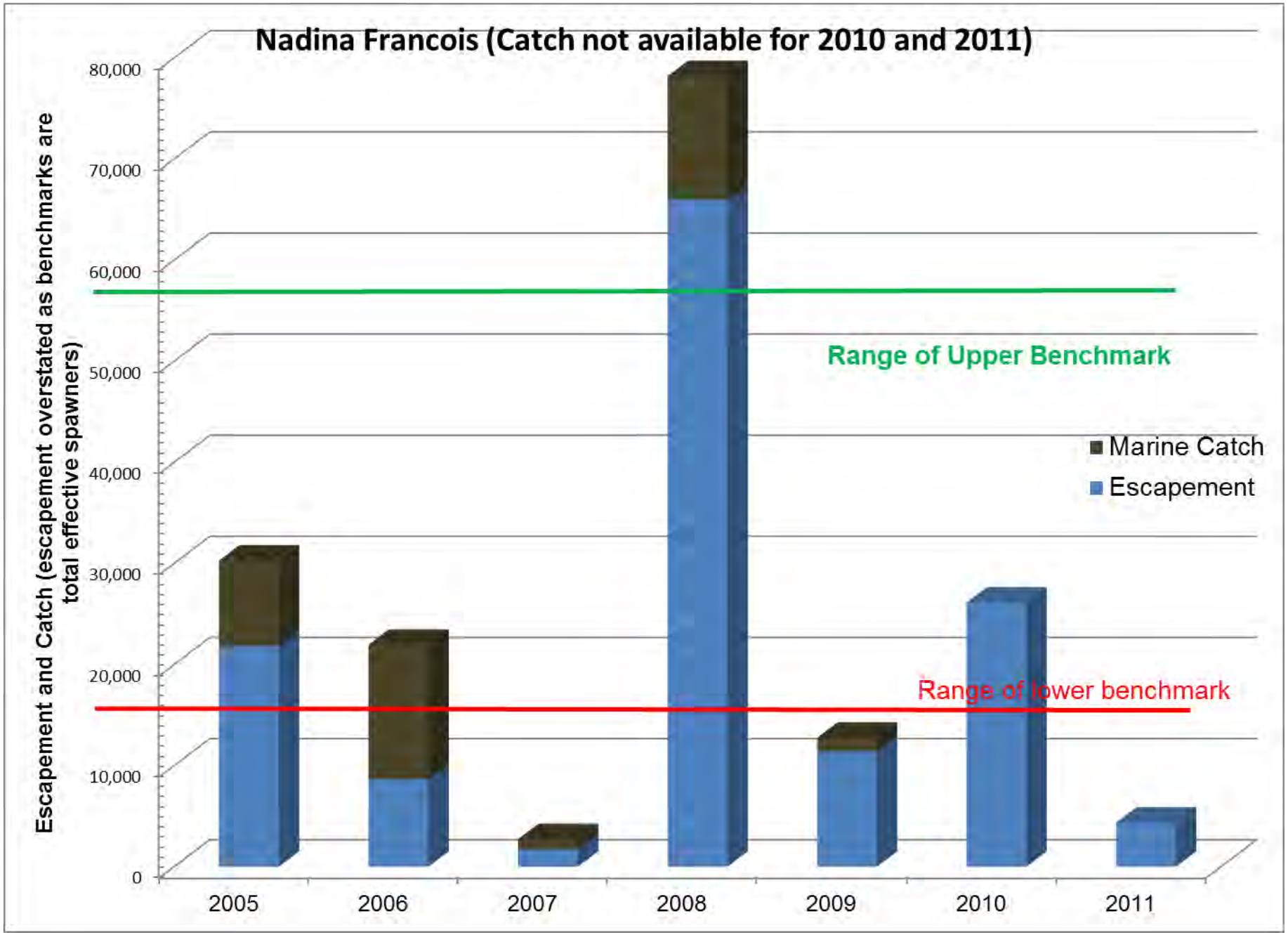
(017) Fraser-ES-North Barriere




Bowron (Catch not available in 2010 and 2011)
Escapement plus Catch (Escapement overstated as benchmarks are total effective spawners)
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
1
2
3
4
5
6
7
Catch
Escapement


Takla-Trembleur
Escapement plus Catch (Escapement is overstated as benchmarks are total effective spawners)
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
Catch
Escapement
1
2
3
4
5
6
7


Quesnel
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
2005
2006
2007
2008
2009
2010
2011
Series2
Series1


Nadina Francois (Catch not available for 2010 and 2011)
Escapement and Catch (escapement overstated as benchmarks are total effective spawners)
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
2005
2006
2007
2008
2009
2010
2011
Range of Upper Benchmark
Range of lower benchmark
Marine Catch
Escapement

Fraser Condition	Status
Condition 5: Certification is conditional until the Conservation Units have been defined for Fraser sockeye using the methods described in Holtby and Ciruna (2007) and LRP's for each Fraser sockeye conservation unit are defined and peer reviewed, within two years.	**Almost complete**
Condition 6: Certification is conditional until the Management Units have been defined for Fraser sockeye and the management agency defines the TRP's for each Fraser sockeye management *unit* taking into account the productivity of target and non-target stocks within each management unit, by May 2012.	**?**

IMM Response: Conditions 5 and 6 were not closed out, new milestones were prescribed and are deliverable by the 3rd Surveillance audit.

Condition 8: Certification is conditional until the management agency defines the LRP's for the target stocks and the management agency provides documentation that fisheries have not resulted in escapements that approach or are below the LRP in more than one year in a period of the most recent 5 cycle years, for any of the target sockeye stocks. The intent for this condition is to resolve the effects of fisheries, not other factors, on the stock and to recognize that the Fraser River sockeye undergo cycles so that these cycles must also be taken into account when examining whether the stocks are being maintained above LRPs. This condition should be addressed within two years	?
Condition 19: Certification will be conditional until Limit Reference Points or their equivalent have been defined for Fraser sockeye salmon stocks, and recovery plans have been developed and implemented for stocks harvested in Fraser sockeye fisheries that are below their LRP. The proposed recovery plans must provide information regarding the probability of recovery and the timing for recovery. To be completed by May 2012	?

IMM Response: Conditions 8 and 19 were not closed out, new milestones were prescribed and are deliverable by the 3rd Surveillance audit.

Condition 27: Certification will be conditional until the management agency provides a research plan that addresses identified concerns related to the impact of the fishery on the ecosystem, with emphasis on non-target stocks, and takes into consideration socioeconomic factors and anticipated changes to fisheries, within two years.	? FSC?

IMM Response: Condition 27 was not closed out, new milestones were prescribed and are deliverable by the 3rd Surveillance audit.

Condition 7: Certification is conditional until the management agency provides a clear commitment to implement the recovery plan for Cultus sockeye and evidence that fisheries management actions are consistent with the recovery goals for Cultus sockeye, within one year.	**Closed out**

Condition 25: Certification will be conditional until the management agency provides a clear commitment to implement recovery action plans for Cultus and Sakinaw sockeye, within one year	**Closed out**

Condition 28: Certification will be conditional until the management agency provides TRP's for the Cultus sockeye salmon stock, a clear indication of the commitment to implement the Cultus Sockeye Recovery Plan, and an assessment of the probability of recovery and the timing for recovery for Cultus sockeye, within one year.	**Closed out**

IMM Response: Conditions 7 and 25 are closed out at the 1st Surveillance audit and rationales were provided in that report. Condition 28 was not closed out and a new milestone was prescribed and is due by the 3rd surveillance audit.

Condition 7

Principle 1: A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted; the fishery must be conducted in a manner that demonstrably leads to their recovery.

MSC Criterion 1.2: Where the exploited populations are depleted, the fishery will be executed such that recovery and rebuilding is allowed to occur to a specified level consistent with the precautionary approach and the ability of the populations to produce long-term potential yields within a specified time frame

Expectation for Criterion 1.2:

Our (Assessment Team's) interpretation of MSC Criterion 1.2: This criterion refers to "populations" where our indicators and evaluation criteria refer to stocks or stock units. The evaluation under this criterion will assess the degree to which the management strategy is designed to keep targeted stocks from becoming depleted, and to promote recovery if they become depleted. Note that this has already been partially assessed under Subcriterion 1.1.3.

The 80 Scoring Guideposts that required a Condition:

- **In the event of severe depletion, recovery plans are developed and implemented to facilitate the recovery of the depleted stocks with 3 reproductive cycles. (*SCS Intent – Although this indicator was set for use in salmon fisheries, the cyclic nature of the runs within the Fraser River system require that this statement is interpreted within the context of the cyclic aspects of the Fraser, and not just as 3 reproductive cycles of the species.*)**
- **Stocks are allowed to recover to more than 150% of the LRP for abundance before any fisheries are permitted that target these stocks.**

Action Plan Summary: DFO has already demonstrated a clear commitment to implement a rebuilding plan for Cultus Lake sockeye with fishery management actions that are consistent with the rebuilding goals for Cultus Lake sockeye that are identified in the conservation strategy. A report summarizing how DFO actions are consistent with the rebuilding goals for Cultus sockeye will be developed.

Condition 7: Certification is conditional until the management agency provides a clear commitment to implement the recovery plan for Cultus sockeye and evidence that fisheries management actions are consistent with the recovery goals for Cultus sockeye, within one year.


British
Columbia
Pacific
Ocean
United States
Canada
Portland Inlet
Prince
Rupert
Tyee Test
Fishery
Terrace
Skeena
River
Skeena
River
Kitimat
Hazelton
Smithers
Houston
Babine
Fence
Moricetown
Fishway
Sustut
Fence
Sustut River
Sustut
Lake
Johanson
Creek
Mosque Creek
Bear River
Babine River
Babine Lake
Kispiox River
Kitwanga River
Kitsumkalum River
Exchamsiks River
Kasiks River
Ecstall
River
Gitnadoix River
Alastair
Lake
Lakelse River
Zymoetz
River
Toboggan
Creek
Bulkley River
Telkwa River
Suskwa River
Gosnell River
Morice Lake
Morice River
0 20 40 60 80 100
Kilometres
N

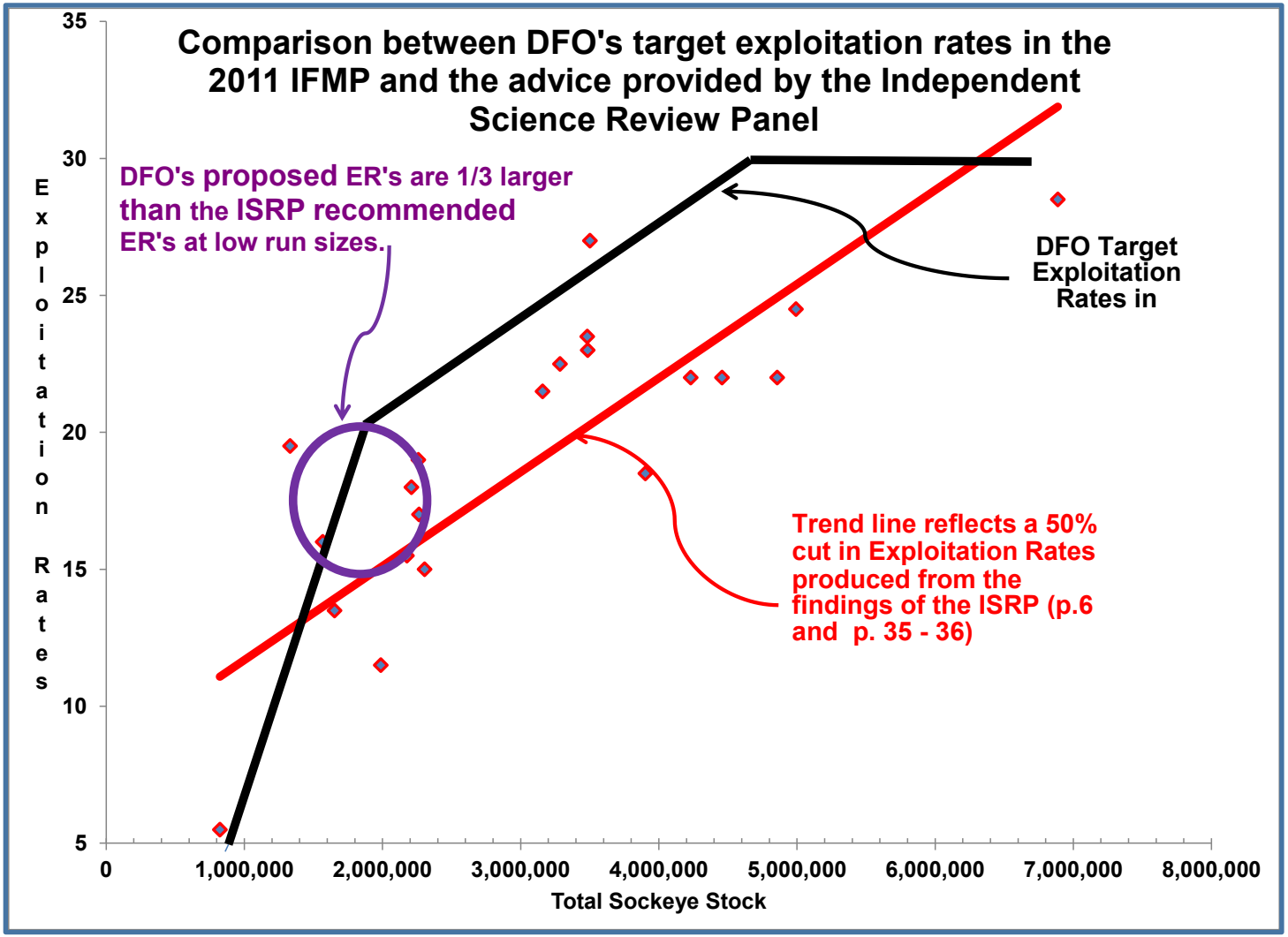
Benchmark Development

- Well Behind the Fraser
- North Coast DFO was dragging their feet
- Reluctant to comply with Regional and CSAS Policy
- Major strides taken with PSF over past months
- Culminated in stakeholder review of abundance and productivity metrics this spring
- First Nations have not been consulted on benchmarks
- Work on the three metrics has not been peer reviewed
- Stock status has not been determined
- MSE and rebuilding plans discussions have not begun
- Significant work still outstanding
- Conditions that speak to benchmarks and stock status must be evaluated in 2013 after work is reviewed at CSAS and stock status determined

IMM Response: The 2012 surveillance audit report provides significant commentary from the team on the issues of WSP benchmarks versus management objectives (LRP's and TRP's). The team has not closed out any conditions relate to management objectives and the progress will be evaluated at the next surveillance audit.

	June 21-July 1	July 2-8	July 9-15	July 16-22	July 23-29	July 30-August 5	August 6-12	Percent of
	ENB	ENB	Pinkut/EBT	Pinkut/Fulton	Fulton/LNB/BR	Babine River	Babine River	Total Return
Alastair	X							28%
Aldrich			X					27%
Asitka			X					26%
Atna		X						25%
Azuklotz					X			24%
Bear					X			23%
Bulkley		X						22%
Club			X					21%
Damishilgw				X				20%
Dennis			X					19%
Johanson					X			18%
Johnston	X							17%
Kitsumkalum					X			16%
Kitwanga					X			15%
Kluatantan			X					14%
Kluayaz			X					13%
Lakelse								12%
Maxan		X						11%
McDonell			X					10%
Morice		X						9%
Morrison		X						8%
Motase				X				7%
Sicintine				X				6%
Slamgeesh				X				5%
Spawning			X					4%
Stephens			X					3%
Sustut			X					2%
Swan			X					1%

"*If the WSP... is interpreted as meaning that overharvesting will not be permitted for any Skeena salmon CU, then DFO needs to make two structural changes in the harvesting system for Skeena salmon… First, to avoid overharvesting of non-Babine sockeye stocks, ocean harvests must be reduced by roughly 50%, and the total Canadian plus Alaskan exploitation rates outside Tyee held at or below 30-40%."… "by reducing Canadian exploitation rates down to 20-30%, or about half of what they have been over the last 20 years. Even if such reductions are achieved, for example by shifting fisheries into the Babine River area, it will take considerable time for non-Babine sockeye stocks to recover to their most productive levels*

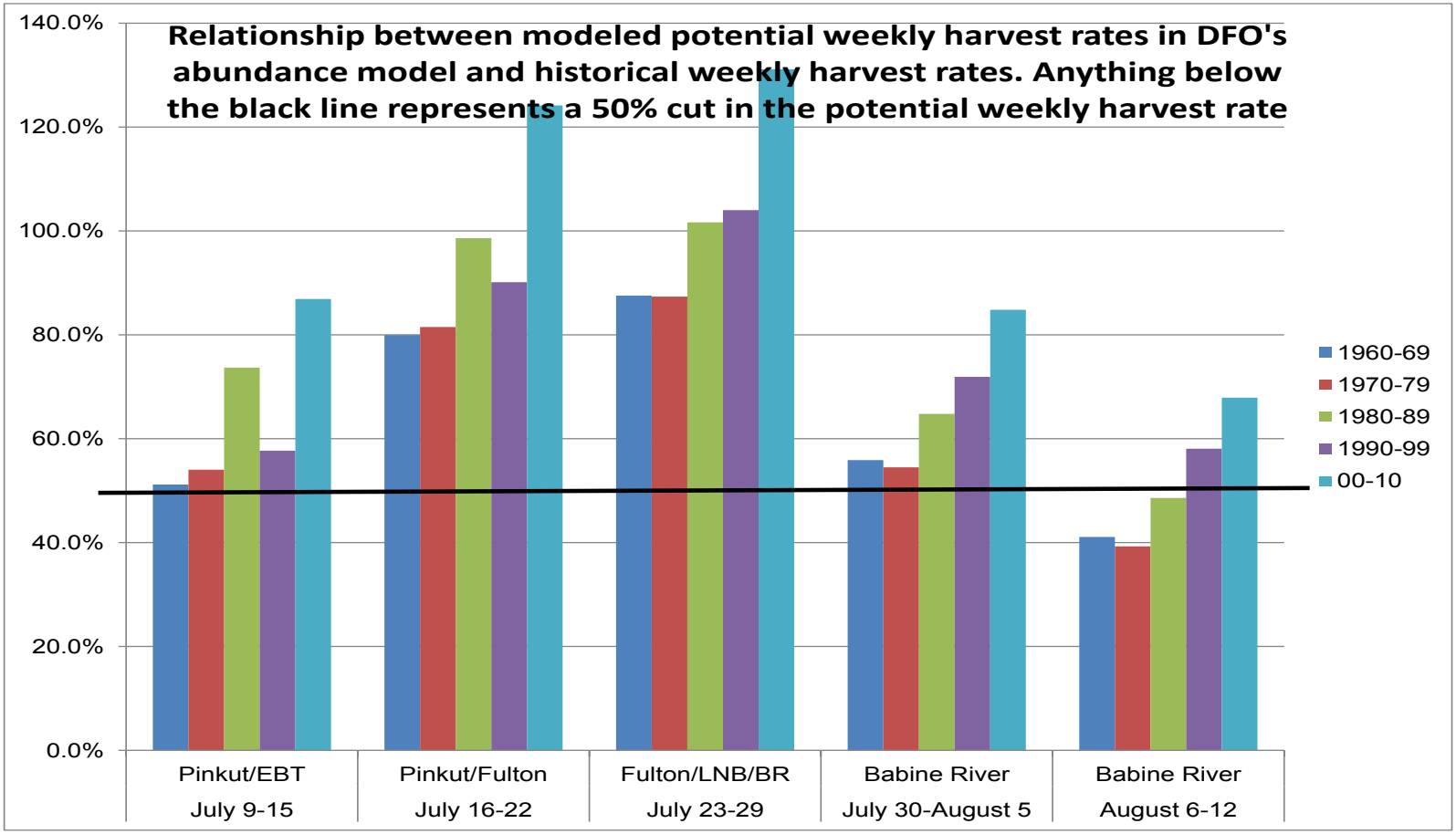

Comparison between DFO's target exploitation rates in the 2011 IFMP and the advice provided by the Independent Science Review Panel
DFO's proposed ER's are 1/3 larger than the ISRP recommended ER's at low run sizes.
DFO Target Exploitation Rates in
Trend line reflects a 50% cut in Exploitation Rates produced from the findings of the ISRP (p.6 and p. 35 - 36)
Exploitation Rates
35
30
25
20
15
10
5
0
1,000,000
2,000,000
3,000,000
4,000,000
5,000,000
6,000,000
7,000,000
8,000,000
Total Sockeye Stock

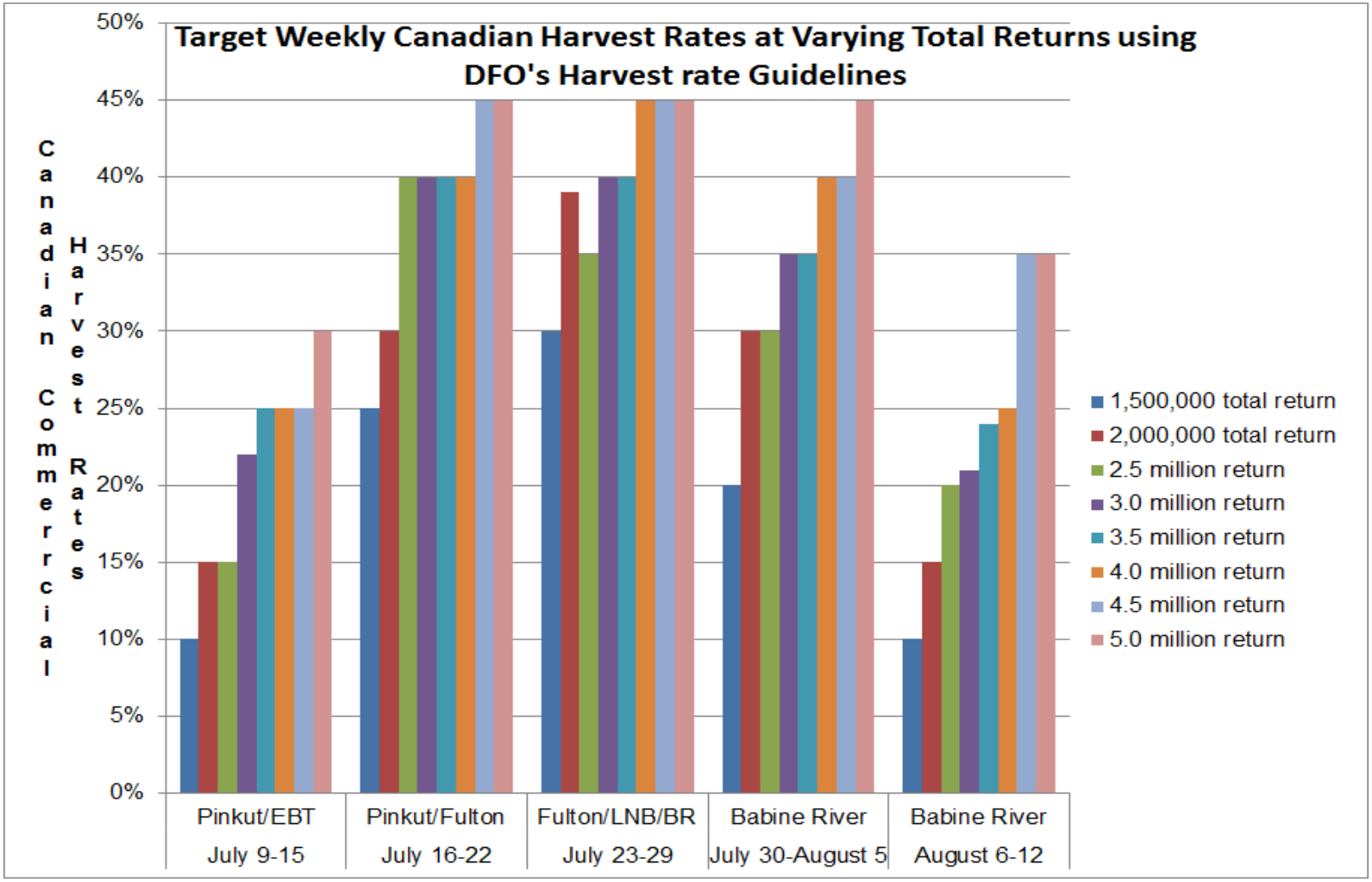
Weekly HRs Required to Achieve a 22% Agg. HR for an Average Skeena RTC

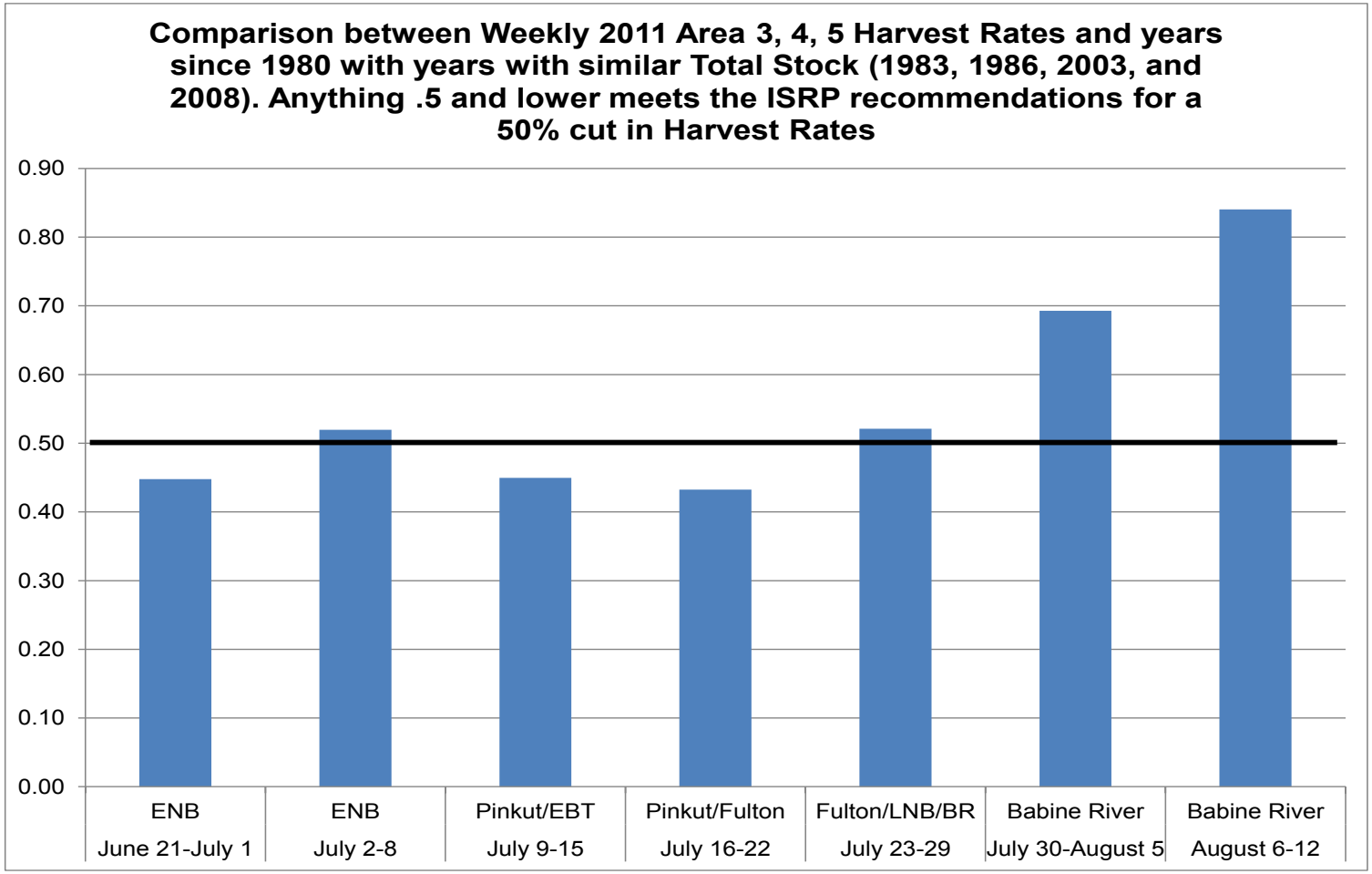
Week	Percent of Total Return	Weekly Stock on 2.5 million run	Weekly Escape Target	Potential Comm. Harvest	2008 Target Comm. Harvest Rate	Expected Comm. Harvest
6-4	4%	100,000	42,000	58,000	0%	0
7-1	7%	175,000	74,000	101,000	0%	0
7-2	13%	325,000	137,000	188,000	0%	0
7-3	20%	500,000	210,000	290,000	20%	100,000
7-4	21%	525,000	221,000	304,000	35%	183,750
7-5	16%	400,000	168,000	232,000	40%	160,000
8-1	10%	250,000	105,000	145,000	25%	62,500
8-2	5%	125,000	53,000	72,000	17%	21,250
	96%	2,400,000	1,010,000	1,390,000		527,500
					Average Exploitation Rate	22.0%

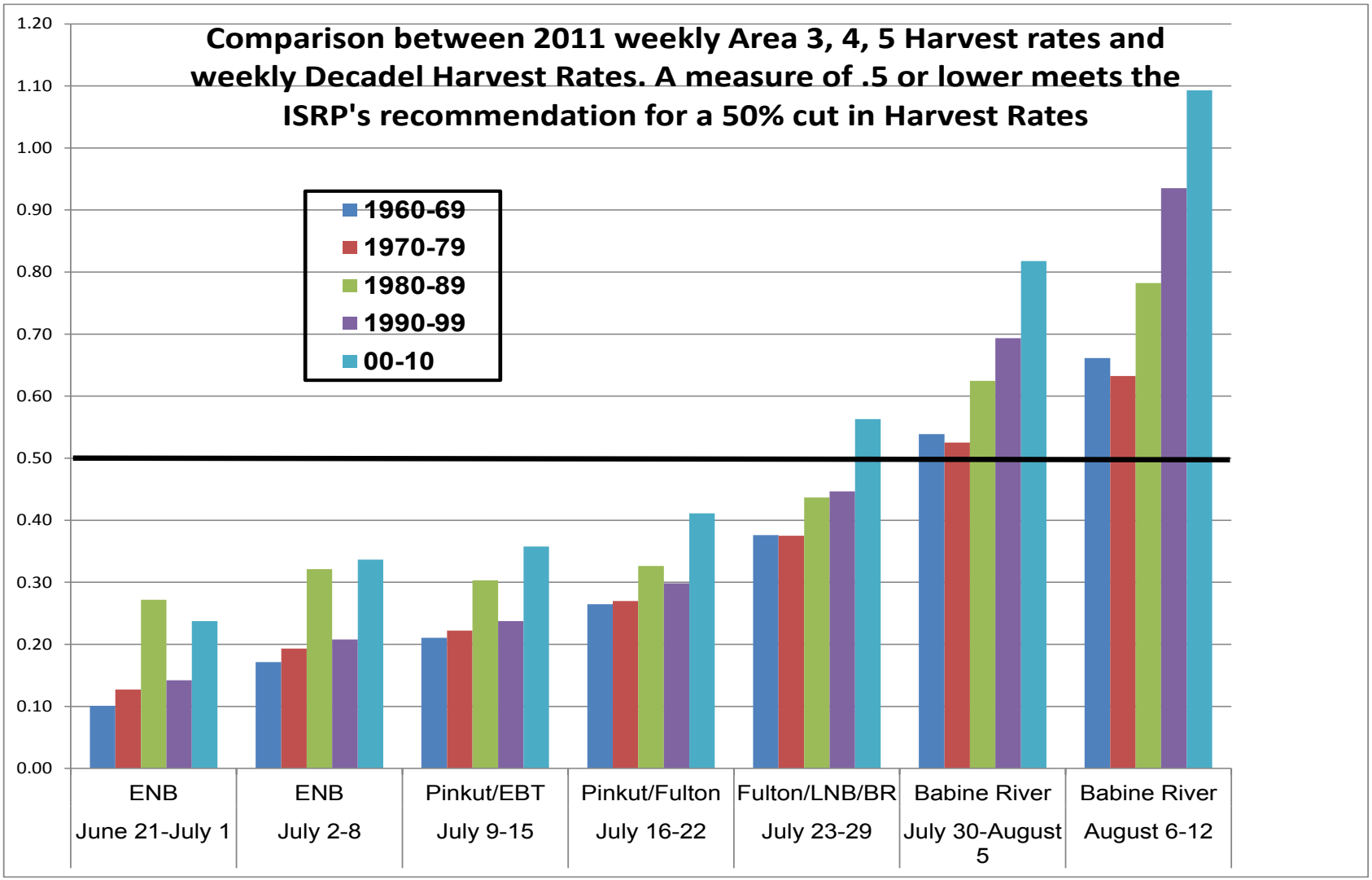
Weekly Target HRs Compared to Decadal Averages

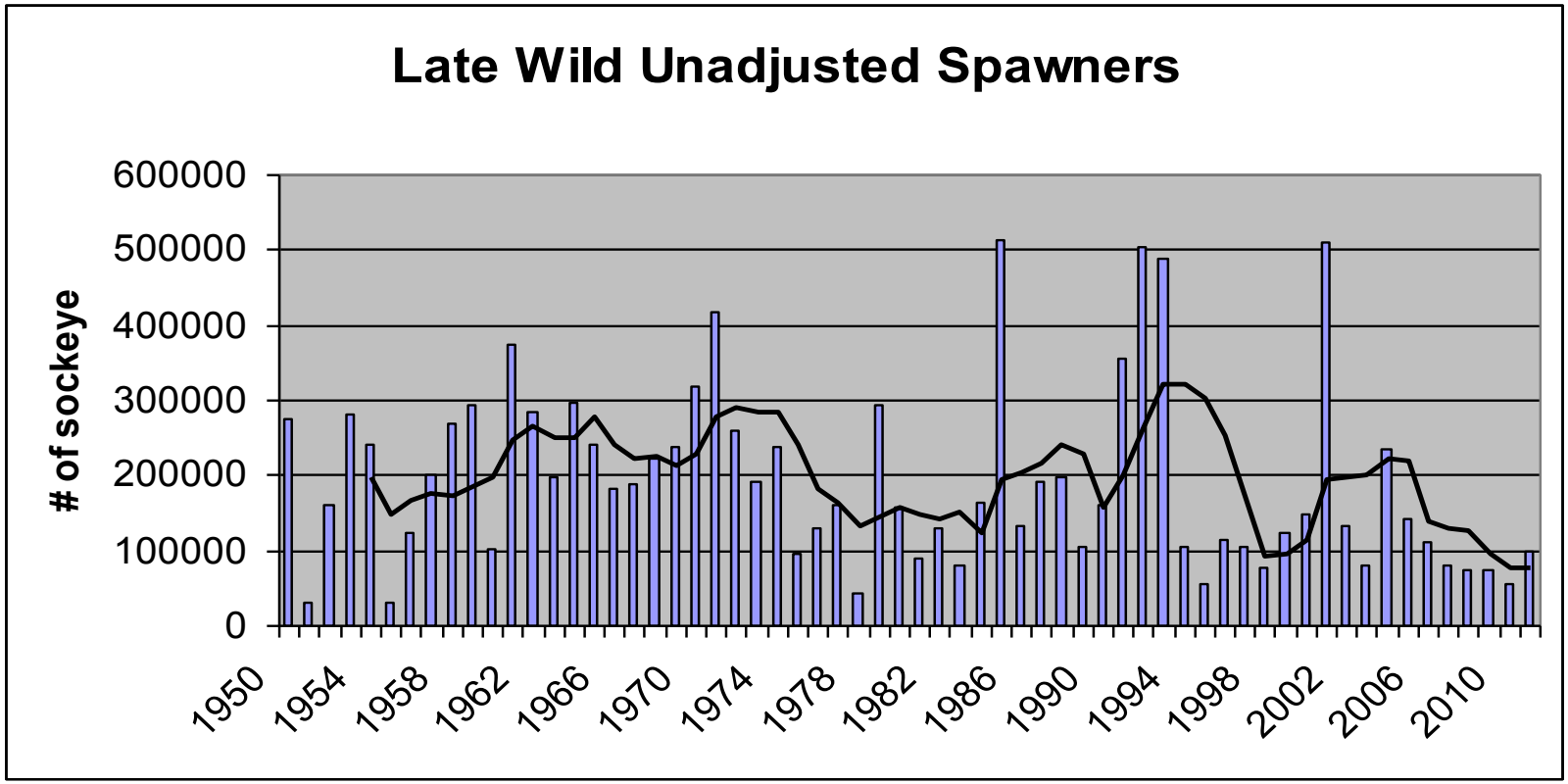
1960-69	22.6%	31.8%	39.1%	43.8%	45.7%	44.8%	41.4%
1970-79	17.9%	28.2%	37.0%	42.9%	45.8%	45.9%	43.3%
1980-89	8.4%	17.0%	27.2%	35.5%	39.4%	38.6%	35.0%
1990-99	16.1%	26.2%	34.7%	38.8%	38.5%	34.8%	29.3%
00-10	9.6%	16.2%	23.0%	28.2%	30.5%	29.5%	25.0%
DFO Target	**0.0%**	**0.0%**	**20.0%**	**35.0%**	**40.0%**	**25.0%**	**17.0%**


Relationship between modeled potential weekly harvest rates in DFO's abundance model and historical weekly harvest rates. Anything below the black line represents a 50% cut in the potential weekly harvest rate
140.0%
120.0%
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
Pinkut/EBT
July 9-15
Pinkut/Fulton
July 16-22
Fulton/LNB/BR
July 23-29
Babine River
July 30-August 5
Babine River
August 6-12
1960-69
1970-79
1980-89
1990-99
00-10


Target Weekly Canadian Harvest Rates at Varying Total Returns using DFO's Harvest rate Guidelines
Canadian Commercial Harvest Rates
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Pinkut/EBT July 9-15
Pinkut/Fulton July 16-22
Fulton/LNB/BR July 23-29
Babine River July 30-August 5
Babine River August 6-12
1,500,000 total return
2,000,000 total return
2.5 million return
3.0 million return
3.5 million return
4.0 million return
4.5 million return
5.0 million return


Comparison between Weekly 2011 Area 3, 4, 5 Harvest Rates and years since 1980 with years with similar Total Stock (1983, 1986, 2003, and 2008). Anything .5 and lower meets the ISRP recommendations for a 50% cut in Harvest Rates
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
ENB June 21-July 1
ENB July 2-8
Pinkut/EBT July 9-15
Pinkut/Fulton July 16-22
Fulton/LNB/BR July 23-29
Babine River July 30-August 5
Babine River August 6-12


Comparison between 2011 weekly Area 3, 4, 5 Harvest rates and weekly Decadel Harvest Rates. A measure of .5 or lower meets the ISRP's recommendation for a 50% cut in Harvest Rates
1960-69
1970-79
1980-89
1990-99
00-10
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
ENB June 21-July 1
ENB July 2-8
Pinkut/EBT July 9-15
Pinkut/Fulton July 16-22
Fulton/LNB/BR July 23-29
Babine River July 30-August 5
Babine River August 6-12


Late Wild Unadjusted Spawners
# of sockeye
600000
500000
400000
300000
200000
100000
0
1950
1954
1958
1962
1966
1970
1974
1978
1982
1986
1990
1994
1998
2002
2006
2010

The Condition has three components:

1. **LRPs must be defined:** this work is still ongoing
2. **Recovery plans have been developed and implemented for stocks harvested in Skeena sockeye fisheries that are below their LRP**: this by definition, because the LRPs have not been defined, has not been done. But more importantly, the abundance based harvest model is not sufficient to address this element of the condition. It clearly will not lead to the rebuilding of Conservation Units that experience high weekly harvest rates.
3. **The proposed recovery plans provided information as to the probability and timing for recovery**: the abundance based model is not designed to meet this task.

IMM Response: Condition 21b remains open and a new milestone has been prescribed and is due at the 3rd surveillance audit.

Bycatch is defined by MSC as "*species in the catch that are not retained and that are discarded, as well as those that die because of unobserved fishing mortality."* Discards can be defined as the throwing away or slipping of dead fish and fish that may not survive after live release. In general, discards are considered a waste of resources and contradictory to responsible fisheries. Discards are often very difficult to estimate, leading to under-estimation of fishing mortality, which impacts fishery management and long-term sustainability*. (FAO, 2010)*

IMM Response: Bycatch, as evaluated under this assessment tree, are evaluated primarily under PI 2.1.1 and 2.3.1.

Canada's pacific salmon fisheries have been slow to embrace international "best practices" on bycatch and discard management. In fact, there have been significant measures in place to encourage bycatch and discard fisheries, including:

1. **Regulatory discards whereby fishers are told they must discard non-target salmon and steelhead even when, in the case of chums, they have significant economic value.**
2. **Bycatch and discard reporting remains largely unverified.**
3. **The use of uninformed bycatch and discard mortality rates.**
4. **Compliance with selective fishing regulations is largely unmonitored and unenforced.**

IMM Response: The BC Sockeye fisheries have been evaluated against the tree defined for the purposes of evaluating the fishery and subsequently used as the benchmark for the certified fishery. As indicated, the relevant PIs are 2.1.1 and 2.3.1. There is no current mechanism to allow the fishery to be re-evaluated, prior to recertification, against different performance criteria.

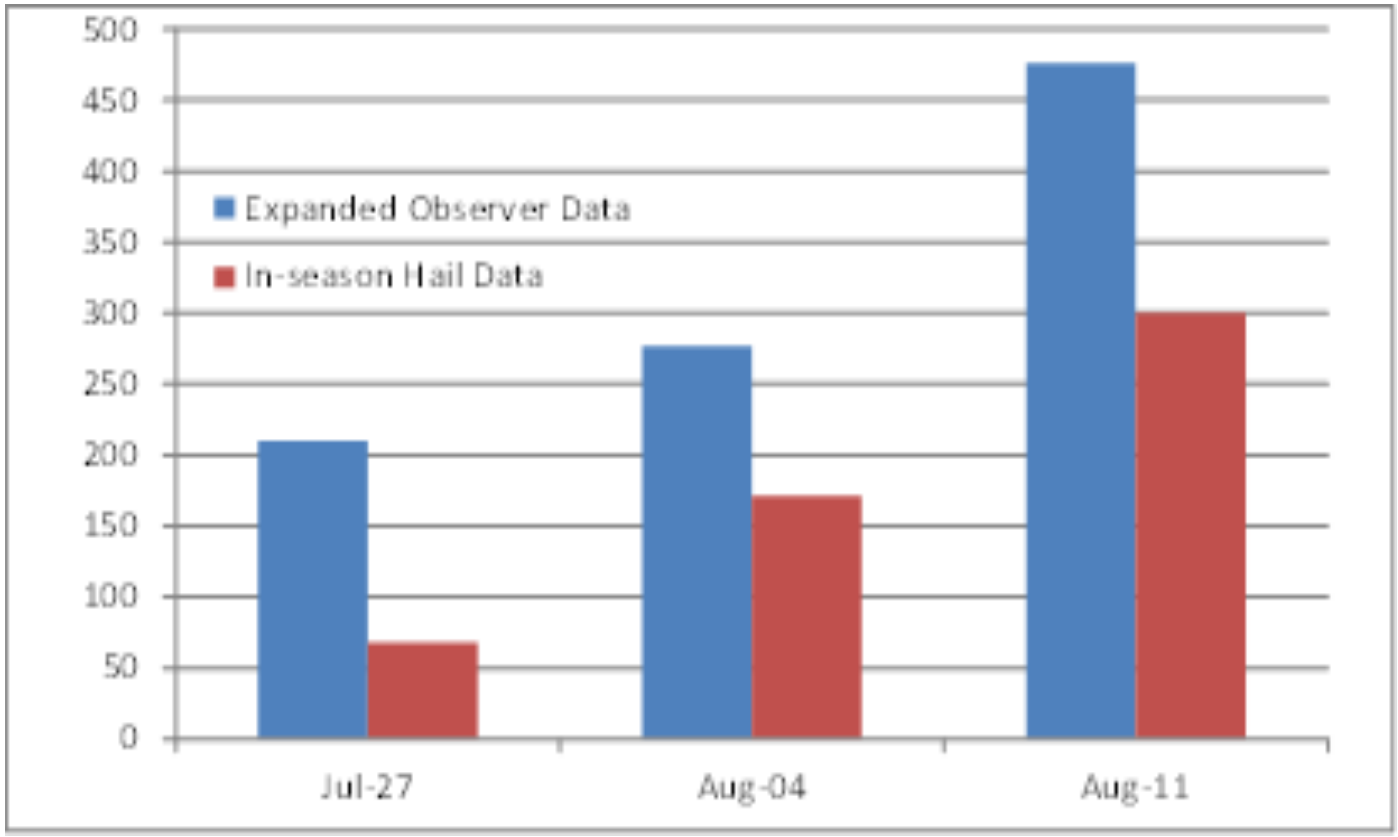
DFO personnel responsible for ensuring that catch reporting and compliance monitoring in BC's salmon fisheries meets MSC, national and international standards have raised the following additional concerns:

1. Challenges with logbook information have been identified for inaccurate or incomplete information on discard/release at sea information.
2. Management rules (e.g. for stocks of concern) may lead to misreporting or underreporting
3. Start fishing report compliance (for gillnets) is low (e.g. approx. 60%) o Catch reporting has also been very low (less than half vessels fishing in some cases) In some cases, not getting sufficient sample to make catch estimate, particularly for Subareas or estimates are delayed while waiting for additional reports.
4. No current verification of at sea catch/releases. (Noted that only very limited coverage in B and H ITQ fisheries)
5. Sales slips useful for retained species only
6. No independent verification of landed catch
7. Information is not suitable for in-season decision making
8. Phone-in logbook estimates not timely enough
9. Catch estimates vulnerable to further cuts in government funding
10. Observer data is biased No fishery independent observations of at-sea releases
11. Unverified releases of chinook and steelhead a major problem
12. Currently no estimates of discards in Area E.
13. Critical to assess/quantify impacts on co-migrating species
14. Logbooks provide potentially biased information
15. C&P presence is important but is vulnerable to expected budget cuts.

IMM Response: The team have taken this information into consideration in determining progress against outstanding conditions.

Comparison of Expanded Observer Data on Steelhead Discards with Hail Data

Estimated Caught	Steelhead Hails	Hailed to Estimated Caught
31	11	35.5%
23	48	208.7%
97	29	29.9%
114	48	42.1%
110	81	73.6%
113	39	34.5%
108	64	59.3%
366	219	59.8%
962	**539**	**56.0%**

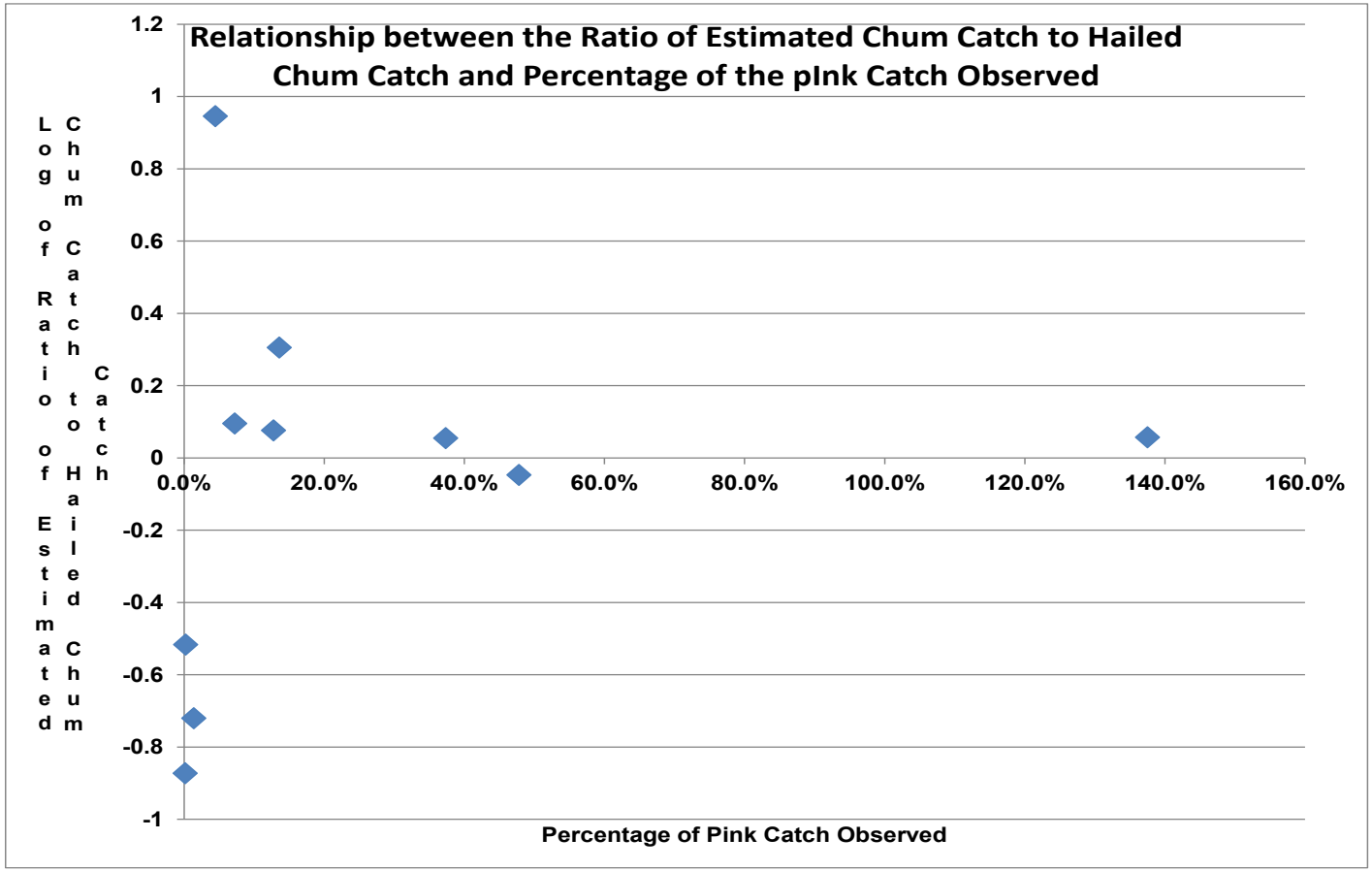

500
450
400
350
300
250
200
150
100
50
0
Expanded Observer Data
In-season Hail Data
Jul-27
Aug-04
Aug-11

Area	Gear	Sockeye	Sockeye Rel	Coho	Coho Rel	Pinks	Pink Rel	Chum	Chum Rel	Springs	Spring Rel	Sthd Rel
3	GN	63,518		1,364	186	28,609	154	0	5,130	1,037	296	349
3	SN	61,426	3,033	2,885	3,557	298,470			57,095	0	869	287
4	GN	248,445	57	2,511	1,306	94,433	315		2,564	1,666	92	1,681
4	SN	59,623	35	3,910	277	91,657			2,121		532	0
5	GN	1,610			56	1,181		186				
5	GN	734		87		3,631		18,383		3	1	1
6	SN	25,903		10,886	9,183	706,139			72,499		600	50
		461,259	**3,125**	**21,643**	**14,565**	**1,224,120**	**469**	**18,569**	**139,409**	**2,706**	**2,390**	**2,368**
Avg Lbs.		5.2	5.6	8.0	8.0	3.3	3.3	10.0	10.0	15.0	15.0	14.0
		2,398,547	**17,500**	**173,144**	**116,520**	**4,039,596**	**1,548**	**185,690**	**1,394,090**	**40,590**	**35,850**	**33,152**
Average Price		$1.75	$1.75	$0.80	$0.80	$0.45	$0.45	$1.00	$1.00	$1.75	$1.75	$0.00
Value		**$4,197,457**	**$30,625**	**$138,515**	**$93,216**	**$1,817,818**	**$696**	**$185,690**	**$1,394,090**	**$71,033**	**$62,738**	**$0**

Retained Pcs		**1,728,297**
Discarded Pcs		**162,326**
Percent		**8.6%**
Retained Lbs		**6,837,567**
Discarded Lbs.		**1,598,660**
		18.9%

Retained Value		**$6,410,513**
Discarded Value		**$1,581,365**
		19.8%

Percentage of Pinks Observed	Ratio of hailed chums to estimated chums
47.8%	0.896
13.6%	2.017
7.2%	1.244
0.2%	0.134
12.8%	1.190
1.4%	0.190
0.2%	0.304
4.5%	8.819
37.3%	1.134
137.5%	1.140


Relationship between the Ratio of Estimated Chum Catch to Hailed Chum Catch and Percentage of the pInk Catch Observed
Log of Ratio of Estimated Chum Catch to Hailed Chum Catch
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
0.0%
20.0%
40.0%
60.0%
80.0%
100.0%
120.0%
140.0%
160.0%
Percentage of Pink Catch Observed

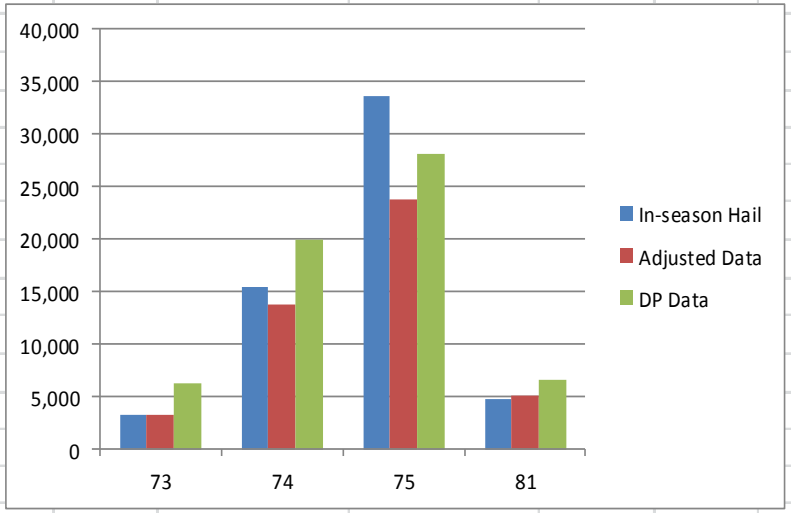
2011 DP Data

Wk	Chinook	Chum	Coho	Steelhead
73	79	6,200	122	
74	92	20,004	249	4
75	526	28,091	3,605	295
81	417	6,672	90	92
	1,114	**60,967**	**4,065**	**391**

Wk	In-season Hail	Adjusted Data	DP Data
73	3,239	3,239	6,200
74	15,525	13,796	20,004
75	33,566	23,838	28,091
81	4,765	5,098	6,672
Total	**57,095**	**45,971**	**60,967**

2011 in-season hail data from NC DFO site

Wk	Chinook	Chum	Coho	Steelhead
73	45	3,239	80	2
74	56	15,525	189	0
75	548	33,566	3288	257
81	220	4,765	0	28
	869	**57,095**	**3,557**	**287**



Corey Martins adjusted data (sthd not available)

Wk	Chinook	Chum	Coho	Steelhead
73	45	3,239	80	
74	74	13,796	179	
75	526	23,838	2690	
81	193	5,098	68	
	838	**45,971**	**3,017**	**0**

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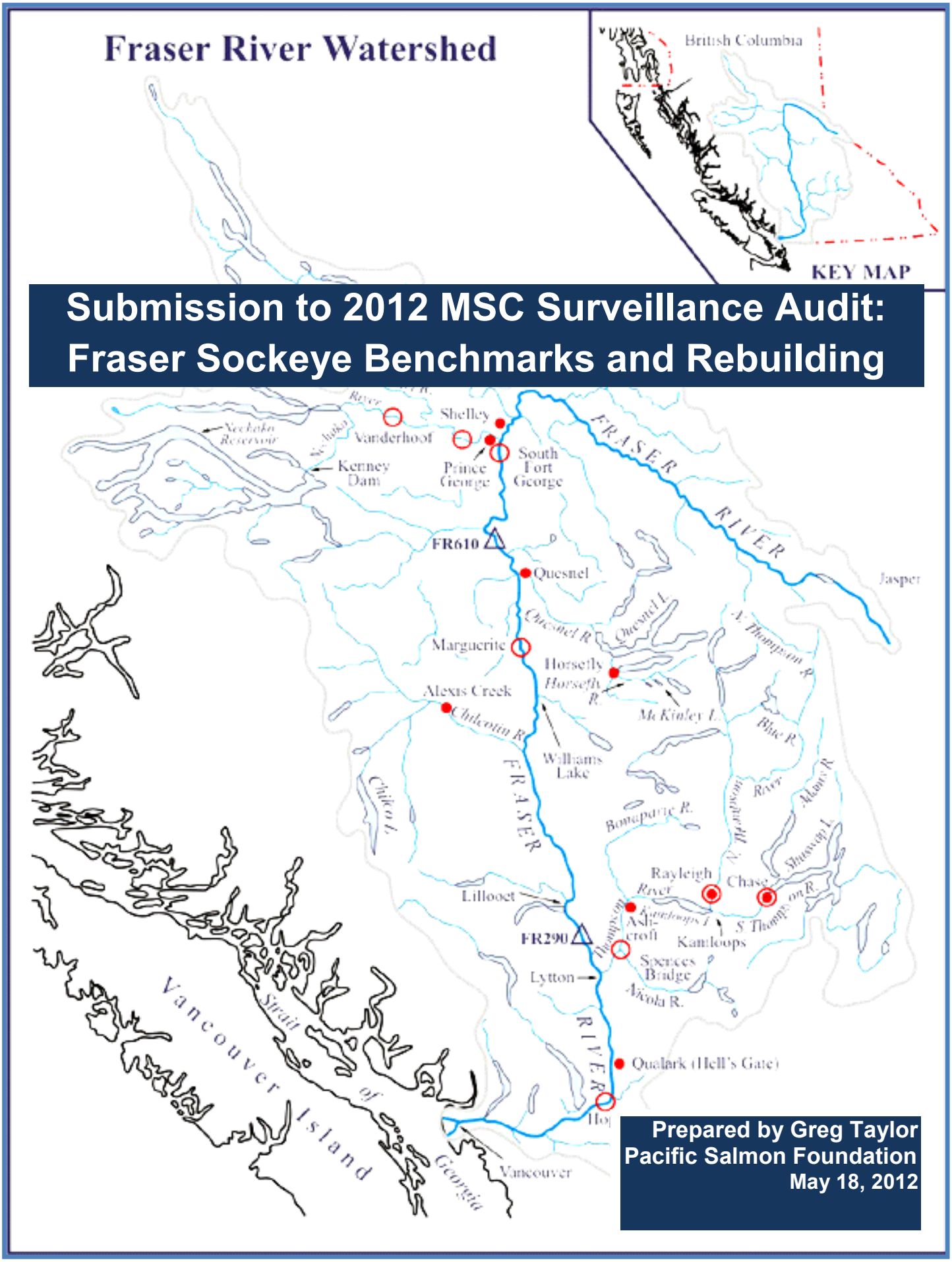


Submission to 2012 MSC Surveillance Audit: Fraser Sockeye Benchmarks and Rebuilding

Prepared by Greg Taylor
Pacific Salmon Foundation
May 18, 2012

Submission to 2012 MSC Surveillance Audit: Fraser Sockeye Benchmarks and Rebuilding

Condition 5

The 2012 surveillance audit will be held in Vancouver on May 14 -18th. The Surveillance Audit evaluates, "*on-going **conformity** with **standards** and compliance with **conditions** and/or **non-conformities***". Conditions are measurable incentives MSC employs to recognize and reward sustainable and well managed fisheries that meet MSC's sustainability standard. During an MSC assessment, the assessment team scores a fishery against an agreed upon 'assessment tree' containing 31 performance indicators and associated scoring guideposts. Key scoring benchmarks occur at the 60, 80, and 100 levels. A commercial fishery achieving a 60 score across all indicators can receive a "conditional" pass. A full pass requires a score of 80 or more. Conditions are required for Performance Indicators scored more than 60 but less than 80. Conditions must be successfully addressed within a specified period of time. Failure to successfully address a condition may lead to the loss of the Certification.

During the annual surveillance audit the Assessment Team must, "*Hold stakeholder interviews to ensure that the team is aware of any concerns of stakeholders*". The Assessment Team is required to: "*Actively seek the views of the client and stakeholders about:*

a. The fishery.
b. Its performance in relation to any relevant conditions of certification.
c. Issues relevant to the MSC's Principles and Criteria for Sustainable Fishing.

The Surveillance Audit is not limited to evaluating progress against conditions. It is charged with reviewing whether there are:

a. Potential or actual changes in management systems.
b. Changes or additions/deletions to regulations.
c. Personnel changes in science, management or industry to evaluate impact on the management of the fishery.
d. Potential changes in the scientific base of information, including stock assessments.

If the Assessment Team identifies an issue requiring further investigation, the Team must "*report and record the existence of the issue, immediately re-score any PIs where the information base for the scores has changed, and if necessary, define conditions and client actions according to requirements*".

This submission will examine “potential changes in the scientific base of information”, its performance relative to conditions, and issues relevant to MSC’s P&C for Sustainable Fishing in regards to benchmarks and rebuilding plans in the Fraser Unit of Certification.

Changes in the Scientific Base of Information

If new information or a change in the scientific base of information is identified the Assessment Team is required to (27.22.5.4):

1. *Report and record the existence of the issue.*
2. *Immediately re-score any PIs where the information base for the scores has changed. Rescoring shall follow scoring processes set out in 27.10 and if the scoring is less than 80,*
3. *Define conditions and client actions according to requirements.*

CSAS is in the final stages of identifying stock status for Fraser sockeye. The work is a culmination of several CSAS papers, Grant, 2011, and a technical CSAS workshop in November, 2011. Concurrently, Holtby has been developing a “Synoptic” approach to identify stock status. The expected results are summarized below:

Run Timing Group	CU Name (1)	Abundance Metric (2	Long Term Trends (4)	Recent Trends	Recent Productivity	Cyclical	Abundance if Ricker/	Abundance if Larkin Used	Workshop Consensus	Holtby Synoptic	CU Code	Long Term Trend	Short Term	Abundance	COSEWIC Trend	COSEWIC Abundanc	COSEWIC RATING A / D
Early Stuart																	
	Takla-Trembleur	N/A	Amber	Red	Flat	Y	Red	Amber	Red	1	20	1.54	-85%		END		END /
Early Summer																	
	Bowron	Red	Red	Red	Declining				Red	1	16	0.28	-88%	<1000	END	THREAT	END / THREAT
	Kamloops	Red/Amber	Green	Green	Flat				Amber	6	13	0.76	46%	<250		END	/ END
	Anderson	Red/Amber	Green	Red					Red/Amber	2		1.75	-39%		THREAT		THREAT /
	Nadina-Francois	Red	Green	Red	Declining				Red	3	8	0.91	-44%		THREAT		THREAT /
	Pitt	Green	Green	Red	Variable				Amber	6	17	2.17	0%				/
	Shuswap	N/A	Green	Red	Variable	Y	Red/Amber	Amber	Amber/Gree	2	23	0.89	-34%	<1000	THREAT	THREAT	THREAT / THREAT
	Nahatlach	Unavailable	Amber	Red	Unavailable				Red	1	12	0.54	-82%	<1000	END	THREAT	END / THREAT
	Chilliwack	Red (Carr Cap	Unavailable	Unavaila	Unavailable				Amber	3	3	no data	no data	<1000	ND	THREAT	ND / THREAT
	Taseko	Unavailable	Red	Red	Unavailable				Red	1	10	0.22	-88%	<250	END	END	END / END
	North Barrier - Fennel ES		Green	Red								1.27	-68%	<250	END	END	END / END
Summer																	
	Chilko	Amber/Green	Green	Red	Declining				Green	1	5	1.23	-74%		END		END /
	Takla-Trembleur	N/A	Green	Red	Declining	Y	Red	Amber	Red/Amber	1	24	1.72	-82%		END		END /
	Quesnel	N/A	Green	Red	Declining	Y	Red	Amber	Red	1	21	5.74	-92%		END		END /
	Francois-Fraser	Red/Amber	Green	Red	Declining				Red/Amber	3	1	1.31	-38%		THREAT		THREAT /
Late																	
	Cultus	Red	Red	Red	Declining				Red	1	14	0.09	-69%	<250	END	END	END / END
	Shuswap	N/A	Green	Green	Declining	Y	Amber/Green	Red	Amber/Gree	4	22	0.76	46%	<250		END	/ END
	Seton	Red/Amber	Amber	Red	Declining				Red/Amber	2	18	0.67	-67%	<250	END	END	END / END
	Harrison U/S	Amber	Amber	Red	Flat				Amber	3	7	0.65	-39%		THREAT		THREAT /
	Harrison D/S	Unavailable	Green	Green	Unavailable				Green	6	11	13.3	2.74				/
	Harrison (river type???)	Green	Green	Green	Increasing				Green		9	6.96	24.53				/
	Lillooet	Green	Green	Green	Declining				Green	6	15	1.27	3%				/
	Widgeon	Amber	Amber	Green						2	2	0.46	736%	<250		END	/ END
	Kamloops	N/A	Green	Red	Declining	Y	Amber	Amber/Green	Amber	3	19	2.23	-31%	<1000	END	THREAT	END / THREAT

The table describes the status of the three metrics used; the integrated stock status assigned at the workshop, Holtby’s Synoptic work; and Stock Status using COSEWIC definitions. The table was compiled by Raincoast Conservation Foundation.

This information was not available when Fraser sockeye was assessed and certified. At the time of certification the Assessment Team and DFO identified only Cultus and Saginaw sockeye as being depleted and requiring rebuilding plans. The development and

implementation of benchmarks and identification of stock status reveals that there are many conservation units spread throughout the run-timing groups that require rebuilding plans.

Stocks not identified during the assessment as being depleted or within the “red” or amber” zones require rebuilding plans be implemented if the certification is to conform to MSC Certification Requirements Vol. 2:

> ***CB2.4.2 In cases where stocks were not depleted at the time of assessment, but become depleted during a certification cycle, the CAB shall raise a condition that rebuilding strategies and monitoring are put in place within one year of becoming aware of the depleted status.***
>
> *CB2.4.3 If in the early stages of depletion a stock has not been able to demonstrate any period of recovery the CAB shall require the fishery to demonstrate that it is highly likely that the stock will recover under the actions being taken to meet SG80's requirement of evidence of rebuilding. This demonstration shall be:*
>
> *CB2.4.3.1 Through robust simulation testing, or*
>
> *CB2.4.3.2 Through evidence that the measures taken had successfully recovered a stock in the past, or*
>
> *CB2.4.3.3 That there is a high expectation that the stock will start recovering in the near future (i.e. if a large year-class is just about to recruit).*
>
> *CB2.4.4 The team shall require that where a score of between 60 and 80 is awarded, the subsequent conditions are fulfilled within one certification period.*
>
> *CB2.4.5 The team shall interpret generation time as the average age of a reproductive individual in a given fish stock.*

The SG80 for stock rebuilding states: “*There is evidence that the rebuilding strategies are rebuilding stocks, **or it is highly likely** based on simulation modeling or previous performance that they will be able to rebuild the stock within the **specified timeframe”.*** Highly likely is defined as: ***“****CB2.2.1.2 Highly **likely** means greater than or equal to the 80th percentile.”*

It is useful to review MSC’s definition for a depleted stock and compare it to the stock status identified in the CSAS process. MSC describes a depleted stock as:

> *CB2.4.1.1 The team shall consider the stock’s performance relative to the target reference point, and whether it can be considered to be either:*
>
> *a. Fluctuating around it and is not depleted; or*
>
> *b. To have dropped significantly towards the point at which impaired and is depleted.*

CB2.4.1. The team shall consider a stock to be depleted when it is consistently th target reference point. ◙

a. The team shall consider other information including recent biomass trends or other measures or surrogates with similar intent or outcome

MSC's intent, relative to the stock status described above is that stocks in the green zone are not depleted, whereas stocks in the red zone clearly are. Those that are consistently below their upper benchmark are depleted but the Assessment Team does have some discretion in assessing them. In terms of requiring rebuilding plans we would argue that the following criteria should be employed to decide where recovery plans are required:

1. all stocks in the "red" zone
2. stocks that are in the amber zone that are either trending downward, have low productivity, and/or unlikely to recover under current management actions
3. stocks that are above the red zone but do not allow First Nations to achieve their FSC requirements.

Re-assessing Performance Indicators Based on New Information

In the 2011 audit the Assessment Team closed out three conditions regarding rebuilding plans. The reason was that the conditions were specifically formulated to deal with either Cultus or Saginaw sockeye. If new information becomes available the Assessment Team must:

27.22.17.2 Significant new information becomes available in relation to the circumstances of the fishery including during the period between the original assessment and the issue of a certificate. ◙

a. Significant new information is that which is likely to have a material difference on the certification status. A PI score falling below 60 outcome PI score falling below 80, or a change that could bring about a Principle Level aggregate score to drop below 80 shall be considered material differences to certification status

Therefore, the Assessment Team will be required to re-assess these PI's as new CSAS information indicates that the score for the PIs below will have dropped to below 80 for some additional target and non-target Fraser sockeye Conservation Units. It is inconceivable that the FAO, Canada it its Sustainable Fisheries Framework, and the Wild Salmon Policy would all require rebuilding plans for CU's identified in the "red" or "critical" zones, but the CAB would not.

The following describes the conditions, their PI, and SG that either failed or only partially passed in the original assessment:

Condition 7: Certification is conditional until the management agency provides a clear commitment to implement the recovery plan for Cultus sockeye and evidence that fisheries management actions are consistent with the recovery goals for Cultus sockeye, within one year.

Indicator 1.2.1: There is a well-defined and effective strategy, and a specific recovery plan in place, to promote recovery of the target stock within reasonable time frames.

The 80 Scoring Guideposts that required a Condition:

- In the event of severe depletion, recovery plans are developed and implemented to facilitate the recovery of the depleted stocks with 3 reproductive cycles. (*SCS Intent – Although this indicator was set for use in salmon fisheries, the cyclic nature of the runs within the Fraser River system require that this statement is interpreted within the context of the cyclic aspects of the Fraser, and not just as 3 reproductive cycles of the species.*)
- Stocks are allowed to recover to more than 150% of the LRP for abundance before any fisheries are permitted that target these stocks.

Condition 26: Certification will be conditional until the management agency provides a clear commitment to implement recovery action plans for Cultus and Sakinaw sockeye, within one year

Indicator 3.1.4: When dealing with uncertainty, the management system provides for utilizing the best scientific information available to manage the fishery, while employing a precautionary approach.

The 80 Scoring Guideposts that required a Condition:

- **In situations when precautionary measures are necessary to manage the fishery, the management system calls for increasing research efforts in order to fill data and information gaps.**

Condition 28: Certification will be conditional until the management agency provides TRP's for the Cultus sockeye salmon stock, a clear indication of the commitment to implement the Cultus Sockeye Recovery Plan, and an assessment of the probability of recovery and the timing for recovery for Cultus sockeye, within one year.

Indicator 3.4.1.2: Provides for restoring depleted target species to specified levels within specified time frames.

The 80 Scoring Guideposts that Required a Condition:

- **The management system includes measures, which are adequate to restore depleted populations of target stock to the TRP or equivalent high level of abundance as qualified by relevant environmental factors.**
- **A time schedule for restoration, which considers environmental variability, is determined by the management system.**

The scoring and conditions that the Assessment Team believed appropriate for Cultus and Saginaw must, by definition, also be appropriate for the many other depleted stocks identified in the new Fraser stock status information. And for the same reason they should be rescored as being below 80 and require new conditions.

In order to conform to MSC Certification methodology the Assessment Team is required to review this new information and issue new conditions that address the 80SG. It is recommended that the Assessment Team require that recovery plans for all stocks that have been identified as being consistently below their TRP be developed and implemented prior to the *2014* audit.

As described in the section "Progress against Conditions" below it is inadequate for DFO to rely on FRSSI, DFO intentions, and future multi-stakeholder discussions. In order to conform to MSC Certification methodology the Assessment Team is required to introduce conditions that respond to the SG80 above or the SG80 in PI 1.1.3 and PI 2.1.1 of MSC's Certification Requirements, Vol. 2, 2012.

Progress against Conditions

This section of the submission examines current progress against conditions. In order to conform to MSC Certification Requirements the Assessment Team must evaluate conditions according to 27.22.8.1 of MSC's Certification Requirements, Vol. 2, 2012. This includes the following:

a. *The CAB shall document conformity with, and progress and performance against, certification conditions using the narrative or metric form of the original condition.*

b. *The CAB shall document whether progress is 'on target', 'ahead of target' or 'behind target', as well as its rationale for such a judgement.*

   i. *If progress against the* ***measurable outcomes, expected results or (interim)*** *milestones* ***specified when setting the condition*** *is judged to be behind target, the CAB shall specify the remedial action,* ***and any revised milestones, that are*** *required to bring process back on track* ***at the next surveillance audit*** *to achieve the original* ***by the original deadline***

Condition 5

Indicator 1.1.3.1: Limit Reference Points or operational equivalents have been set and are appropriate to protect the stocks harvested in the fishery.

Expectation for 1.1.3.1: *The Limit Reference Point (LRP) or operational equivalent set by the management agency has been defined above as "the state of a fishery and/or a resource, which is not considered desirable. Fishery harvests should be stopped before reaching it. If a LRP is inadvertently reached, management action should severely curtail or stop fishery development, as appropriate, and corrective action should be taken. Stock rehabilitation programs should consider an LRP as a very minimum rebuilding target to be reached before the rebuilding measures are relaxed or the fishery is re-opened."*

The 80 Scoring Guideposts that required a Condition:

- **There is no significant scientific disagreement regarding the LRP's used by the management agency to formulate management decision for the fishery.**

Action Plan Summary: To satisfy these conditions DFO will fully implement 'Strategy 1' of our WSP. 'Strategy 1' of the WSP requires standardized monitoring of wild salmon status,

Condition 5: Certification is conditional until the Conservation Units have been defined for Fraser sockeye using the methods described in Holtby and Ciruna (2007) and LRP's for each Fraser sockeye conservation unit are defined and peer reviewed, within two years.

Progress against Condition 5: There is some confusion regarding how MSC defines and employs benchmarks. It has been argued that MSC's Limit Reference Point (LRP) is less than the lower benchmark defined in Canada's Wild Salmon Policy. This is incorrect. MSC's definition of an LRP is, "*The point beyond which the state of a fishery and/or a resource is not considered desirable and which management is aiming to avoid" (MSC Certification Requirements, Vol.2, 2012)*. Hence, DFO's lower benchmark and MSC's LRP are operationally equivalent in terms of BC salmon management.

Similarly, DFO's upper benchmark and MSC's Target Reference Point (TRP) are defined in much the same way: "*The point which corresponds to a state of a fishery and/or resource which is considered desirable and which management is trying to achieve*" *" (MSC Certification Requirements, Vol.2, 2012)*. However, the way they are employed is different. Canada's Wild Salmon Policy (WSP) and MSC both say that stocks below a lower benchmark must be rebuilt. The WSP, however, allows for the status of some target stocks to remain between the lower

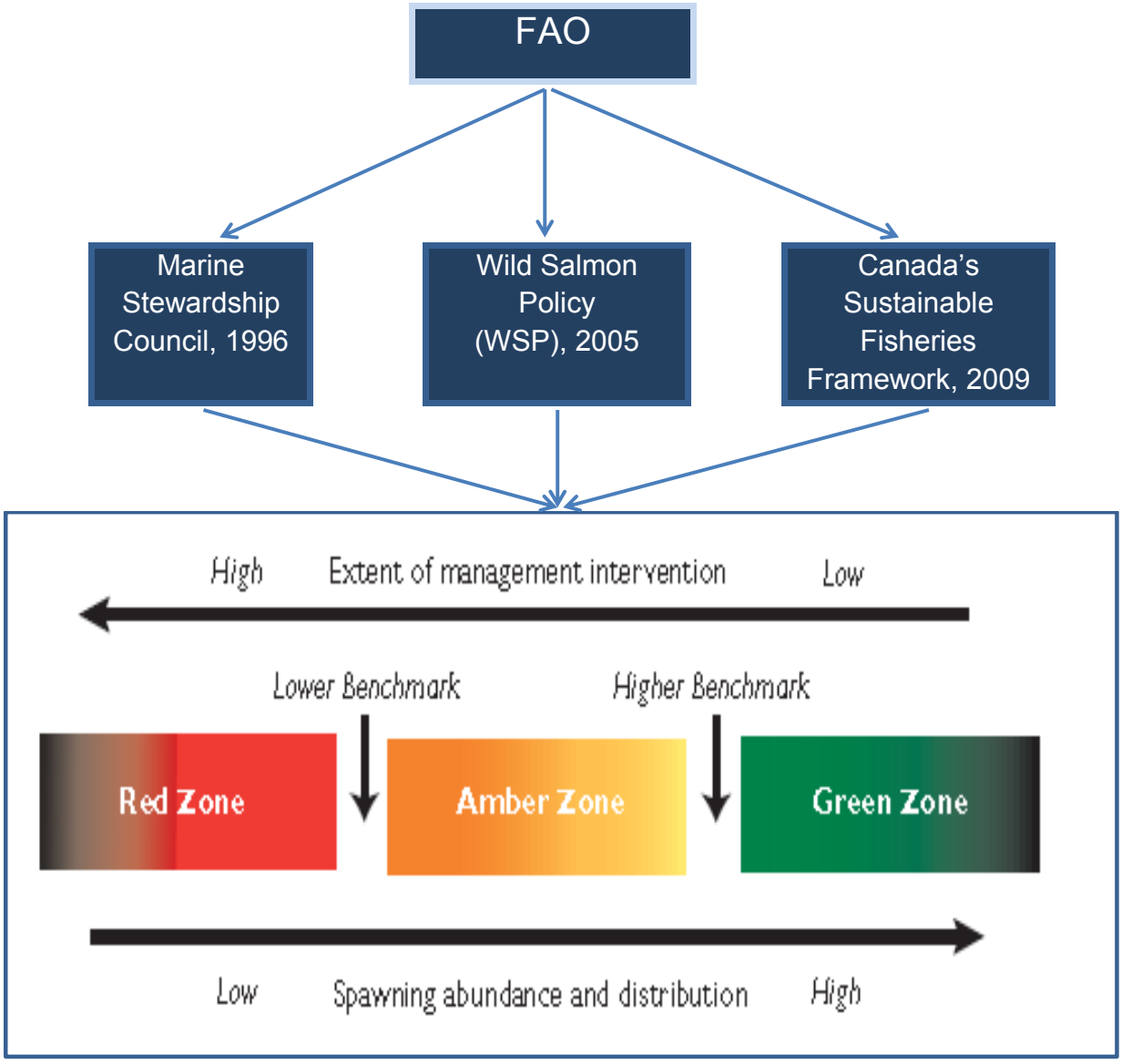
and upper benchmarks. MSC, on the other hand, states the objective should be to ensure target stocks are, "*at or fluctuating around their target reference points*".

The following table converts the target and non-target stocks in the original assessment into the Conservation units developed by Holtby. It also includes the upper and lower benchmarks from Grant, 2011, the expected outcome of integrated status developed at a November CSAS workshop, and, as a useful check on status, Holtby's synoptic analysis on each of the CU's.

Timing Group	2012 Cycle Year	2013 Cycle Year	2014 Cycle Year	2015 Cycle Year	Lower Benchmark	Upper Benchmark	Integrated Status	Holtby Synoptic
Early Stuart								
	Takla-Trembleur	Takla-Trembleur	Takla-Trembleur	Takla-Trembleur	68,000	218,000	Red	Red
Early Summer								
	Nadina-Francois	Nadina-Francois	Nadina-Francois	Nadina-Francois	17,000	58,000	Red	Amber
	Bowron	Anderson	Bowron	Bowron	4,000	17,000	Red	Red
	Taseko		Taseko	Taseko	N/A	N/A	Red	Red
	Anderson		Anderson	Anderson	3,000	19,000	Red/Amber	Red
	Shuswap		Shuswap	Shuswap	89,000	198,000	Amber/Green	Red
	North Barriere		North Barriere	North Barriere	1,000	5,000		
	Kamloops		Kamloops	Kamloops	6,000	23,000	Amber	Green
	Nahatlach		Nahatlach	Nahatlach	N/A	N/A	Red	Red
	Chilliwack		Chilliwack	Chilliwack	8,000	16,000	Amber	Amber
	Pitt	Pitt	Pitt	Pitt	8,000	22,000	Amber	Green
Summer								
	Takla-Tembleur	Takla-Tembleur	Takla-Tembleur	Takla-Tembleur	104,000	489,000	Red/Amber	Red
	Francois-Fraser	Francois-Fraser	Francois-Fraser	Francois-Fraser	42,000	195,000	Red/Amber	Amber
	Quesnel	Quesnel	Quesnel	Quesnel	121,000	701,000	Red	Red
	Chilko	Chilko	Chilko	Chilko	39,000	273,000	Green	Red
Late								
	Shuswap		Shuswap	Shuswap	355,000	1,288,000	Amber/Green	Red
	Lillooet	Lillooet	Lillooet	Lillooet	11,000	77,000	Green	Green
	Seton	Seton	Seton	Seton	1,000	8,000	Red/Amber	Red
	Widgeon	Widgeon	Widgeon	Widgeon	N/A	N/A		
	Cultus				12,000	32,000	Red	Red
Early Stuart								
	None	None	None	None				
Early Summer								
		Bowron			4,000	17,000	Red	Red
		Kamloops			6,000	23,000	Amber	Green
		North Barriere			1,000	5,000		
		Shuswap			89,000	198,000	Amber/Green	Green
Summer								
	None	None	None	None				
Late								
		Cultus	Cultus	Cultus	12,000	32,000	Red	Red

While there have been concerns expressed by First Nations whether Sgen 1 (lower benchmark) is sufficiently precautionary for CUs with an Smax less than 15,000 and/or relatively low productivity, and by others who think that Grant, 2011's approach does not correctly capture cyclical stocks; there was general consensus at the November, 2011 CSAS workshop supporting the proposed methodology to develop benchmarks and determine stock status.

The table describes target Fraser CUs in each timing group that are below their lower benchmark. This complies with FAO, Strategy 1 of the WSP Canada's Sustainable Fisheries Framework and MSC. The relationship between FAO Code of Conduct for Responsible Fisheries, MSC, and Canadian fisheries policies is described below. It is little wonder that all prescribe that stocks below their lower benchmark must be rebuilt and that conservation should be the principle driver underlying decision making.



The two issues identified in the SG that failed will be addressed once the final CSAS report is published sometime later in the summer of 2012. There is no dispute that some additional Fraser CUs will be determined to be in the "red" zone. The CAB should accept this and move

to require that rebuilding plans similar to what was required for Cultus be put into place for these additional depleted Fraser conservation units.

Condition 6

Indicator 1.1.3.2: Target Reference Points or operational equivalent has been set.

Expectation for 1.1.3.2 *The Target Reference Point (TRP) or operational equivalent set by the management agency has been defined above as "the state of a fishery and/or a resource, which is considered desirable. Management action, whether during a fishery development or stock rebuilding process, should aim at maintaining the fishery system at its level."*

The 80 Scoring Guideposts that required a Condition:

- **There is no significant scientific disagreement regarding the TRP's used by the management agency to formulate management decision for the fishery.**
- **The TRP's for the target stocks take into account variability in the productivity of each component of the target stock and the productivity of non-target stocks.**

Condition 6: Certification is conditional until the Management Units have been defined for Fraser sockeye and the management agency defines the TRP's for each Fraser sockeye management *unit* taking into account the productivity of target and non-target stocks within each management unit, by May 2012.

Progress against Condition 6: This Condition is an awkward attempt to address the mixed stock nature of the Fraser sockeye fishery as neither MSC nor the WSP allow for aggregate benchmarks that permit component stocks to remain depleted. Fraser sockeye target CUs are not simply components of an aggregate CU. The Assessment Team stated in the original assessment that, "*all stocks specifically identified to a cycle year are target stocks for that cycle year*." Aggregating Fraser CUs is a management device. MSC requires that the objective should be to maintain all target stocks at, or fluctuating around, their TRP.

In an April 19, 2012 press release MSC stated:

"*The MSC standard allows fisheries targeting stocks that have a biomass currently below a level that maximises productivity, provided two conditions are met:*
1) Stock levels are still above a point that allows sufficient spawning and reproduction to sustain the stock into the future i.e above a safe biological level and above the accepted

definition of overfished; and
2) the fishery has an effective rebuilding plan in place, that will bring stock levels back to a higher level, corresponding to maximum productivity level."

The WSP is less demanding. The "preferred long-term outcome" of the WSP is CU's above their upper benchmarks, but as a minimum, maintaining and restoring all CU's above their established lower benchmarks.

Indicator 1.1.3.2 is very clear that "*Management action, whether during a fishery development or stock rebuilding process, should aim at maintaining the fishery system at its (TRP) level"*

The table above defines the upper benchmark for all target and non-target Fraser CUs (Harrison is excluded as it was not included in the original assessment of target and non-target stocks). The upper benchmark is 80% MSY. This is lower than what FAO and MSC suggest. However, there was no significant scientific disagreement at the November, 2011 CSAS meeting regarding the use of 80% MSY as the upper benchmark. Nor was there any concern registered by either the scientists or managers present of employing this benchmark for management decisions.

Hence, the first element in Condition 6 has been addressed. It is the second part that is problematic for the following reasons:

1. A run timing group is not a target stock or CU. Therefore, by definition, it cannot have a TRP. TRPs are applied to target stocks within the MSC and WSP framework. There is no way to sum the individual TRPs into a TRP for a run-timing grouping of stocks that meets MSC's requirements for sustainably managing individual target stocks.
2. DFO manages run timing groups through the use of the FRSSI management model. FRSSI is a harvest management tool. It assesses the trade-offs associated with alternative harvest scenarios. It does not assess what is required to rebuild individual CUs to their upper benchmark. FRSSI's *outputs* can be stock specific escapements produced by aggregate ER's on run timing groups. This is quite different from recovery plans driven by what is required to meet MSC and WSP performance measures on a CU by CU basis.
3. First Nations in the mid and upper Fraser have repeatedly expressed their concerns that the outputs of the FRSSI model evaluate harvest alternatives for marine fisheries. FRSSI does not provide guidance for the management actions required to rebuild CUs in their territories that are below their benchmarks or to provide for FSC fisheries. They contend that FRSSI is not designed nor mandated to address their conservation concerns for depleted CUs or provide adequate FSC opportunities. First Nations (Pat Mathews, pers. comm.) state that DFO's reliance on the FRSSI model has sometimes

forced the Secwepemc into trade-offs between food and conservation. This is because FRSSI estimates with considerable imprecision what is likely to be left for escapement and FSC after harvest. (*GUIDELINES FOR APPLYING UPDATED METHODS FOR ASSESSING HARVEST RULES FOR FRASER RIVER SOCKEYE SALMON (ONCORHYNCHUS NERKA, DFO, June, 2011*)

4. It is insufficient to "take into account variability" of target stocks. Assessing the relative productivity of stocks is important. However, it is only useful if the knowledge is used to protect or rebuild the stock as required by MSC.
5. MSC does allow some flexibility in mixed stock fisheries such as salmon. But that flexibility is limited to not necessarily having every stock within a complex at, or fluctuating around, its TRP. MSC's intent is to accommodate variation in productivity. It does not provide for all but the most productive stocks being managed so that they remain below their TRP. Nor does is provide for target stocks within the stock complex to remain below their lower benchmark or at such low levels that First Nations are forced to choose between food and conservation.

It is important to consider point 5 more fully. MSC states in its Certification Requirements, Vol. 2, 2012 that:

CB2.2.5 Species fished as stock complexes may be treated the same as multi-species target species considered under PI 2.1.1. For each SG the team shall seek evidence that, as an outcome, the levels of 'likelihood' meet the levels of 'likelihood' specified in CB2.2.1 for each separate stock.

And that:

CB2.2.1.2 Highly likely means greater than or equal to the 80th percentile.

PI 2.1.1 states:

*Main retained species are **highly likely** to be within biologically based limits.*

And that:

*If main retained species are outside the limits there is a **partial strategy** of **demonstrably effective** management measures in place such that the fishery does not hinder recovery and rebuilding.*

MSC therefore provides some latitude in regards to mixed stock fisheries but its intent is to accommodate variable productivity within a complex, not to allow the component stocks to be, or remain depleted due to harvest impacts. This paper uses "depleted" in the MSC context:

"*In the context of the **PISGs**, means a stock that is consistently below the target reference point, and which may be approaching the point at which recruitment is impaired. Stocks below the point at which recruitment is impaired are not considered to be eligible for **MSC certification***" **(MSC Certification Requirements, Vol. 2, 2012)**.

The following table describes the current status of Fraser CUs based on the table above. It only includes CUs where status is available and does not include Harrison because it was omitted in the table of target and non-target stocks in the original assessment.

Run-Timing Group	Target Cus	Red	Red/Amber	Amber	Amber/Green	Green
Early Summer	9	**4**	**1**	**3**	**1**	**0**
Summer	4	**1**	**2**	**0**	**0**	**1**
Late	4	**1**	**1**	**0**	**0**	**1**
Totals	17	**6**	**4**	**3**	**1**	**2**
Percent		**35.3%**	**23.5%**	**17.6%**	**5.9%**	**11.8%**
Percent by Run-Timing Group						
Early Summer		**44.4%**	**11.1%**	**33.3%**	**11.1%**	**0.0%**
Summer		**25.0%**	**50.0%**	**0.0%**	**0.0%**	**25.0%**
Late		**25.0%**	**25.0%**	**0.0%**	**0.0%**	**25.0%**

The table suggests that over 50% of Fraser CUs have classified as being in the red zone. There is little doubt that the intent of MSC's requirement that target stocks be managed so they are at, or fluctuating around, their TRP, while providing allowance for some variation in productivity, is not being met:

"Expectation for 1.1.3.2 *The Target Reference Point (TRP) or operational equivalent set by the management agency has been defined above as "the state of a fishery and/or a resource, which is considered desirable. Management action, whether during a fishery development or stock rebuilding process, should aim at maintaining the fishery system at its level."*

It cannot be effectively argued that MSC's intent in accommodating variability of productivity within a stock complex was to allow for a majority of the target stocks to be in the "critical" or "red" zone. Another way to examine the issue is to again look at Table 1. Fifty percent of the early summer CUs are not consistently above the lower benchmark presented in Grant, 2011. A combination of recent poor productivity, overharvesting of smaller, less productive CUs, the absence of rebuilding plans, and the use of the harvest-centric FRSSI model has culminated in this situation. Failure to fully address the condition within the required time frame is compounding the problem.

While the first SG has been addressed; the second SG has not. This condition cannot therefore be closed out. It is recommended that the Assessment Team include either guidance or a new

condition requiring that the management agency present a recovery plan that would have a high probability of ensuring all target CUs are rebuilt to be within either their “amber” or “green” zones to levels and that will accommodate First Nations FSC requirements. This recovery plan should be evaluated by the Assessment Team in the 2013 audit.

Distribution was not employed as a metric for Fraser sockeye. The reason is that CSAS scientists did not think it appropriate for Fraser sockeye. In a CSAS recent workshop that attempted to integrate Fraser sockeye and COSEWIC distribution metrics it was found to be technically difficult and not informative from a technical perspective. However, there was discussion about that while it may not be technically relevant it might be important in certain instances such as ensuring enough distribution to protect the stock from environmental perturbations. First Nations have expressed concerns that ignoring distribution issues at low stock sizes may compromise their FSC rights in specific instances. These issues should be integrated into rebuilding plan discussions.

Condition 8

Indicator 1.2.2: Target stocks are not depleted and recent stock sizes are assessed to be above appropriate limit reference points for the target stocks

Expectation for Indicator 1.2.2:
In contrast to Indicator 1.2.1, which evaluates the strategy for stock recovery, this indicator evaluates the current status of the target species or stocks, and the basis for being reasonably certain about their status.

The 80 Scoring Guideposts that required a Condition:

- **Management actions have reduced fishing as the target stocks approach the LRP and fisheries have only resulted in escapements that approach or are below the LRP escapement goal in one year in a period of the most recent 5 consecutive years, for any of the target stocks.**

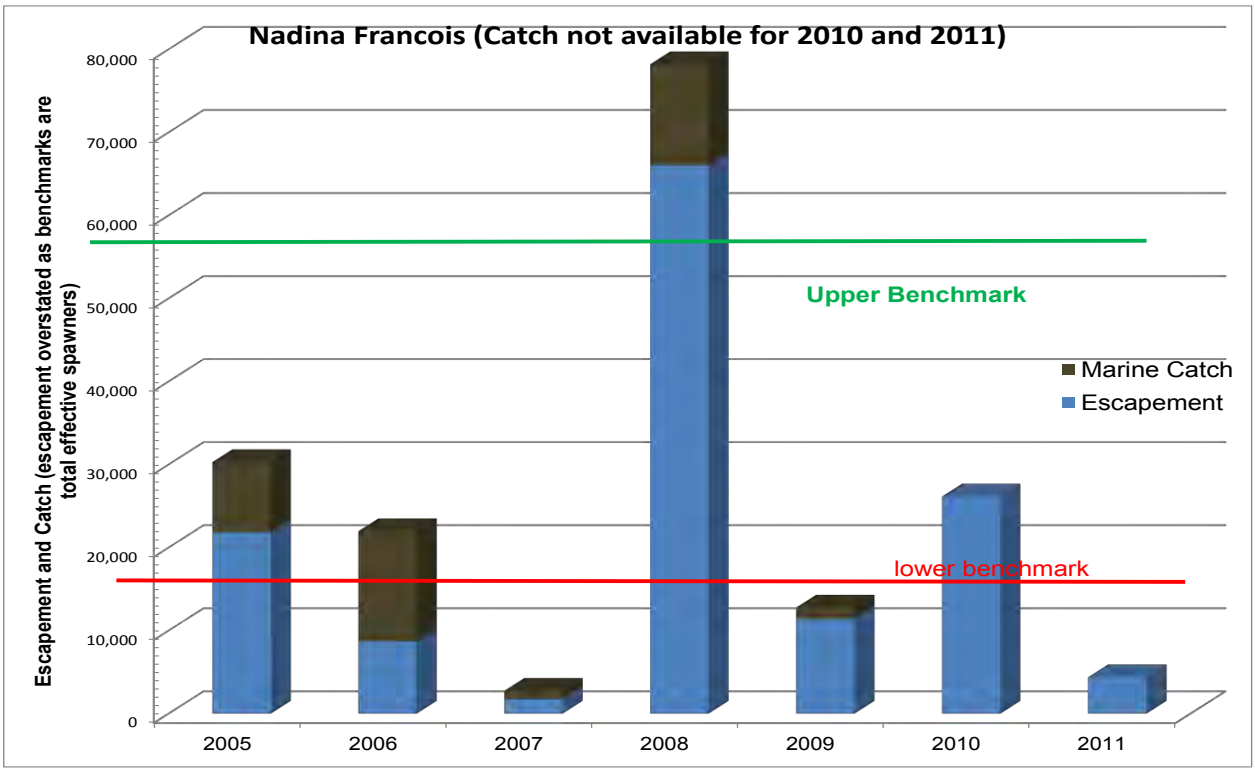
Condition 8: Certification is conditional until the management agency defines the LRP’s for the target stocks and the management agency provides documentation that fisheries have not resulted in escapements that approach or are below the LRP in more than one year in a period of the most recent 5 cycle years, for any of the target sockeye stocks. The intent for this condition is to resolve the effects of fisheries, not other factors, on the stock and to recognize that the Fraser River sockeye undergo cycles so that these cycles must also be taken into account when examining whether the stocks are being maintained above LRPs. This condition should be addressed within two years

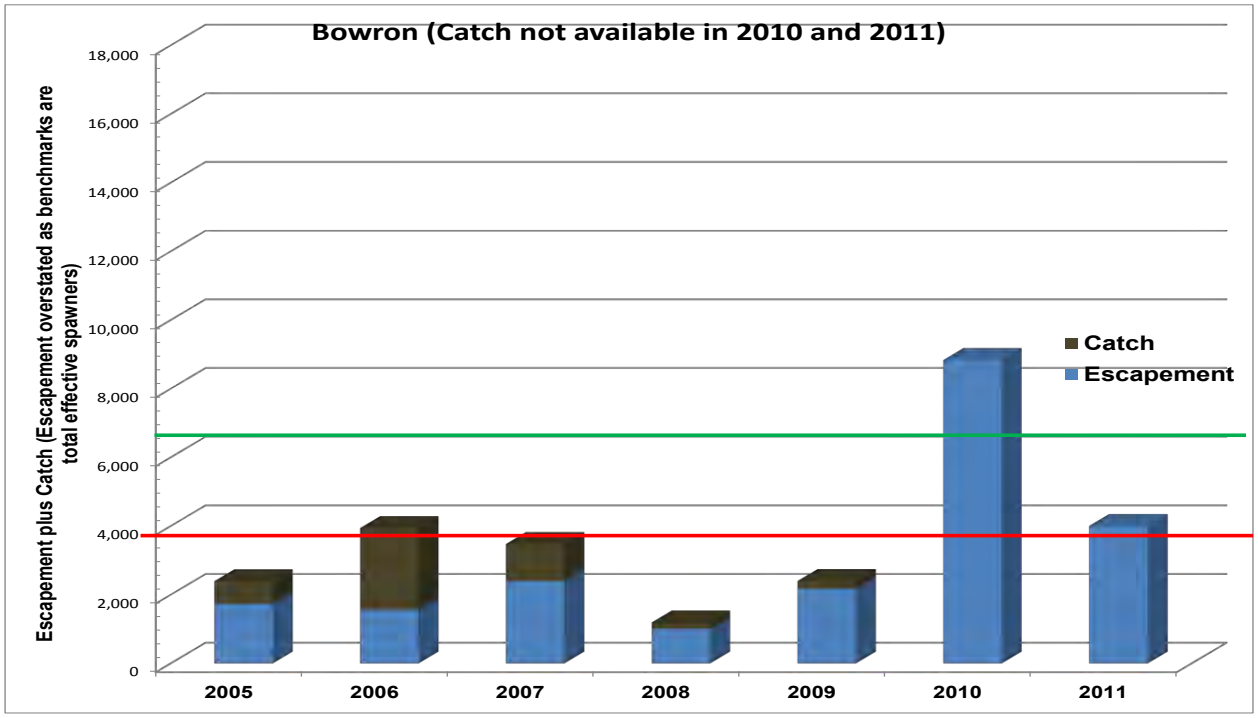
Progress against Conditions: As discussed above lower benchmarks have been developed for Fraser target CU's. We have requested the documentation described in the condition from DFO but have not received a reply. See below:

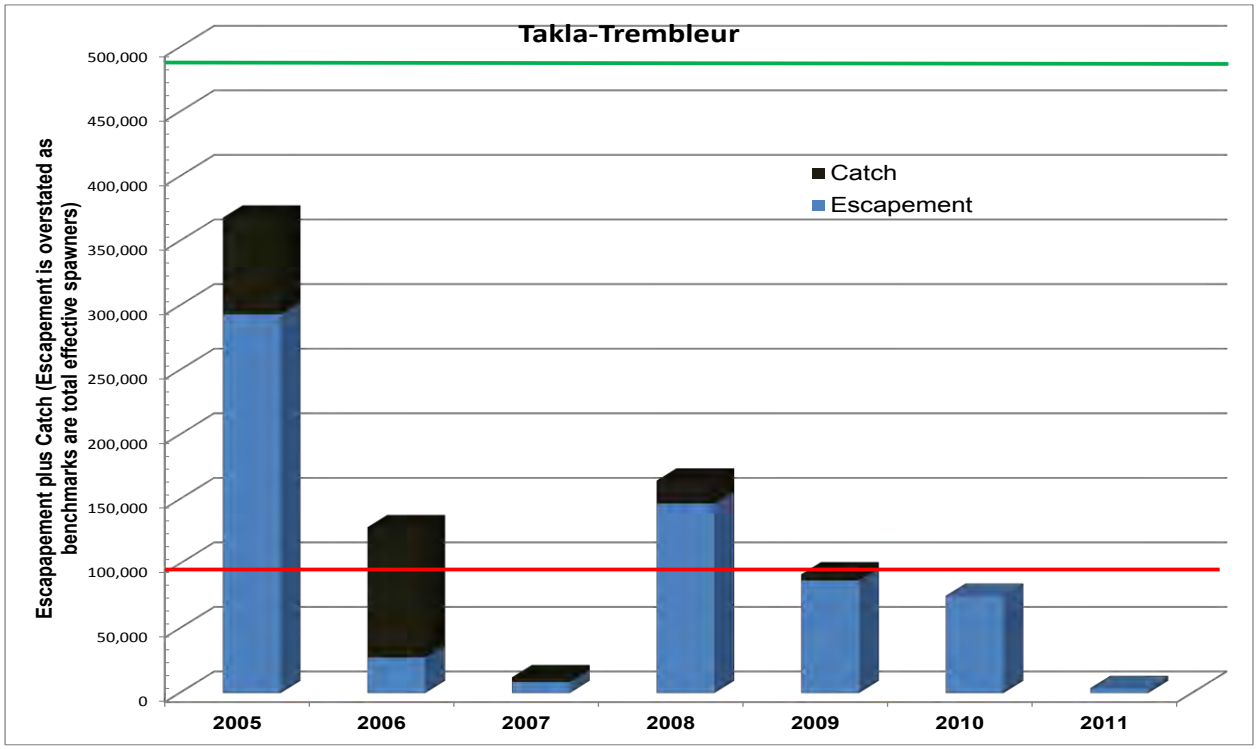
Email sent to Paul Ryall, Steve Devitt and Christina Burridge on April 13, 2012

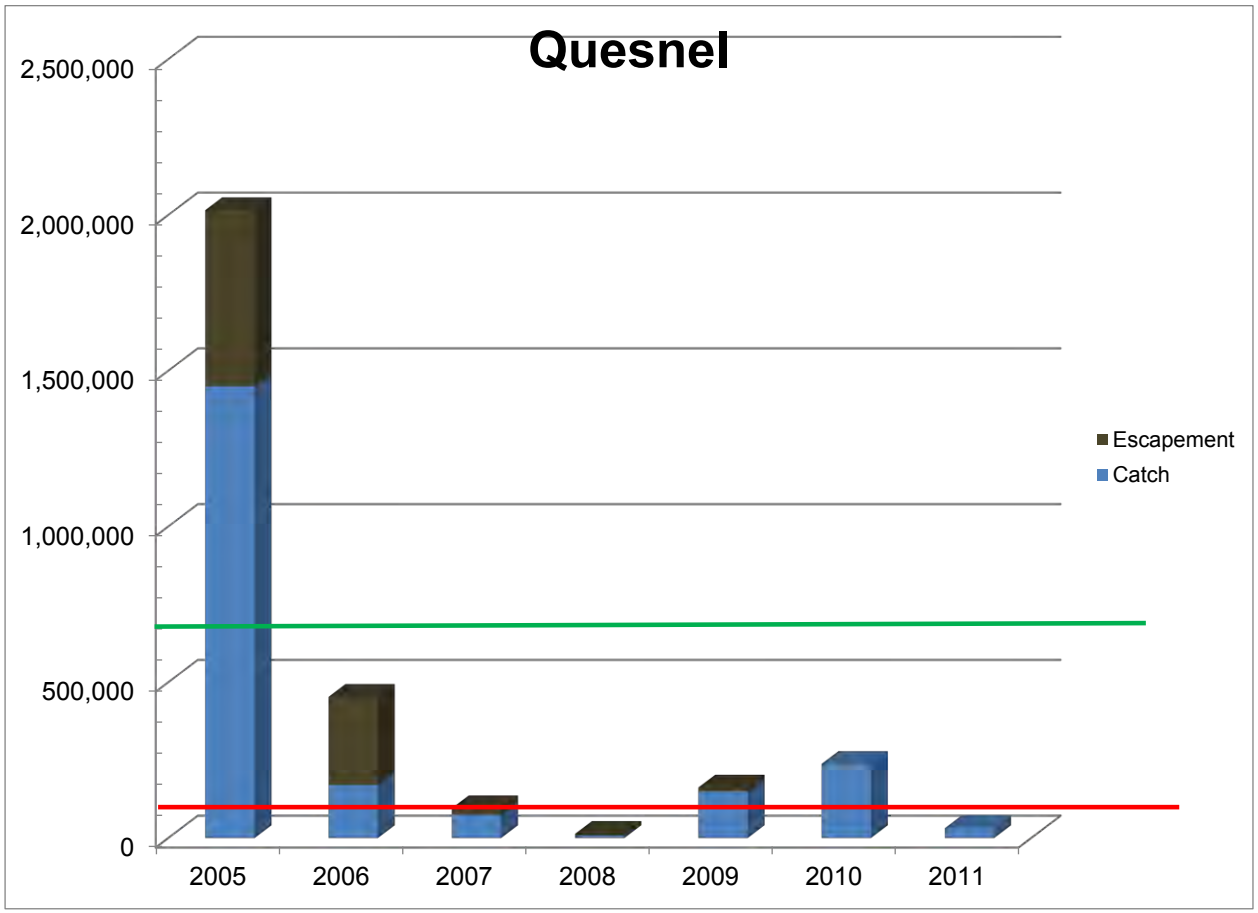
"Steve or Paul.
Condition 8 requires that the "management agency provides documentation that fisheries have not resulted in escapements that approach or are below the LRP in more than one year in a period of the most recent 5 cycle years, for any of the target stocks".
Could you plse provide this documentation. PSF requires it prepare to our submission to the MSC audit on May 16th."

The following graphs below reflect target CUs that have been impacted by commercial fishing and have been below their lower benchmark in one or more years. Please note that escapements in the graphs below overstate the return as escapements are presented as total spawners whereas benchmarks are calculated as Total Effective Spawners. Escapements should be considered upwardly biased.




Bowron (Catch not available in 2010 and 2011)
Escapement plus Catch (Escapement overstated as benchmarks are total effective spawners)
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
2005
2006
2007
2008
2009
2010
2011
Catch
Escapement


Takla-Trembleur
Escapement plus Catch (Escapement is overstated as benchmarks are total effective spawners)
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2005
2006
2007
2008
2009
2010
2011
Catch
Escapement



The three graphs above are examples of Conservation units where fishing impacts have resulted in escapements that are either below or just around their lower benchmark. It should be noted that stocks at these levels often limit FSC opportunities, reduce distribution, and are at high risk of extirpation from unexpected environmental perturbation.

It is difficult to effectively assess this condition as there was a very poor return in 2009, an extremely abundant one in 2010, and an analysis of the fishing impacts in 2011 on CUs relative to their benchmarks have not been made public.

It would therefore be prudent for the Assessment Team to defer evaluating this condition until:

1. The requested document is made public and peer reviewed
2. The results from 2011 and possibly another year in which there is a marine fishery is made available
3. There are rebuilding plans for those target CUs that are in the “red” or “critical” zones as required by the WSP. The WSP states that conservation, not harvest, must be the main driver for decision-making for CUs in the red zone. These rebuilding plans, as yet undeveloped, would address the requirements of the condition.

It is useful to review the Assessment Team's guidance for this condition.

"The evaluation under this criterion will assess the degree to which the management strategy is designed to keep targeted stocks from becoming depleted and to promote recovery if they become depleted".

It is clear that if the management strategy is designed to keep targeted stocks from becoming depleted (see definition above); it has failed. Furthermore, DFO does not have a management process in place that would promote recovery of depleted stocks to where they are at, or fluctuating around, their TRP or upper benchmark. As pointed out FRSSI is not an appropriate mechanism. This, from *Canadian Science Advisory Secretariat Science Advisory Report 2010/070, June 2011,GUIDELINES FOR APPLYING UPDATED METHODS FOR ASSESSING HARVEST RULES FOR FRASER RIVER SOCKEYE SALMON (ONCORHYNCHUS NERKA*, describing FRSSI's limitations:

"The model can be used to test a wide range of alternative forms for annual management strategies (i.e. fixed exploitation rate, fixed escapement, TAM rule) applied to the four Fraser River Sockeye Salmon management groups. Some participants recommended stock-specific or CU-specific management strategies, but the model is set up to simulate the current management system."

Conditions 19

Indicator 2.3.1: Management strategies include provision for restrictions to the fishery to enable recovery of non-target stocks to levels above established LRPs (Limit Reference Points)

The 80 Scoring Guideposts that required a Condition:

- **The management system includes assessment of plans for the recovery of non-target stocks to levels above established LRPs.**
- **The management system has a reasonable (>60%) probability of achieving long-term recovery of depleted non-target stocks.**
- **Monitoring and assessment programs are established to determine with a high degree of confidence and in a timely manner that recovery is occurring.**
- **Escapement goals will be revised periodically to accommodate new data indicating success or failure of existing recovery plans.**

Condition 19: Certification will be conditional until Limit Reference Points or their equivalent have been defined for Fraser sockeye salmon stocks, and recovery plans have been developed and implemented for stocks harvested in Fraser sockeye fisheries that are below their LRP. The proposed recovery plans must provide information regarding the probability of recovery and the timing for recovery. To be completed by May 2012

Action Plan Summary: To ensure that fisheries have acceptable harvest limits on non-target stocks and that the management system allows for rebuilding of non-target stocks, DFO will:

- Implement 'Strategy 1' of the WSP: Define LRPs and TRPs for non-target stocks (CUs) and monitor their status. The objective for fishery management shall be to maintain CUs above their LRPs unless otherwise determined by the Minister. Not meeting this objective would occur only in exceptional circumstances where management actions are assessed to be ineffective, or the social and economic costs will be extreme (p.29 WSP).
- Implement 'Strategy 4' of the WSP: Create a regional framework for integrated planning that will be used to articulate salmon management choices that consider social, economic and biological consequences. Consensus based advisory processes will be used to assist in defining these trade-offs and also to assist in developing strategic plans for the management of salmon conservation units; including harvest strategies designed to maintain the biodiversity of stocks within the CU.
- Benchmarks will be used to guide management response. For example, if a CU is below its lower benchmark and in the 'Red Zone' this will trigger consideration for ways to protect the fish, increase their abundance and reduce the risk for loss. Biological considerations will be the primary consideration for CU below the lower benchmark and in the 'Red Zone'. Page 17 of the WSP identifies additional guidance on how response would be taken for CU between the lower and upper benchmark.
- Implement Strategy 5 of the WSP. Review annual performance against measurable objectives, particularly with regards to stock status and rebuilding objectives.

Specifically, DFO will also define LRPs or their equivalent for Fraser River, Barkley Sound, Skeena and Nass sockeye CUs. A rebuilding plan consistent with the WSP will have been developed and implementation underway within 2 years for stocks harvested in fisheries targeting Fraser River, Barkley, Nass and Skeena sockeye that are below their LRPs. For Barkley Sound this will include consideration for Henderson sockeye. On the Skeena and Nass Rivers the proposed rebuilding plan will include measures to recover chum salmon stocks that are below their LRP contingent upon determining whether harvest pressure is found to have a significant risk for chum rebuilding. The rebuilding plan will include a stated objective and rebuilding target and timeline for rebuilding. This rebuilding plan will demonstrate how the fisheries management strategy will assist in ensuring rebuilding objectives are met. Fishery actions may only be one component of a rebuilding plan and could include enhancement, habitat and other measures to enable rebuilding objectives being met. It must be recognized

though, that there will be instances that rebuilding is not possible even where the appropriate management actions are implemented. Rebuilding may not be possible due to a variety of events that are beyond our control (e.g. low marine survival, habitat changes, environmental conditions, etc.)

Progress against the Condition: This Criterion and Performance Indicator state that only non-target Fraser sockeye stocks need to be evaluated. The Assessment Team and DFO however have expanded their response to include all Fraser stocks that are identified as being below their lower benchmark.

One important distinction is that the SG says that there needs to be a 60% probability that the CU's will rebuild. This is for non-target stocks. MSC requires a 70% probability for target stocks at the 80 level.

There are three elements in this condition:

1. Certification will be conditional until Limit Reference Points or their equivalent have been defined for Fraser sockeye salmon stocks – *this has being completed*
2. recovery plans have been developed – *this has not been completed other than for Cultus and Saginaw*
3. recovery plans are implemented for stocks harvested in Fraser sockeye fisheries that are below their LRP – *work has yet to begin*
4. The proposed recovery plans must provide information regarding the probability of recovery and the timing for recovery – *the necessary science work has yet to be undertaken*

Lower and upper benchmarks and the evaluation of stock status are just being completed for Fraser sockeye. It is unsurprising that rebuilding plans do not exist for CUs other than Cultus and Saginaw.

DFO's lack of progress relative to their Action Plan further reduces confidence that DFO will proceed with developing and implementing rebuilding plans. The Action Plan was included in the original assessment at DFO's response to the condition required by the Assessment Team. That DFO has not progressed beyond, and indeed has not yet finalized, the development of benchmarks is disturbing.

In order to conform to MSC Certification Methodology the Assessment Team is required to:

27.22.8.1 The team shall audit conformity with, and progress and performance against, certification conditions.

a. The CAB shall document conformity with, and progress and performance against, certification conditions using the narrative or metric form of the original condition.

b. ***If milestones are specified114*** *The CAB shall document whether progress is 'on target', 'ahead of target' or 'behind target', as well as its rationale for such a judgement.*

i. If progress against the ***measurable outcomes, expected results or (interim)*** *milestones* ***specified when setting the condition*** *is judged to be behind target, the CAB shall specify the remedial action,* ***and any revised milestones, that are*** *required to bring process back on track* ***at the next surveillance audit*** *to achieve the original condition* ***(or milestone) by the original deadline115****.****[116]***

DFO has said that they *intend* to implement rebuilding plans for CUs in the "red" zone along with integrated discussions as described in Strategy 4 of the WSP. MSC certification of sustainability is not equivalent to a Global Trust certification of responsible management. Global Trust certifies intent. MSC certifies performance. It is inadequate for the Assessment Team to accept DFO promises of future rebuilding plans.

The Assessment Team should re-emphasize the importance of this condition and require DFO do what is required to meet the 80SG and its own Action Plan. It is appropriate, and may indeed be necessary, for the CAB to consult with First Nations and take into account the information provided. Some Fraser First Nations have expressed concern that the current management system is ill equipped to rebuild depleted stocks within their territories. They have also expressed concern that FRSSI, because it focuses on harvest planning and stock groupings, is not meeting conservation and FSC requirements. (Pat Mathew and Brian Toth, pers comm.). Finally, they have expressed concerns that the management system, because it is based on run-timing stock composition in the marine area, is not designed to accommodate the issues they have raised. Mr. Mathew tells of the time he was told by DFO there was going to be a surplus to a CU in his territory and was asked to participate in a discussion of how the surplus would be allocated. It turns out the surplus was illusory and there was not sufficient fish left for conservation, never mind FSC requirements. (Pat Mathews, pers. comm.)

DFO is in the process of developing "*Guidance for the Development of Rebuilding Plans under the Precautionary Approach (PA) Framework: Growing Stocks out of the Critical Zone*" There is considerable concern as to whether this applies to the Wild Salmon Policy (see attached letter from PSF to DFO). The Assessment Team should include guidance in the Audit confirming its support for the policy and recommend that it be applied to BC' salmon stocks that are identified as being below their lower benchmark. Further, the Assessment Team should require evidence of its being implemented by the 2013 audit.

The Assessment Team should ensure that it has the opportunity to evaluate rebuilding plans and not accept promises of rebuilding plans, further or extended cutbacks in harvest, or endless multi-stakeholder discussions. The only credible response is for the Assessment Team to state that this condition will be evaluated in 2013 when rebuilding plans will hopefully be available.

Condition 27

Intent of Criterion 3.2:
Under this criterion we are interested in evaluating whether there is a research component to the management system that is sufficiently broad in scope to include all target species and other components of the ecosystem that may be impacted by fishing, and which provides for the acquisition of information and data to support scientifically- sound management actions, and whether the research is timely, open to review by peers and stakeholders in general, and is adequately funded.

Indicator 3.2.1: The research plan covers the scope of the fishery, includes all target species, accounts for the non-target species captured in association with, or as a consequence of fishing for target species, and considers the impact of fishing on the ecosystem and socioeconomic factors affected by the management program.

The 80 Scoring Guideposts that Required a Condition:

- **The research plan addresses concerns related to the impact of the fishery on the ecosystem.**
- **The research plan addresses socioeconomic issues that result from the implementation of management.**
- **The research plan is responsive to changes in the fishery.**

Condition 27: Certification will be conditional until the management agency provides a research plan that addresses identified concerns related to the impact of the fishery on the ecosystem, with emphasis on non-target stocks, and takes into consideration socioeconomic factors and anticipated changes to fisheries, within two years.

Progress against the Condition: The Assessment Team provided the following comments in their evaluation of this Performance Indicator:

"The Team found that three of the 80 scoring guideposts were not met because the lack of any research plan for Fraser sockeye makes it difficult to assess whether the plan addresses

concerns related to the impact of the fishery on the ecosystem, socioeconomic issues that result from the implementation of management plans, or if the research plan is responsive to changes in the fishery"

There needs to be an evaluation of whether the Assessment Team's concerns have been addressed. This may link to the WSP requirement for monitoring of CUs. Socio-economic issues would include FSC impacts, impacts on both marine and in-river fishers, and potential impacts on other stakeholders. There has been little progress on implementing Strategy 3 of the WSP: Ecosystem Values and Monitoring.

In several discussions with First Nations it has become evident that DFO has not incorporated FSC rights into the assessment. First Nations have told the Pacific Salmon Foundation that in allowing commercial fisheries on small or depressed CUs in their territory DFO places them in the very difficult position of having to choose between FSC and conservation.

The lower benchmark does not incorporate FSC fisheries. It is a minimum conservation requirement. A small stock often has to be higher than its lower benchmark to accommodate FSC fisheries. It is insufficient for a CU to be allowed to fluctuate around its lower benchmark, not only is there insufficient fish to support a FSC fishery, it often limits the distribution of the fish and the ability to locate and catch them with any efficiency.

The research plan discussed in the condition has not been made public. And that is likely a good thing as it is evident that DFO has not consulted with First Nations on what is required in future management and rebuilding plans to ensure First Nation's FSC requirements are addressed (Brian Toth, UFFCA pers. comm.)

The Assessment Team should not close out this condition until the research plan has been made public. The Assessment Team should also ensure the research plan incorporates First Nation's concerns that:

1. Marine harvest do not limit First Nation's ability to meet their FSC needs
2. Marine harvests do not force First Nations to choose between meeting their FSC needs and conservation
3. Recovery plans incorporate FSC requirements
4. Management plans include performance measures that include both benchmarks plus FSC requirements

Conformity with MSC's Principles and Criteria for Sustainable Fishing

The CAB is required to ensure that the assessment continues to conform with MSC's P&C for sustainable fishing.

27.22.5.3 Select areas to inspect within the fishery for current or recent management activity for continued conformity with the MSC's Principles and Criteria for Sustainable Fishing

In the original certification the Assessment Team imposed the following condition:

Certification will be conditional until the management agency provides evidence that First Nation issues regarding aboriginal and treaty rights have been identified and these issues are being addressed through an effective consultation or negotiation process, within three years.

It was in response to the following 80SG that only partially passed:

The management system is found to be in compliance with all legal and most of the customary rights of First Nation peoples that are impacted by the fishery

The Assessment Team chose to close out this condition after only one year during the 2011 audit. PSF's discussions with First Nations suggest that the Assessment Team may have been too hasty. Although DFO may have provided a document to the Assessment Team describing "*their commitment to - compliance with all legal and most of the customary rights of First Nation peoples that are impacted by the fishery" (2011 Final Surveillance Audit);* it is clear that the Assessment Team did not consult with First Nations before closing out the condition. It is contrary to the intent of MSC's Certification Requirements to close out the condition without seeking input from First Nations. First Nations would not have been expecting to have to provide input on this condition in the first surveillance audit as it was not due to be evaluated until the third audit. The Assessment Team should have informed First Nations, and particularly the Secwepemc who were quoted in the original assessment as one of the reasons the Assessment Team felt a condition was necessary, that the condition would be evaluated two years ahead of schedule.

First Nations have expressed four specific concerns:

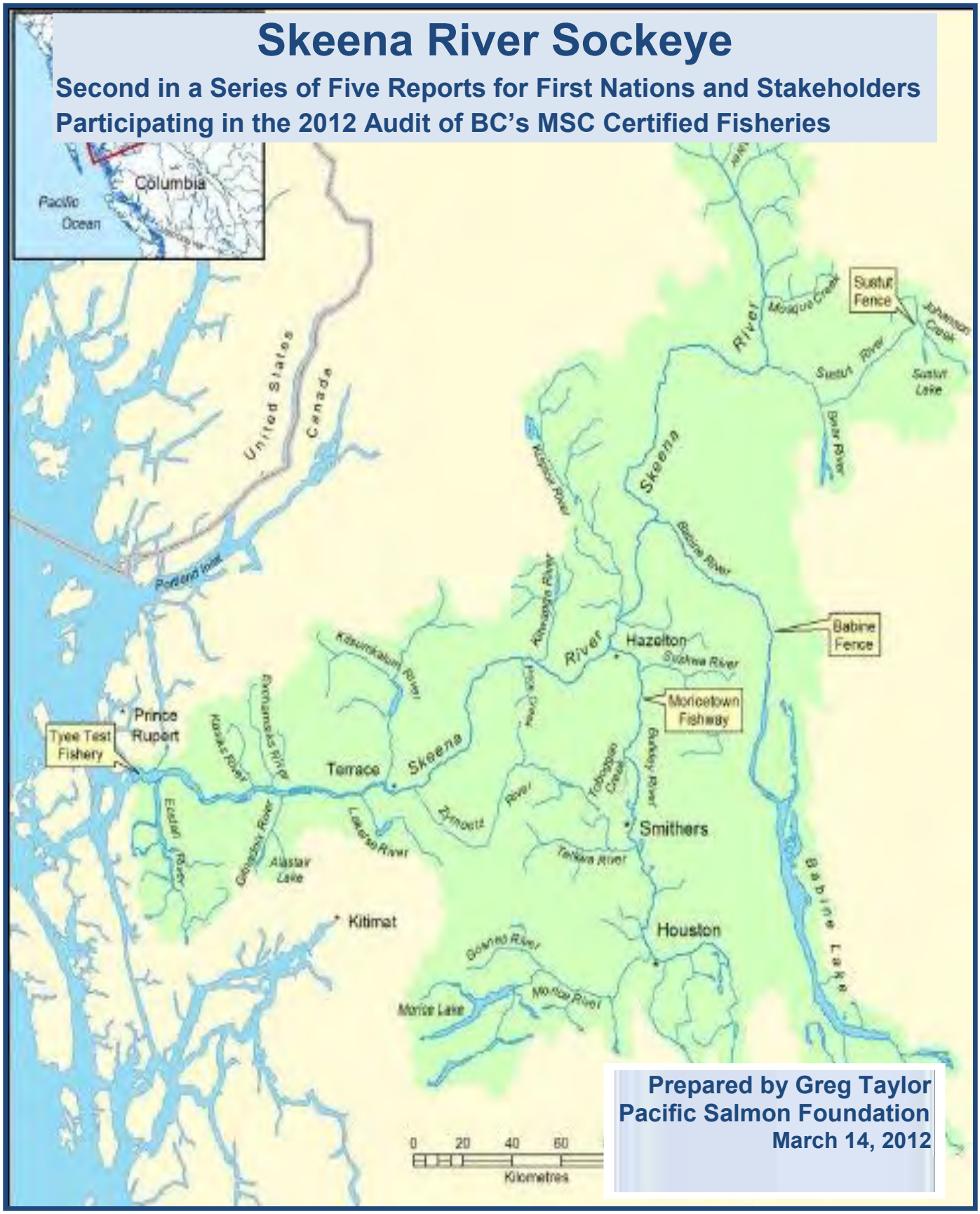
1. *There were not consulted when the above condition was closed out, particularly those who submitted information that was included in the original assessment*
2. *FRSSI does not, and is not designed to; address their concerns relative to stock rebuilding or FSC rights*
3. *Management of the fishery often forces First Nations to choose between their FSC rights and conservation in regards to smaller, less productive CUs within their territories*

4. *Benchmarks and rebuilding plans need to accommodate FSC requirements, but often do not.*

The Assessment Team should consult with First Nations and either implement a new condition or amend an existing one to address First Nations concerns relative to the development and implementation of rebuilding plans and the management of the fishery.

Skeena River Sockeye

Second in a Series of Five Reports for First Nations and Stakeholders Participating in the 2012 Audit of BC's MSC Certified Fisheries



Prepared by Greg Taylor
Pacific Salmon Foundation

March 14, 2012

Introduction

The objective of this series of reports is to support First Nation's and stakeholders' participation in the May, 2012 Surveillance Audit. This report focuses on Skeena River sockeye benchmarks and rebuilding plans. Other reports in this series will focus on Barkley Sound, Nass, and Fraser sockeye and bycatch and discard issues in the sockeye and pink certifications.

The Marine Stewardship Council (MSC) is an international certification program and seafood eco-label that recognizes and rewards sustainable fishing. MSC's certification requires annual surveillance audits. The surveillance audits are conducted by an Assessment Team employed by an independent certifier. The Certifier is required to abide by MSC's *Certification Requirements* (CR) and *Guidance to the Certification Requirements* (GCR).

http://www.msc.org/documents/scheme-documents/msc-scheme-requirements/msc-certification-requirements-v1.2/view
http://www.msc.org/documents/scheme-documents/msc-scheme-guidance-documents/guidance-to-the-msc-certification-requirements-v1.1/view

The 2012 surveillance audit will be held in Vancouver on May 14 -18th. The Surveillance Audit evaluates "*on-going **conformity** with **standards** and compliance with **conditions** and/or non-conformities*". Conditions are measurable incentives MSC employs to recognize and reward commercial fisheries. MSC requires an independent certifier to score the fishery against MSC's Principles and Criteria for Sustainable Fishing. A commercial fishery achieving a 60 score across all indicators can receive a "conditional" pass. A full pass requires a score of 80 or more. Conditions are required for Performance Indicators scoring more than 60 but less than 80. Conditions must be successfully addressed within a specified period of time. Failure to successfully address a condition may lead to the loss of the Certification.

During the annual surveillance audit, the Assessment Team must "h*old stakeholder interviews to ensure that the team is aware of any concerns of stakeholders*". The Assessment Team is required to "a*ctively seek the views of the client and stakeholders about":*

a. The fishery.
b. Its performance in relation to any relevant conditions of certification.
c. Issues relevant to the MSC's Principles and Criteria for Sustainable Fishing.

The Surveillance Audit is not restricted to evaluating progress against conditions. It is charged with reviewing whether there are:

- Potential or actual changes in management systems.
- Changes or additions/deletions to regulations.

- Personnel changes in science, management, or industry to evaluate impact on the management of the fishery.
- Potential changes in the scientific base of information, including stock assessments.

If the Assessment Team identifies an issue requiring further investigation, the Team must "*report and record the existence of the issue, immediately re-score any PI's where the information base for the scores has changed, and if necessary, define conditions and client actions according to requirements*".

First Nations and stakeholders can use the information in this report to:

- Comment on progress against conditions.
- Request additional or revised Conditions.
- Submit concerns regarding conformity with standards.
- Propose solutions to identified concerns.
- Comment on whether Action Plans are being implemented.

The Assessment Team has a close working relationship with both the Client and DFO. The Client hires the Certifier who employs the Assessment Team. Members of the Assessment Team often work closely with the DFO. However, the Certifier and Assessment Team must abide by MSC methodology. Failure to do this will, and has, led to complaints to international authorities.

Past experience with Surveillance Audits and the Assessment Team indicates the Assessment Team evaluates information made available to them. If the Client and DFO provide the information, the audit outcomes reflect this. A balanced audit requires that First Nations and stakeholders provide objective information relevant to the sockeye fisheries' conformity with MSC standards and compliance with Conditions on or before May 16, 2012.

Target and Non-Target Stocks

The Assessment Team determined that Babine sockeye are target stocks and all non-Babine sockeye are non-target stocks. The Assessment Team reasoned that since commercial fisheries are not conducted in years when returns for the Babine stocks were insufficient to allow for commercial fisheries, non-Babine sockeye are not target stocks. The following table lists the target and non-target stocks for the Skeena Watershed. This is similar to the Fraser certification where all components of a target run timing group are classified as target stocks. This is an important consideration as target and non-target stocks are assessed differently. MSC's states that target stocks must be consistently at, or fluctuating around, their TRP to meet the 80SG (MSC Certification Requirements Vol. 2). It does allow some flexibility for

salmon fisheries but it is not the intent to allow for a number of stocks or stock components to remain well below their TRP in order to maximize production from one stock. The intent of the flexibility was to allow for variable flexibility.

Target Stocks	Non-Target Stocks
Early-timed Babine Wild	Alastair
Enhanced mid-timed: Pinkut and Fulton	Aldrich
Unenhanced mid-timed Tahlo/Morrison	Asitika
late-timed Babine Wild	Atna
	Azuklotz
	Bear
	Bulkley
	Club Lake
	Damshilgwit
	Dennis
	Ecstall/Lower
	Kitwanga
	Johanson
	Johnston
	Kitsumkalum
	Kluatantan
	Kluayaz
	Lakelse
	Maxan
	McDonell
	Morice
	Motase
	Sicintine
	Slamgeesh
	Spawning
	Stephens
	Sustut
	Swan

Compiled from http://ecotrust.ca/skeena/skeena-sockeye-habitat-atlas and Cox-Rogers S., and B. Spilsted. 2012. Update Assessment of Sockeye Salmon Production from Babine Lake, British Columbia. Can. Tech. Rep. Fish. Aquat. Sci. 2956: viii + 65 p

Condition 13

Performance Indicator 1.1.1.5: Where stock units are composed of significant numbers of fish from enhancement activities, the management system provides for identification of the enhanced fish and their harvest without adversely impacting the diversity, ecological function or viability of unenhanced stocks.

The 80 Scoring Guideposts requiring a Condition:

- **In fisheries where both enhanced and un-enhanced stocks are harvested at the same time, the harvest guidelines are based on the goals and objectives established for the un-enhanced stocks.**

- **There are adequate data and analyses to determine that the presence of enhanced fish in the management units do not adversely impact the unenhanced fish stocks.**

Action Plan Summary: DFO commits to providing a peer reviewed assessment of the impact of production from the Babine enhanced production on wild Skeena sockeye stocks in a PSARC reviewed stock assessment paper and TRPs and LRPs have been defined for Skeena sockeye CUs (December, 2011).

Condition 13: Certification will be conditional until a peer reviewed (e.g. PSARC) assessment of the impact of production from Pinkut and Fulton spawning channels on wild sockeye stocks has been completed and the TRPs and LRPs have been clearly defined for the un-enhanced sockeye stocks, within two years

Comments from May, 2011 Audit: Fisheries and Oceans Canada, informed the Assessment team that a Skeena sockeye technical workshop is planned for June, 2011. The proceedings from that meeting will form part of the basis of a report currently in preparation for review by the Canadian Science Advisory Secretariat (CSAS) in December 2011. The report will provide a stock status update for Skeena sockeye; include information from enhanced Babine stocks. Authors will include DFO scientists and at least one First Nation representative.

There is a project underway to define benchmarks for all Skeena species, including steelhead. The report from this project was scheduled for review by CSAS in December 2011.

DFO is going to provide a backgrounder on escapement & harvest impact info organized by conservation units (CU) to estimate productivity parameters and evaluate potential indicators. One meeting has been conducted to provide methodology and case studies for consideration.

Progress against Conditions: In order to meet the two 80 Scoring Guideposts, two objectives need to be met:

1. *Harvest guidelines based on the goals and objectives for the unenhanced stocks.*
2. *There is adequate data and analysis available, showing that the presence of enhanced fish does not adversely impact the unenhanced stocks.*

Prior to goals and objectives being developed, benchmarks for the unenhanced stocks need to be established. This is the objective of a planned April 4th workshop. Once this is completed, the stock status of the unenhanced stocks can be evaluated against the benchmarks. The next step would be to develop goals and objectives for the unenhanced stocks. Only after these steps are completed can harvest guidelines be discussed. Most of this work will not be

completed prior to May, 2012. The evaluation of this Condition should therefore be deferred until 2013.

The original assessment and condition refers to the Skeena Independent Science Panel's concerns over the Babine spawning channels. The ISRP stated:

"*Given (1) the nonlinear and highly variable adult abundances associated with the spawning channels, (2) the reduced marine survival rates of wild smolts when present with large abundances of channel smolts, and (3) doubts about the channels' future as contributors to sockeye production due to disease problems, we recommend a comprehensive assessment of the advantages and disadvantages of either reducing channel production substantially, or eliminating it entirely in favour of sustaining the wild stock fishery".*

DFO's Action Plan confirmed that this was a priority and a PSARC approved document would be provided to address this condition. A comprehensive assessment of "*the advantages and disadvantages of either reducing channel production substantially, or eliminating it entirely in favour of sustaining the wild stock fishery"* has not been completed. Therefore, it is difficult to see how this condition could be closed out in 2012. Cox-Rogers, 2012 has updated Woods original assessment of Babine Lake sockeye but the document does not address what is required by the condition or what was recommended by the ISRP. The condition was a thoughtful contribution to the management of Skeena sockeye. It is unfortunate that DFO has refused to comply with this condition. It would be useful to have an analysis of options for stakeholders in the Skeena. The options were not necessarily enhanced fish or no enhanced fish. Steve Cox-Rogers suggests that creative management might provide increased sustainability and production. The Assessment Team might continue to require the condition but offer some additional guidance on a workshop approach involving First Nations, stakeholders, and DFO.

MSC Certification Requirements Vol. 2 provide specific guidance for evaluating progress against conditions:

27.22.8.1 The team shall audit conformity with, and progress and performance against, certification conditions.

a. The CAB shall document conformity with, and progress and performance against, certification conditions using the narrative or metric form of the original condition.

b. ~~**If milestones are specified**~~[114] The CAB shall document whether progress is 'on target', 'ahead of target' or 'behind target', as well as its rationale for such a judgement.

i. If progress against the **measurable outcomes, expected results or (interim)** milestones **specified when setting the condition** is judged

to be behind target, the CAB shall specify the remedial action, **and any revised milestones, that are** required to bring process back on track **at the next surveillance audit** to achieve the original condition **~~(or milestone)~~ by the original deadline**[115].**[116]**

The Assessment Team concluded in the original assessment that "*recent harvest rates are significantly reduced from historical levels and managers have indicated that the available stock-recruitment data provides a scientific basis that current harvest rates set for the mixed-stock fisheries should not adversely affect the majority of unenhanced stocks within each stock unit (i.e. Babine and non-Babine sockeye)*.

This is incorrect in three ways. While aggregate harvest rates have been reduced, it is not clear that stock specific harvest rates have been reduced on those stocks co-migrating with the peak of the enhanced sockeye migration sufficiently to meet the objectives set out in MSC's Certification Requirements. The Certification Requirements state: "*There is a partial strategy in place, if necessary, that is expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding*." The ISRP recommended that exploitation rates in Canadian ocean fisheries (commercial plus FSC) should be reduced to between 20% - 30%. But an aggregate exploitation rate of 22% largely compressed into the top three weeks of an average total return to area 4 of 2.6 million sockeye could allow weekly exploitation rates over 50%.

The ISRP also recommended that total marine (Alaska, BC, and FSC) exploitation rates be held to between 30% and 40%. This corresponds to the exploitation rates estimated to meet MSY targets for unenhanced stocks of between 34% and 41% in Cox-Rogers, 2004. Skeena unenhanced stocks co-migrating with enhanced Babine stocks would be subjected to weekly exploitation rates well in excess of the ISRP's recommendation when Alaskan weekly exploitation rates are added to the Canadian.

This assessment indicates the Assessment Team's contention that the 2009 management plan would not "*adversely impact the majority of unenhanced stocks*" may have been premature. DFO has recently acknowledged that it has not sufficiently reduced exploitation rates on unenhanced sockeye stocks co-migrating with enhanced ones (2012 IHPC discussions). DFO has recently released a paper describing continued declines in "wild" Babine stocks (Cox-Rogers, 2012).

DFO saying that it will address the situation is inadequate. MSC's Certification Requirements state that the Assessment Team is charged with evaluating progress against conditions. Clearly DFO does not feel that it has resolved the impact of enhanced production on

unenhanced stocks. The Assessment Team will therefore find it difficult to contend that this condition has been met and conforms to MSC's Certification Requirements**.**

The second reason the Assessment Team is incorrect is that MSC Certification Requirements do not permit the assessment team to choose which stocks should be allowed to remain below their lower benchmark. In accepting DFO's argument that the *majority* of unenhanced stocks will not be adversely affected; the Assessment Team is necessarily agreeing that it is acceptable to adversely impact an unidentified proportion of the 28 non-target stocks. MSC Principles and Criteria for Sustainable Fishing directs that all non-target stocks must be, at a minimum, rebuilt to above their lower benchmark. Target Babine (enhanced and unenhanced) stocks are required to be rebuilt to their TRP. The Assessment Team cannot accept an argument of "good enough" when it comes to the rebuilding of Skeena sockeye stocks.

The final reason the Assessment Team is incorrect is that there can be no *"scientific basis that current harvest rates set for the mixed-stock fisheries should not adversely affect the majority of unenhanced stocks within each stock unit* ". This is because benchmarks are not available for Babine sockeye. Without benchmarks it is difficult to evaluate the effect of harvest rates on unenhanced stocks. The Assessment Team was accepting the opinion of managers instead of assessing managers' opinions against MSC's Principles and Criteria for Sustainable Fishing. MSC requires that stock status is evaluated against scientifically defensible benchmarks. There has been good progress towards the development of benchmarks but there is still considerable work outstanding, including a peer review. It is important that the Skeena work follow the methodology and guidelines set out by CSAS.

Condition 13b

Indicator 1.1.2.2: Estimates exist of the removals for each stock unit.

The 80 Scoring Guideposts that required a Condition:

- **Fishery independent indicators of abundance are available for the non-target species harvested in the fishery**

Action Plan Summary: DFO will use the existing core stock assessment program to develop and implement a plan for monitoring sockeye escapements. The program will be developed in cooperation with the FN interests in the watershed and may include direct visual escapement surveys, weir counts, and mark recapture programs for adults or hydroacoustic lake surveys to identify juvenile abundance. The Skeena Fisheries Commission has been conducting hydro acoustic estimates in recent years, and DFO will continue to cooperate in planning and funding of these surveys. The program will be described in PSARC reviewed stock assessment paper (December, 2011).

Condition 13b: Certification is conditional until the management agencies implement the escapement and fall fry monitoring plans for Skeena sockeye as defined in the Core Stock Assessment Review for North and Central Coast salmon stocks or a similar scientifically defensible program to address this key information gap, within two years

Comments from May, 2011 audit: A basic approach and workshop were reported as underway. A CSAS peer reviewed report will be produced which should identify the fishery independent indicators of abundance available for the non-target species harvested in the fishery. DFO appear to be on target with meeting their deliverable deadline at the second annual surveillance audit.

Progress against Condition: The Assessment Team identified 28 non-target sockeye stocks in the Skeena. Not all these stocks are heavily exploited by commercial fisheries. It is necessary to identify which non-target stocks are impacted by commercial fisheries and ascertain if fishery independent indicators of abundance are available and if the escapement and fall fry monitoring plans are in place as required by the Condition.

There has been some work on a new methodology – English, 2011 – but this has not yet been peer reviewed and therefore cannot be considered scientifically defensible (see Catch Reporting and Compliance Monitoring submission for a discussion on this point).

If DFO a new scientifically defensible program is to be employed the condition should not be closed out until it has been peer reviewed and put into operation. Only then would it be appropriate for the Assessment Team to evaluate it.

Condition 13c

Performance Indicator: The information collected from catch monitoring and stock assessment programs is used to compute productivity estimates for the target stocks and management guidelines for both target and non-target stocks

The 80 Scoring Guideposts that required a Condition:

- **There is adequate information to estimate the relative productivity of the non-target stocks where the fishery harvests may represent a significant component of those non-target stocks.**

Action Plan Summary: DFO commits to providing periodic assessments of the relative productivity for Skeena sockeye CU's, or representative indicators. Our experience has been that the productivity of the sockeye systems are relatively stable, and will place priority on assessments of systems for stocks of concern, those most susceptible to climate change

impacts or subject to recent habitat perturbations. The relative productivity will be reviewed in a PSARC stock assessment paper (December, 2011).

Condition 13c: Certification is conditional until the management agencies have implemented the programs necessary to provide periodic assessments of the relative productivity for each Skeena sockeye CU or justification for the use of currently monitored populations as indicator stocks, within two years

Comments from May, 2011 audit: DFO is proposing a Skeena sockeye technical workshop in June 2011. The agenda will include a review and discussion on how to best move forward with designing and implementing the productivity assessments. The recommended plan for productivity assessments will be part of the CSAP report scheduled for December 2011

Progress against Condition: A report has not been peer reviewed by CSAS to date. North Coast intends to submit reports to CSAP in the spring of 2012. It is unclear whether it will address the expectations of Condition 13c.

The ongoing work to develop benchmarks will likely provide some measure of relative productivity.

It is difficult to see how the Assessment Team could close out this condition prior to the work being completed, the reports accepted by CSASS, and the Assessment Team being provided the opportunity to assess the information.

Unlike the Fraser benchmarks have not been determined for the Skeena. Papers on metrics and potential benchmarks have been prepared and circulated. There was a recent multi-stakeholder presentation on benchmark development for one of the metrics: abundance. There are plans for the papers to be peer reviewed this spring. Once that is completed there are further plans for assessing stock status and the development of HCR.

There is some discussion on how to proceed as the Pacific Salmon Foundation has completed their role. The participants will have to decide on how to implement next steps. The Assessment Team should provide some guidance to ensure progress continues so they can evaluate this condition in May, 2013.

Condition 14

Indicator 1.1.3.2: Target Reference Points or operational equivalent have been set.

Intent of Indicator 1.1.3.2: The Target Reference Point (TRP) or operational equivalent set by the management agency has been defined above as "the state of a fishery and/or a resource, which is considered desirable. Management action, whether during a fishery development or stock rebuilding process, should aim at maintaining the fishery system at its level."

The 80 Scoring Guideposts that required a Condition:

- **The TRP's for the target stocks take into account variability in the productivity of each component of the target stock and the productivity of non-target stocks.**

Action Plan Summary: As an interim measure for the 2009 fishing season DFO adopted a precautionary management objective of reducing the Canadian commercial exploitation rate on Skeena sockeye to begin rebuilding individual stocks of concern by maintaining on average, a Canadian commercial exploitation rate in the range of 20 to 30%. This represents a reduction of 30 to 50% from recent decade averages. This range was consistent with the advice provided in the Skeena ISRP (Independent Science Review Panel).

DFO also supports Recommendation # 1 of the ISRP, "There is a need to confront the major trade-off decisions that are implied by the Wild Salmon policy and the impacts of mixed-stock ocean fisheries on Skeena stocks. There should be an explicit public decision about the loss of biodiversity (number of weak stocks allowed to remain overfished or at risk of extinction) that is deemed acceptable and changes required to fisheries in order to achieve particular harvest objectives." Resolving this issue will be the central focus of the Skeena Watershed Process over the next few years.

Condition 14: Certification will be conditional until the management agency provides direct evidence that the productivity of non-target stocks has been taken into account when setting the TRP for the target Babine stock, within one year

Comments from May, 2011 audit: Both the 2010 and 2011 IFMPs for North Coast Salmon define the Skeena River Decision Guidelines and present the abundance-based method to be used to guide fishery openings. This is evidence that there has been consideration of the productivity of non- target stock when setting the TRP proxy (exploitation rate). The team considers that this responds to the requirements second 80 scoring guidepost and as such, this performance indicator is rescored to 80 and the condition closed.

Progress against the Condition: The Assessment Team closed out this condition based on the reasoning that the aggregate exploitation rate introduced in 2009 is a proxy TRP and recognizes the productivity of non-target stocks. It is a convenient argument but incorrect. The aggregate exploitation rate cannot recognize the productivity of non-target stocks because lower and upper benchmarks for Skeena sockeye have not been completed. In particular, it does not effectively recognize the productivity of those unenhanced target and non-target

stocks subject to similar weekly exploitation rates as the enhanced stocks. The aggregate exploitation rate that the Assessment Team identifies as a proxy for the TRP could allow for weekly exploitation rates (Alaskan, Canadian, and FSC) on an average 2.6 million Skeena sockeye return in excess of 60%. Weekly exploitation rates of this magnitude do not recognize the productivity of unenhanced stocks.

It was unfortunate that the Assessment Team closed out Condition 14 prematurely because new information has become available indicating that the TRP may be incorrect. The 80 Scoring Guidepost dictates that the Assessment Team take into account each component of the target stock as well as non-target stocks. Cox-Rogers, 2012 states that the target Babine stock has several components with varying productivities. This information was not available to the Assessment Team during either the original assessment or the 2011 audit.

MSC requires that the surveillance audit not only measure progress against conditions but access new information. If new information becomes available, it should trigger an expedited audit. MSC provides for an “expedited audit” in cases where:

27.22.17.1 The CAB becomes aware of major changes in relation to the circumstances of the fishery.

a. A "major change" is one that is likely to have a material difference on the certification status. A PI score falling below 60 or outcome PI score falling below 80, or a change that could bring about a Principle Level aggregate score to drop below 80 shall be considered material differences to certification status.

27.22.17.2 Significant new information becomes available in relation to the circumstances of the fishery, including the period between the original assessment and the issue of a certificate.

a. Significant new information is that which is likely to have a material difference on the certification status. A PI score falling below 60 outcome PI score falling below 80, or a change that could bring about a Principle Level aggregate score to drop below 80 shall be considered material differences to certification status.

MSC provides the following additional guidance:

G27.22.3 Guidance to Part C clause 27.22.17.2

Examples of “significant new information” are.
a. Major changes in management.
b. New information describing a major impact of the fishery.

The original assessment was founded on the argument that there was only one target stock: Babine sockeye. Underlying this assumption was that there were at most 2 CU's in Babine Lake and that there was not a large variance in productivity. Cox-Rogers, 2012 suggests this is incorrect. This new information calls into question the decision to award the Indicator a score of 80. The Team increased the score to 80 because the aggregate exploitation rate:

1. Took into account variability in the productivity of each component of the target stocks and
2. The productivity of the non-target stocks

New information means the first cannot be correct and the absence of benchmarks calls into question the second.

Either this Condition needs to be re-scored or a new Condition introduced to address concerns about the productivity of Babine CU's and run-timing components.

Condition 21b

Indicator 2.3.1: Management strategies include provision for restrictions to the fishery to enable recovery of non-target stocks to levels above established LRPs (Limit Reference Points)

The 80 Scoring Guideposts that required a Condition:

- **The management system includes assessment of plans for the recovery of non-target stocks to levels above established LRPs.**
- **The management system has a reasonable (>60%) probability of achieving long-term recovery of depleted non-target stocks.**
- **Monitoring and assessment programs are established to determine with a high degree of confidence and in a timely manner that recovery is occurring.**
- **Escapement goals will be revised periodically to accommodate new data indicating success or failure of existing recovery plans.**

Action Plan Summary: As an interim measure for the 2009 fishing season DFO adopted a precautionary management objective of reducing the Canadian commercial exploitation rate on Skeena sockeye to begin rebuilding individual stocks of concern by maintaining on average, A Canadian commercial exploitation rate in the range of 20 to 30%. This represents a reduction of 30 to 50% from recent decade averages. This range was consistent with the advice provided in the Skeena ISRP (Independent Science Review Panel).

DFO also supports Recommendation # 1 of the ISRP, “There is a need to confront the major trade-off decisions that are implied by the Wild Salmon policy and the impacts of mixed-stock ocean fisheries on Skeena stocks. There should be an explicit public decision about the loss of biodiversity (number of weak stocks allowed to remain overfished or at risk of extinction) that is deemed acceptable and changes required to fisheries in order to achieve particular harvest objectives.” Resolving this issue will be the central focus of the Skeena Watershed Process over the next few years.

Condition 21b: Certification will be conditional until Limit Reference Points or their equivalent have been defined for Skeena sockeye salmon stocks, and recovery plans have been developed and implemented for stocks harvested in Skeena sockeye fisheries that are below their LRP. The proposed recovery plans must provide information regarding the probability of recovery and the timing for recovery. To be completed within one year.

Comments from May, 2011 audit: DFO has indicated that publications related to Skeena stock status and benchmarks for Skeena stocks is scheduled for release later in 2011.

The assessment team recognizes that management changes have been made to provide protection for Skeena stocks. Appendix 9 of the 2011 IFMP for Northern Salmon defines the Commercial Fishing Plan for Northern BC salmon including the Skeena.

DFO has defined interim LRPs for most Skeena sockeye stocks and implemented an exploitation rate ceiling to ensure that the total exploitation rate for Skeena sockeye is less than 40%. This approach is consistent with Independent Science Review Panel (ISRP) recommendations and represents a key component of the recovery plan for Skeena sockeye that are at or below their interim LRPs. These steps show good progress towards the fulfillment of this condition but given this relatively recent implementation of this plan, the assessment team proposes to defer the full evaluation of this condition until the second surveillance audit.

Progress against the Condition: The Assessment Team’s reliance on DFO’s Action Plan and the ISRP is a misreading of MSC Principles and Criteria for Sustainable Fishing, MSC Certification Requirements, and Canada’s Wild Salmon Policy. The stated goal of all three is to rebuild and maintain stocks above their lower benchmark. DFO’s Action Plan and the ISRP both incorporate a trade-off function that may allow some stocks to remain below their lower benchmark due to fishing impacts. This is unacceptable to MSC and Canada’s Wild Salmon Policy. The CAB risks a complaint to MSC and ASI if it persists with this argument.

Until stock status relative to benchmarks is evaluated, there is little likelihood of successfully resolving the three 80 Scoring Guideposts that failed. It will be difficult to determine the following prior to the May, 2012 audit:

1. What exploitation rates are required to rebuild all CU's and Babine run-timing groups above their lower benchmarks?
2. There is a greater than 70% probability that the target stocks and a greater than 60% probability that non-target stocks will rebuild to above their lower benchmarks within the timeframe required by MSC?

It is also insufficient for the Assessment Team to rely on DFO's Action Plan or the IFMP. MSC requires *evidence* that:

- *Rebuilding strategies are in place.*
- *Rebuilding timelines are specified and do not exceed the shorter of 20 years or 2 times its generation time.*
- *There is evidence that the rebuilding strategies are rebuilding stocks, or it is highly likely based on simulation modeling or previous performance that they will be able to rebuild the stock within the specified time frame.*

MSC states (TAB D-032 v1: 7.4.3) that having legislation (policy?) in place is insufficient. There must be ***"direct demonstration that requirements for protection and rebuilding are being achieved"*.**

The Assessment Team too often strays into attempting to resolve the mixed stock dilemma inherent in the management of Skeena sockeye. MSC's Certification Requirements prescribe a methodology for surveillance audits. The Assessment Team should adhere to it. For instance, the Assessment Team makes the observation in the 2011 Audit that DFO introduced a "*very conservative recovery plan prior to the 2009 season as a precautionary measure. The plan is centered on an abundance based exploitation rate schedule, projected to provide an average exploitation rate in the order of 40%. This was a very precautionary approach as it was based on advice that it would rebuild stocks to MSY levels, not just above LRP levels."* It is unclear how precautionary 40% is as this is the high end of the ISRP's recommendation of a total commercial marine exploitation rate of 30-40%. Also, the ISRP stated that a 40% marine exploitation rate would result in no further declines. It did not state that a 40% exploitation rate would result in the recovery of depressed Skeena stocks. Finally, an aggregate 40% exploitation rate would produce much higher stock specific exploitation rates on those stocks co-migrating with the abundant enhanced Babine stocks.

The Assessment Team in its 2011 Audit states that the ISRP provides information regarding the probability of recovery and the timing of recovery for 10 Skeena wild sockeye stocks. The Assessment Team is charged with assessing *all* target and non-target Skeena stocks, not 10. And the Figure in the ISRP it points to – *Figure 8, page 37* – does not provide information on the probability and timing of recovery for the 10 stocks other than to say they are unlikely to decline under a 40% marine exploitation rate. The Assessment Team is clearly straying from its two core responsibilities: evaluating whether Skeena fisheries conform to MSC's Principles and Conditions for Sustainable Fishing; and measuring progress against conditions.

MSC specifies different rebuilding objectives for target and non-target stocks. The 28 non-target sockeye stocks in the Skeena are required to be rebuilt above their lower benchmark. The Babine CU's and run-timing groups identified by Cox-Rogers, 2012 are target stocks and are required by MSC to be rebuilt to be at, or fluctuating around, their TRP.

There is some confusion regarding how MSC defines and employs benchmarks. It has been argued that MSC's Limit Reference Point (LRP) is less than the lower benchmark defined in Canada's Wild Salmon Policy. This is incorrect. MSC's definition of an LRP is: "*The point beyond which the state of a fishery and/or a resource is not considered desirable and which management is aiming to avoid*". Hence, DFO's lower benchmark and MSC's LRP are operationally equivalent in terms of BC salmon management.

Similarly, DFO's upper benchmark and MSC's Target Reference Point (TRP) are defined in much the same way: "*The point which corresponds to a state of a fishery and/or resource which is considered desirable and which management is trying to achieve*". However, the way they are employed is different. Canada's Wild Salmon Policy (WSP) and MSC both say that stocks below a lower benchmark must be rebuilt. The WSP, however, allows for the status of some target stocks to remain between the lower and upper benchmarks. MSC, on the other hand, states the objective should be to ensure target stocks are, "*at or fluctuating around their target reference points*".

The responsibility of the Assessment Team in evaluating this Principle 2 condition is, according to MSC's Certification Requirements, to:

1. *Identify whether benchmarks are in place for Skeena sockeye.*
2. *Evaluate stock status relative to benchmarks.*
3. *Determine which target and non-target sockeye stocks are below their lower benchmark.*
4. *Determine whether rebuilding plans are in place.*
5. *Evaluate whether the probability of recovery and rebuilding time frames meet MSC standards for target stocks.*

6. *Evaluate whether the probability of recovery and rebuilding time frames meet MSC standards for non-target stocks.*

Analysis of Condition 21b

The 2011 surveillance audit concluded in an evaluation of Condition 21b that it was too early to conclude that DFO's abundance based sockeye harvest model would satisfy the condition. Condition 21b states:

"Certification will be conditional until Limit Reference Points or their equivalent has been defined for Skeena sockeye salmon stocks, and recovery plans have been developed and implemented for stocks harvested in Skeena sockeye fisheries that are below their LRP. The proposed recovery plans must provide information regarding the probability of recovery and the timing for recovery. To be completed within one year".

It was implemented to address the following SG80 guideposts that failed to pass in the original Skeena sockeye assessment:

- *The management system includes assessment of plans for the recovery of non-target stocks to levels above established LRPs.*
- *The management system has a reasonable (>60%) probability of achieving long-term recovery of depleted non-target stocks.*
- *Monitoring and assessment programs are established to determine with a high degree of confidence and in a timely manner that recovery is occurring.*
- *Escapement goals will be revised periodically to accommodate new data indicating success or failure of existing recovery plans.*

2011 was the first year since the DFO's new management regime was put into effect in 2009 that there was a significant Skeena River commercial fishery. An aggregate 18% Canadian Commercial Exploitation Rate was achieved. The new management regime was based on the ISRP's recommendation for a 50% cut in Canadian commercial harvest rate impacts.

The 50% reduction in impacts was recommended by the ISRP to protect depressed Skeena sockeye CU's. Skeena CUs have differential timing. Commercial harvests have a low impact on some CUs and a much higher one on others. It is therefore important to examine whether CU specific reductions in harvest rate impacts are being achieved.

The following table locates each Babine Conservation Unit by its peak week timing relative to the total Skeena sockeye return expected that week. Non-Babine Conservation Units are located on the left side of the table. Their peak timing are recorded by the red Xs. Babine run timing components and peak timing are located along the top of the table. The blue shaded area is associated with the percent of total return each week on the right hand side of the table.

Table 1: Peak Timing for Skeena non-Babine Conservation Units and Babine run-timing components

	June 21-July 1	July 2-8	July 9-15	July 16-22	July 23-29	July 30-August 5	August 6-12	Percent of
	ENB	ENB	Pinkut/EBT	Pinkut/Fulton	Fulton/LNB/BR	Babine River	Babine River	Total Return
Alastair	X							28%
Aldrich			X					27%
Asitka			X					26%
Atna		X						25%
Azuklotz					X			24%
Bear					X			23%
Bulkley		X						22%
Club			X					21%
Damishilgw				X				20%
Dennis			X					19%
Johanson					X			18%
Johnston	X							17%
Kitsumkalum					X			16%
Kitwanga					X			15%
Kluatantan			X					14%
Kluayaz			X					13%
Lakelse								12%
Maxan		X						11%
McDonell			X					10%
Morice		X						9%
Morrison		X						8%
Motase				X				7%
Sicintine				X				6%
Slamgeesh				X				5%
Spawning			X					4%
Stephens			X					3%
Sustut			X					2%
Swan			X					1%

DFO's objective is to focus the commercial harvest on the relatively abundant enhanced Pinkut and Fulton sockeye. This achieves three goals: it avoids the depressed Nanika and other less abundant and productive early timing sockeye CU's; it reduces impacts on depleted Babine River sockeye; and it maximizes the commercial harvest of sockeye by concentrating the fishery when sockeye are most abundant.

However, as the table above shows a fishery targeting the mid-point of the sockeye return will still impact several co-migrating sockeye Conservation Units and Babine run-timing components. The IFMP provided the following advice on page 7 of their report:

"*If the WSP... is interpreted as meaning that overharvesting will not be permitted for any Skeena salmon CU, then DFO needs to make two structural changes in the harvesting system for Skeena salmon… First, to avoid overharvesting of non-Babine sockeye stocks, ocean harvests must be reduced by roughly 50%, and the total Canadian plus Alaskan exploitation rates outside Tyee held at or below 30-40%.*"… "*by reducing Canadian exploitation rates down to 20-30%, or about half of what they have been over the last 20 years. Even if such reductions are achieved, for example by shifting fisheries into the Babine River area, it will take considerable time for non-Babine sockeye stocks to recover to their most productive levels*

DFO responded by introducing a new abundance based harvest rate model in 2009 that they argued complied with the advice provided by the ISRP. The 2009 sockeye harvest rate, which was employed in 2011, is shown below:

Graph 1: DFO's Abundance Based Harvest Model

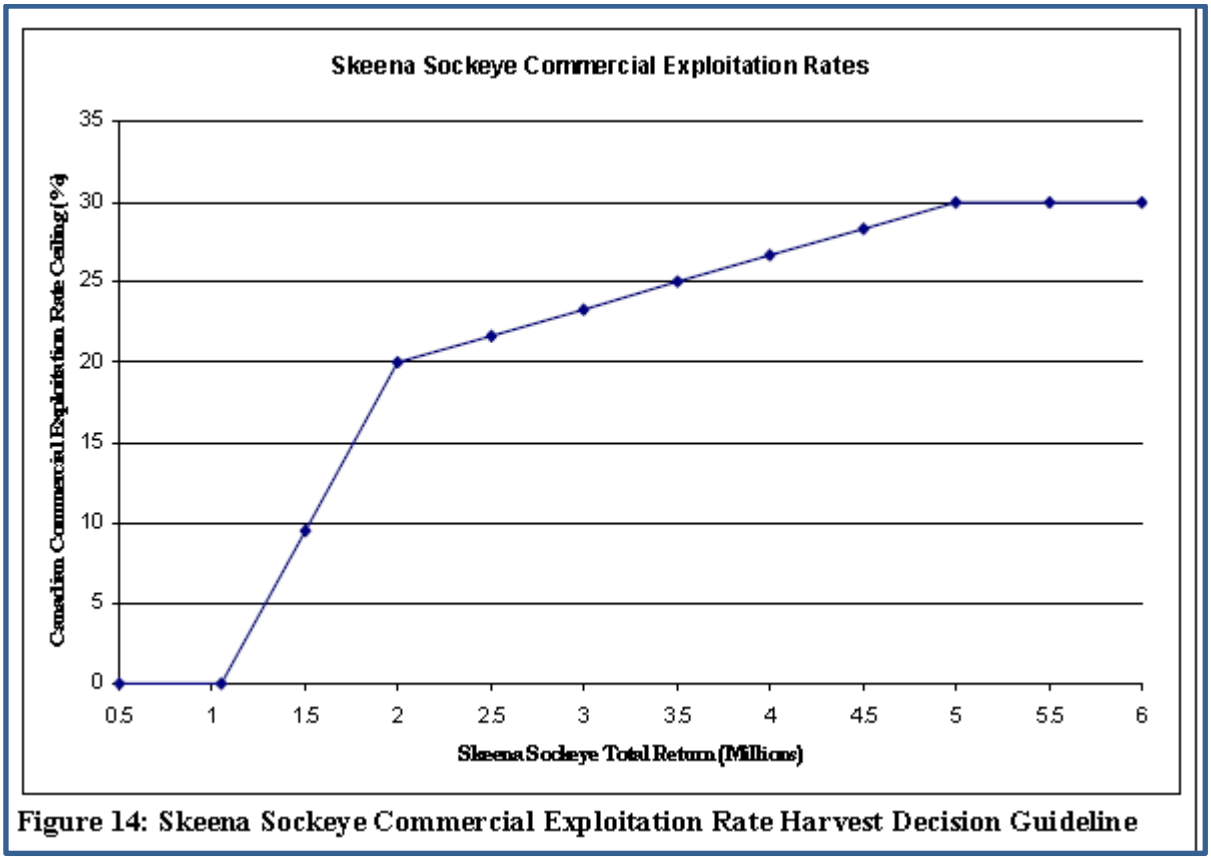
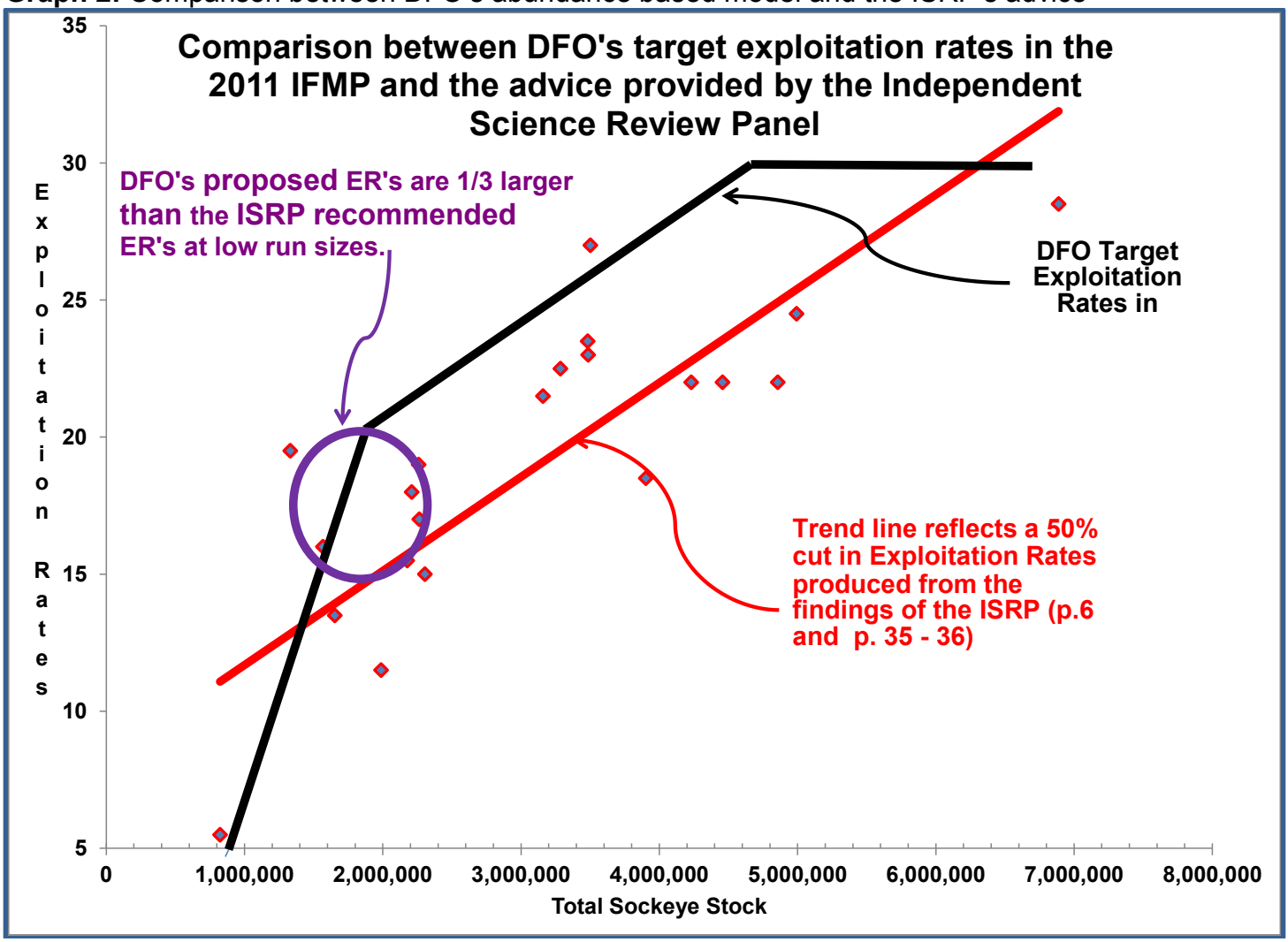


Figure 14: Skeena Sockeye Commercial Exploitation Rate Harvest Decision Guideline

However, a comparison between the advice provided by the ISRP and the harvest plan adopted by DFO shows that DFO did not heed the ISRP's advice. The data points on the graph below are 50% of the Canadian marine exploitation rates for the years 1982 – 2006 from the ISRP report. It is clear that instead of meeting the intent of the ISRP advice; DFO chose a harvest plan that reflected cuts to only the highest data points.

Graph 2: Comparison between DFO's abundance based model and the ISRP's advice



Both the ISRP's advice and DFO's target Canadian commercial exploitation rates focus on reducing aggregate exploitation rates. This might be appropriate if the harvest was spread across the entirety of the Skeena sockeye return. Instead, in order to address serous concerns early and late in the return and lessen the impacts on the shoulders of the peak of the return, DFO intention is to concentrate the majority of the harvest on the peak of the return. This reduces impacts on some non-Babine Conservation Units and Babine run-timing segments, but increases them on others. As shown in Table 1.

Table 2: Potential weekly harvest rates for an average Skeena return of 2.5 million sockeye

Week	Percent of Total Return	Weekly Stock on 2.5 million run	Weekly Escape Target	Potential Comm. Harvest	2008 Target Comm. Harvest Rate	Expected Comm. Harvest
6-4	4%	100,000	42,000	58,000	0%	0
7-1	7%	175,000	74,000	101,000	0%	0
7-2	13%	325,000	137,000	188,000	0%	0
7-3	20%	500,000	210,000	290,000	20%	100,000
7-4	21%	525,000	221,000	304,000	35%	183,750
7-5	16%	400,000	168,000	232,000	40%	160,000
8-1	10%	250,000	105,000	145,000	25%	62,500
8-2	5%	125,000	53,000	72,000	17%	21,250
	96%	2,400,000	1,010,000	1,390,000		527,500
					Average Exploitation Rate	22.0%

The table above models how a 22% exploitation rate might be achieved on a total return to Canada of 2.5 million (an average Skeena sockeye return):

Comparing historical harvest rate data provided by Steve Cox-Rogers to the modeled harvest rates above indicates that DFO would not achieve anywhere near a 50% cut in exploitation rates in the peak weeks of the sockeye return should the abundance based model be employed.

Table 3: Modeled harvest rates from Table 2 relative to decadal average weekly harvest rates

1960-69	22.6%	31.8%	39.1%	43.8%	45.7%	44.8%	41.4%
1970-79	17.9%	28.2%	37.0%	42.9%	45.8%	45.9%	43.3%
1980-89	8.4%	17.0%	27.2%	35.5%	39.4%	38.6%	35.0%
1990-99	16.1%	26.2%	34.7%	38.8%	38.5%	34.8%	29.3%
00-10	9.6%	16.2%	23.0%	28.2%	30.5%	29.5%	25.0%
DFO Target	**0.0%**	**0.0%**	**20.0%**	**35.0%**	**40.0%**	**25.0%**	**17.0%**

These higher than recommended exploitation rates would impact about 30% of the Conservation Units in the Skeena. The impacts would vary according to the relative productivity of the Conservation Units. Recalling that the ISRP recommended that total Canadian commercial exploitation rates not exceed 20-30%, it is evident that the harvest rates in the peak weeks for an average return to Canada are higher than what was recommended by the ISRP. It is unfortunate that two different metrics are used. The ISRP uses exploitation rates whereas the data above is harvest rates. Harvest rates likely overstate the issue by about 10%. But the difference is likely accounted for if FSC marine harvest rates were included. The ISRP discusses Canadian exploitation rates outside of Tyee which would include FSC impacts.

The 2011 Surveillance Audit observed:

"*The ISRP report and the sockeye status relative to the PSARC report resulted in DFO introducing a very conservative recovery plan prior to the 2009 season as a precautionary measure. The plan is centered on an abundance based exploitation rate schedule, projected to provide an average total exploitation rate in the order of 40%. This was a very precautionary approach as it was based on advice that would rebuild stocks to MSY levels, not just above the*

LRP levels. This aggressive approach was taken to provide a high probability for an increase in weak stock abundance in the short term. The mid and long term objectives for Skeena sockeye stocks need to be set through trade-off consultations that are part of WSP strategy 4"

It is difficult to reconcile this observation with weekly Canadian harvest rates in excess of 35%. Adding in Alaskan and marine FSC would increase weekly harvest rates to well above 50%. Another way to look at this situation is to compare a 50% cut in historical decadal average weekly harvest rates with the potential harvest rates expected for an average return using DFO's abundance based approach.

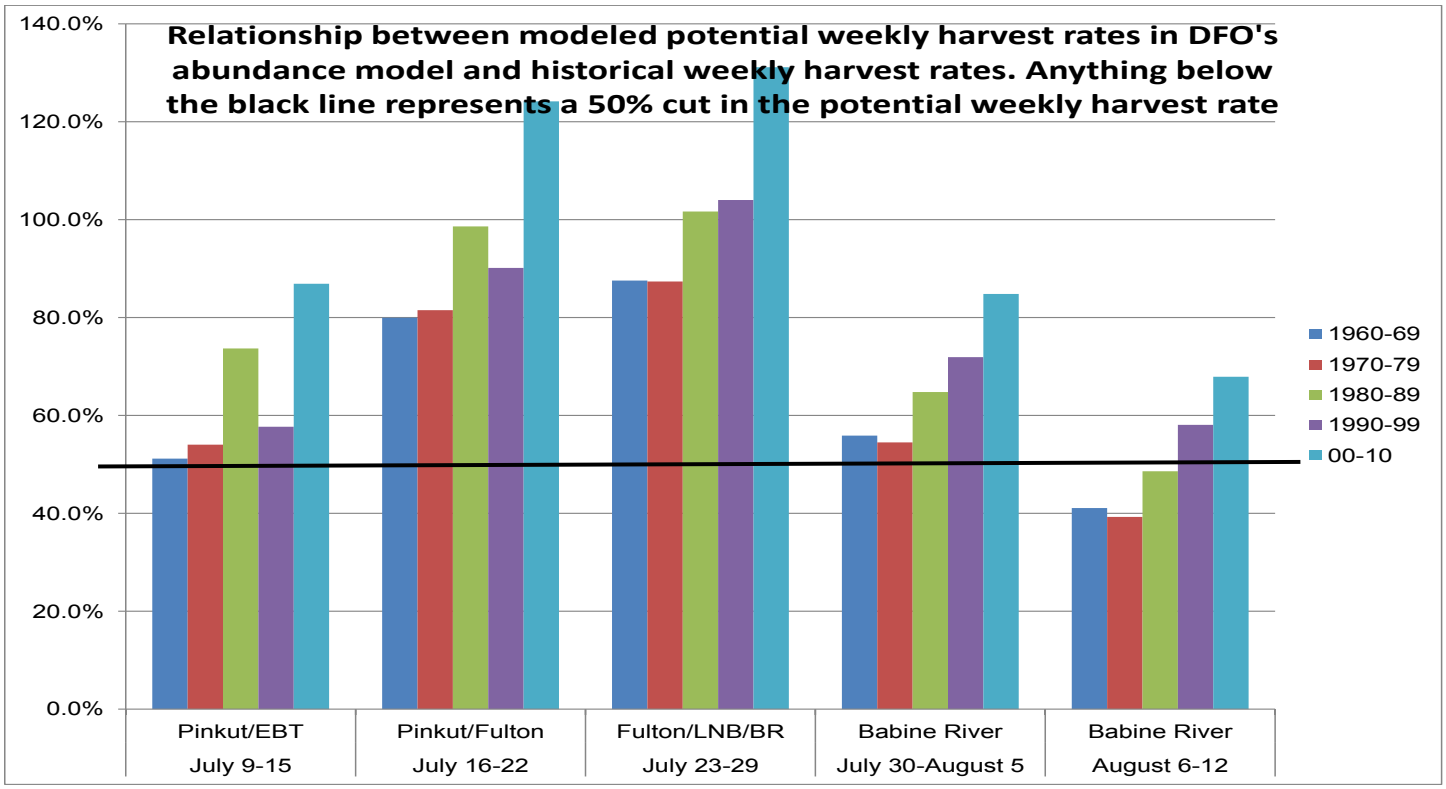
The table below reduces the decadal average harvest rates by half (to represent the reductions recommended by the ISRP) and compares the modeled weekly potential harvest rates (**in red**) from DFO's abundance based model.

Table 4: A 50% cut in weekly decadal harvest rates relative to the estimates from Table 2

Decadal Averages	June 21-July 1 ENB	July 2-8 ENB	July 9-15 Pinkut/EBT	July 16-22 Pinkut/Fulton	July 23-29 Fulton/LNB/BR	July 30-August 5 Babine River	August 6-12 Babine River
1960-69	11.3%	15.9%	19.5%	21.9%	22.8%	22.4%	20.7%
1970-79	9.0%	14.1%	18.5%	21.5%	22.9%	22.9%	21.6%
1980-89	4.2%	8.5%	13.6%	17.8%	19.7%	19.3%	17.5%
1990-99	8.0%	13.1%	17.3%	19.4%	19.2%	17.4%	14.6%
00-10	4.8%	8.1%	11.5%	14.1%	15.3%	14.7%	12.5%
DFO Target	**0.0%**	**0.0%**	**20.0%**	**35.0%**	**40.0%**	**25.0%**	**17.0%**

Graphically, the relationship between the potential weekly harvest rates for an average Skeena sockeye return relative to historical weekly decadal average harvest rates for the weeks July 9-15 to August 6 -12 would appear as follows. Anything below .5 represents a 50% cut in harvest rates. Anything above fails to meet the ISRP objective of reducing harvest rates by a significant amount.

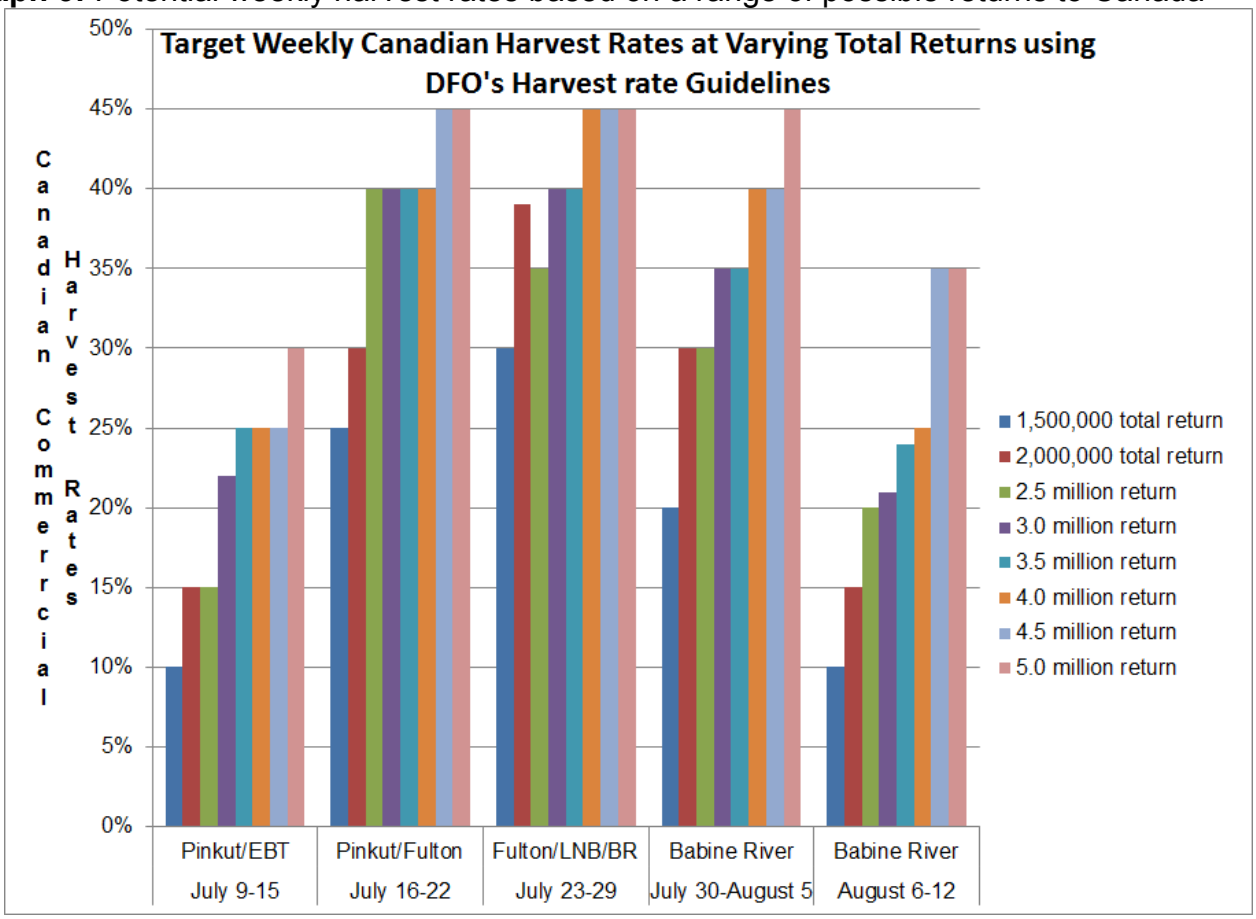
Graph 2: Relationship between modeled potential weekly harvest rates and historical weekly harvest rates. Anything below the black line represents a 50% reduction in the potential weekly harvest rate and meets the ISRP recommendations



The analysis above was for an average Skeena sockeye return to Canada of 2.5 million. DFO's abundance based model works over a range of stock sizes, employing aggregate harvest rates that range from 0 to 30%. Higher aggregate harvest rates result in much higher weekly harvest rates.

The following graph indicates the potential weekly harvest rates across a range of possible stock sizes. Reducing harvest rates further at the beginning and end of the fishing season will increase the potential harvest rates in the middle of the season. Canadian commercial harvest rates of 45% are 150% greater than the maximum recommended by the ISRP. Adding Alaskan and marine FSC harvest rates could increase weekly harvest rates to well in excess of 60%.

Graph 3: Potential weekly harvest rates based on a range of possible returns to Canada



Analysis of 2011 Fishery

Table 5: comparison between 2011 weekly harvest rates and weekly harvest rates in years with a similar total stock of Skeena sockeye (approximately 2 million). A ratio of less than .5 signifies a weekly harvest rate reduction in excess of 50%.

	June 21-July 1	July 2-8	July 9-15	July 16-22	July 23-29	July 30-August 5	August 6-12
	ENB	ENB	Pinkut/EBT	Pinkut/Fulton	Fulton/LNB/BR	Babine River	Babine River
1983	4.15	2.48	1.33	0.92	0.88	0.94	0.88
1986	0.64	0.61	0.47	0.43	0.50	0.67	0.80
2003	0.17	0.25	0.28	0.37	0.57	0.89	1.13
2008	0.78	0.62	0.40	0.32	0.36	0.48	0.68
Average	0.45	0.52	0.45	0.43	0.52	0.69	0.84

Graph 4: comparison between 2011 weekly harvest rates and weekly harvest rates in years with a similar total stock of Skeena sockeye. A ratio of less than .5 signifies a weekly harvest rate reduction in excess of 50%.

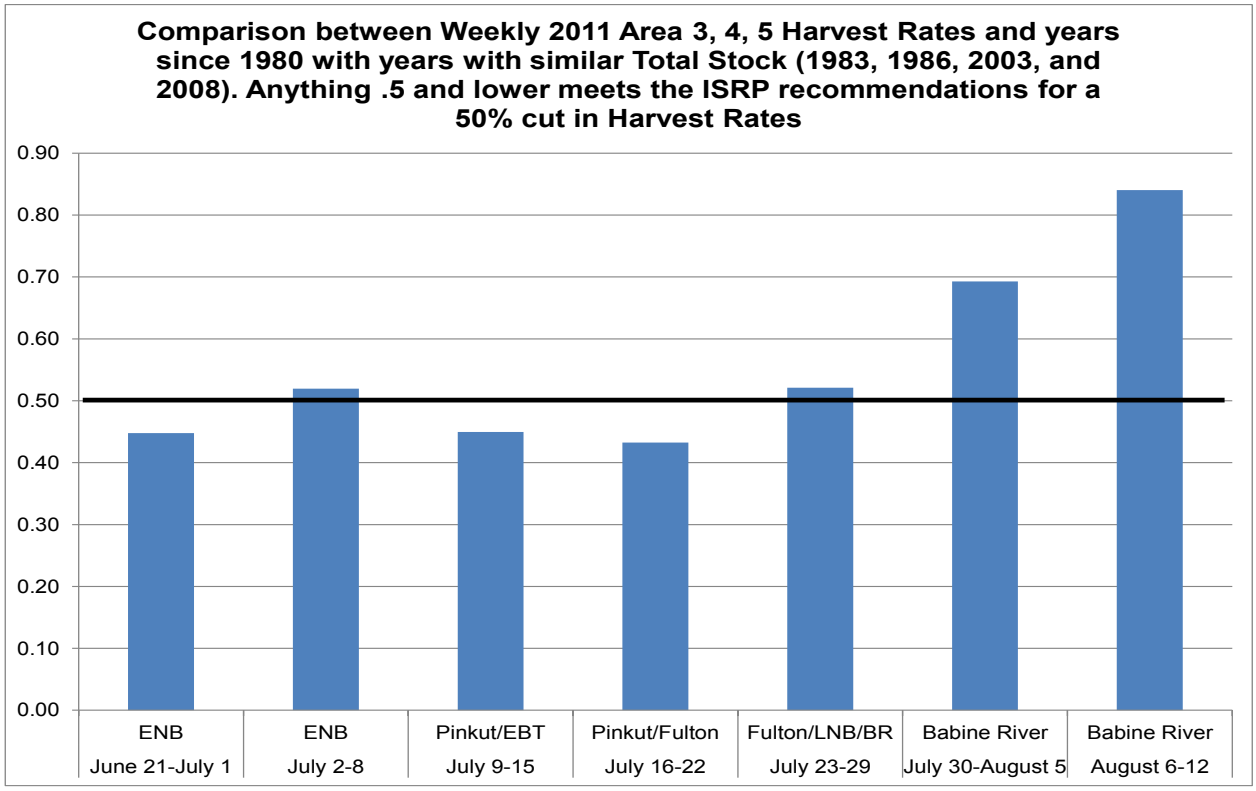
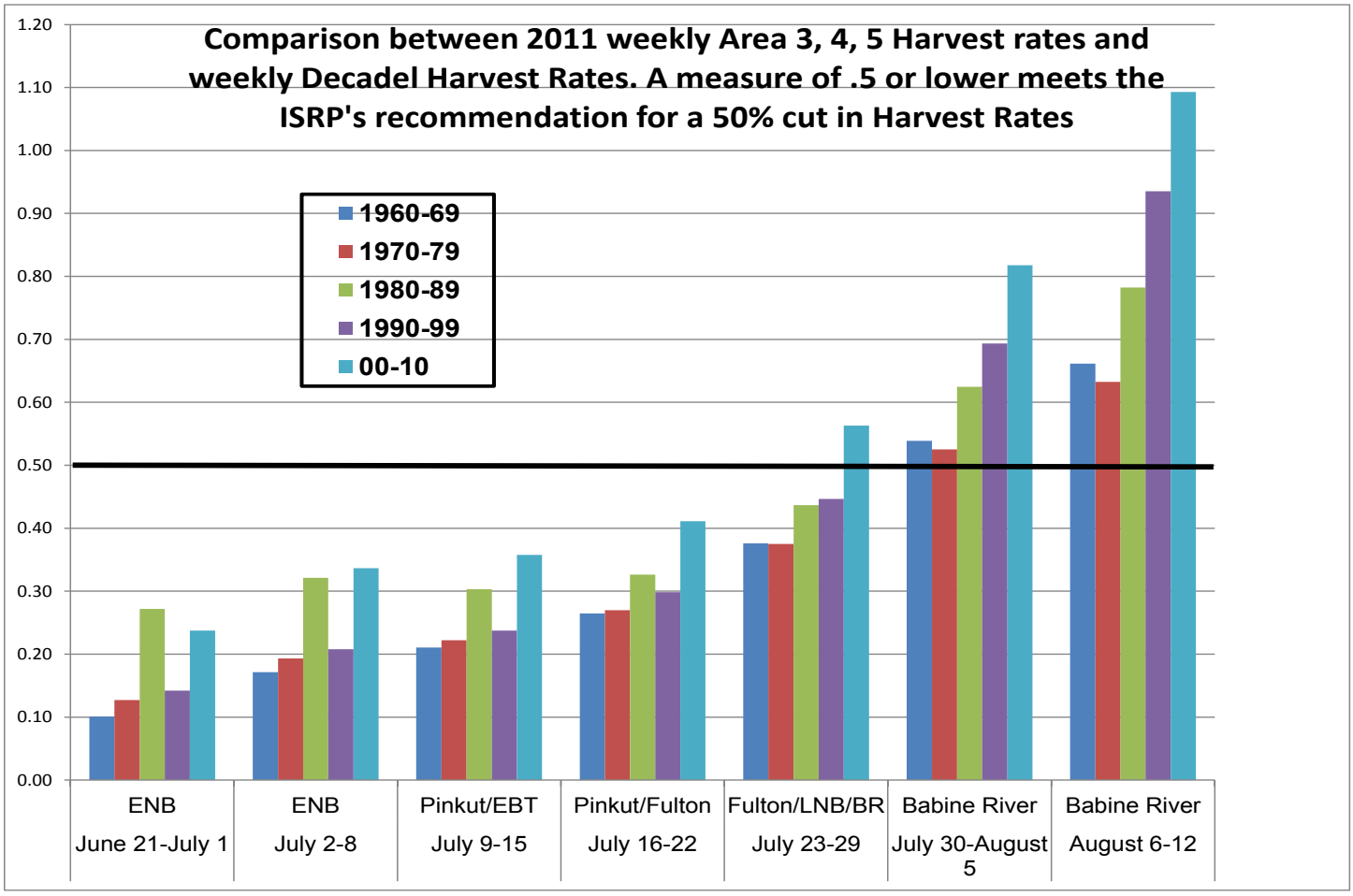


Table 6: Comparison between 2011 weekly harvest rates and weekly harvest rates for decadal averages. A ratio of less than .5 represents a 50% or greater reduction in weekly harvest impacts.

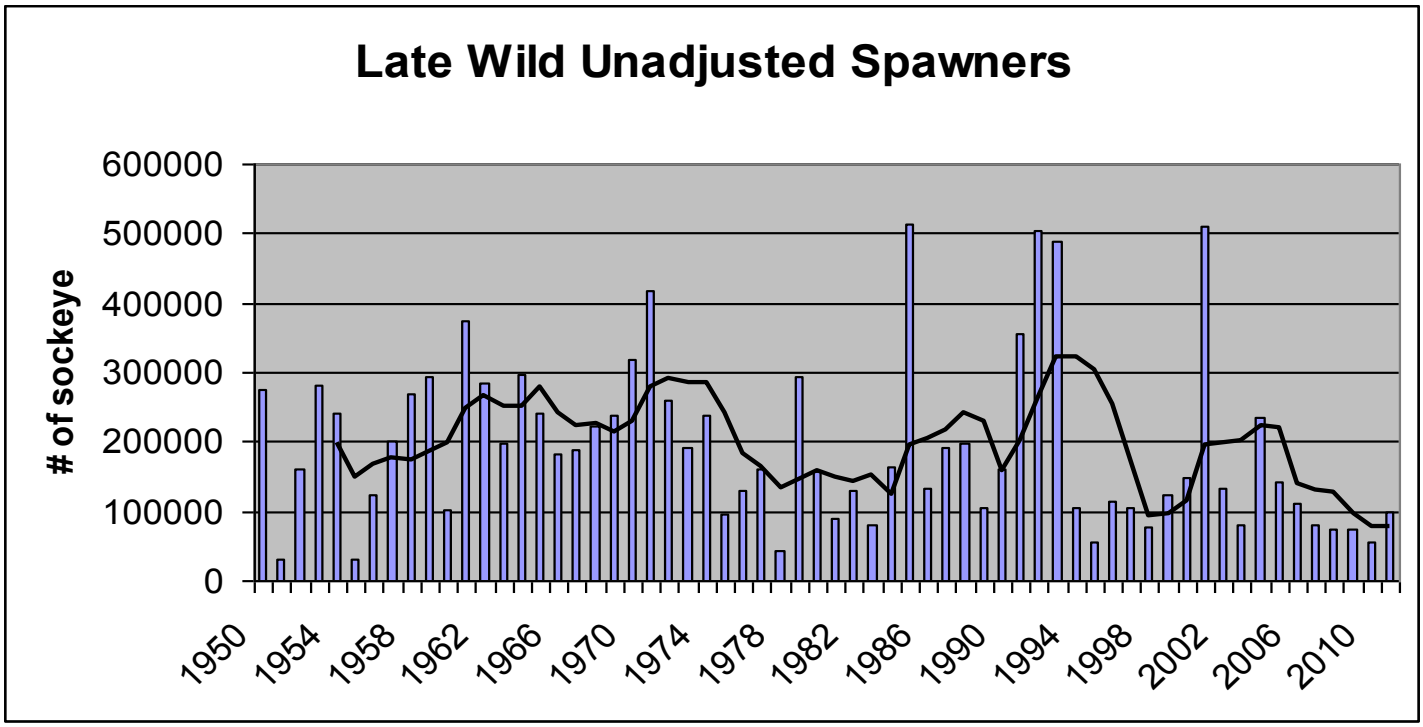
	June 21-July 1	July 2-8	July 9-15	July 16-22	July 23-29	July 30-August 5	August 6-12
	ENB	ENB	Pinkut/EBT	Pinkut/Fulton	Fulton/LNB/BR	Babine River	Babine River
1960-69	0.10	0.17	0.21	0.26	0.38	0.54	0.66
1970-79	0.13	0.19	0.22	0.27	0.38	0.53	0.63
1980-89	0.27	0.32	0.30	0.33	0.44	0.62	0.78
1990-99	0.14	0.21	0.24	0.30	0.45	0.69	0.94
00-10	0.24	0.34	0.36	0.41	0.56	0.82	1.09

Graph 5: Illustrates the above table



The 2011 sockeye return was 20% less than the average Skeena return. The aggregate harvest rate employed was 18%. DFO, either because of the uncertainty or in an attempt to try and avoid impacts on Conservation Units such as Kitwanga which peak around July 23 – 29, spread harvest rates across the run-timing. This had the impact of increasing harvest rates on depressed Babine River stocks. Steve Cox-Rogers and others commentators have described Babine River stocks as showing a serious downward trend. It is clear that spreading higher harvest rates later into the run is not a sustainable solution.

Graph 6: Late Wild Babine Spawning



Conclusion

DFO's abundance based harvest model alone will not address Condition 21b or the SG80 that failed to pass. It will not be sufficient to rebuild depressed Skeena target and non-target stocks that are below their LRP. It is difficult to agree with the 2011 surveillance audits conclusion that the abundance based harvest model shows, "good progress towards the fulfillment of this condition".

The Condition has three components:

1. **LRPs must be defined:** this work is still ongoing
2. **Recovery plans have been developed and implemented for stocks harvested in Skeena sockeye fisheries that are below their LRP**: this by definition, because the LRPs have not been defined, has not been done. But more importantly, the abundance based harvest model is not sufficient to address this element of the condition. It clearly will not lead to the rebuilding of Conservation Units that experience high weekly harvest rates.
3. **The proposed recovery plans provided information as to the probability and timing for recovery**: the abundance based model is not designed to meet this task.

The observations of the 2011 surveillance audit fail to effectively address either Condition 21b or the 80SG. The client has not made sufficient progress against this condition to close it out in 2012. Any other conclusion would not conform to MSC Certification Requirements, Vol. 2, 2012.

The Assessment Team should consider providing guidance to DFO and the client that the abundance based harvest model is not a sufficient rebuilding plan for stocks below their LRP. An abundance based harvest model with weekly harvest impact caps may be part of the solution, but effective rebuilding plans with associated probabilities and timing for recovery require a more comprehensive approach.

This guidance should be provided in the 2012 audit and the condition evaluated in 2013 when the work on benchmarks and stock status has been peer reviewed and put into operation in the 2013 IFMP.

Conditions 22

Indicator 2.3.1: Management strategies include provision for restrictions to the fishery to enable recovery of non-target stocks to levels above established LRPs (Limit Reference Points)

The 80 Scoring Guideposts that required a Condition:

> **The management system includes assessment of plans for the recovery of non-target stocks to levels above established LRPs.**
> **The management system has a reasonable (>60%) probability of achieving long-term recovery of depleted non-target stocks.**
> **Monitoring and assessment programs are established to determine with a high degree of confidence and in a timely manner that recovery is occurring.**
> **Escapement goals will be revised periodically to accommodate new data indicating success or failure of existing recovery plans.**

Condition 19: Continued certification of the Skeena sockeye salmon fishery is contingent upon developing and implementing a recovery plan for chum stocks harvested in Skeena sockeye fisheries that are below their LRP. The proposed recovery plan must include procedures for determining the impact of the existing fishery management system on these stocks and provide for decreasing incidental harvest rates on chum salmon, if harvest pressure is found to have significant risks to chum recovery. To be completed within two years.

Action Plan Summary: DFO will develop a chum rebuilding plan for Area 4 chum included chum spawning in the Skeena River and its tributaries.

Management measures to reduce the impacts of the Skeena sockeye fishery on chum has been ongoing, and significant changes have been made to the Skeena gillnet and seine fisheries. Time and area closures and selective fishing measures are used to reduce chum impacts.

DFO supports the SISRP report recommendation 6: *"Chum salmon stocks appear to be severely depressed and should be protected by avoiding late season ocean fishery openings and targeted fisheries of any kind."*

Retention of chum salmon was not permitted by seines or gillnets in Skeena commercial fisheries in 2009. DFO will continue to revise the IFMP to take a more precautionary approach to chum concerns in the Skeena sockeye fishery. Monitoring and compliance of these release fisheries will remain an important component of the rebuilding plan for chum. LRPs will be developed for

Skeena chum populations and provided for PSARC review by December, 2011.

Comments from May, 2011 audit: The assessment team was informed that development of recovery plans are underway for Area 4 chum and are expected to be delivered at the next surveillance audit. Based on the baseline stock status work already prepared and the current restrictions in both the 2010 and 2011 fisheries, the assessment team considers that the action plan deliverable is on target for evaluation in 2012.

Progress against the Condition: In order to address the condition, the following steps must be taken:

1. Estimating historical run-timing and harvests.
2. Estimating total (Alaska and Canadian) exploitation rate on Skeena chums using various catch and release mortality scenarios.
3. The development of a rebuilding plan for the May 2012 audit.
4. Evaluating the probability and time frame for recovery.
5. Estimate of the total (release and post-release) mortality of chum discards.

There needs to be an evaluation of progress prior to the audit. If more work is required, the evaluation of this condition should be delayed until 2013.

Condition 35d

Indicator 3.2.1: The research plan covers the scope of the fishery, includes all target species, accounts for the non-target species captured in association with, or as a consequence of fishing for target species, and considers the impact of fishing on the ecosystem and socioeconomic factors affected by the management program.

The 80 Scoring Guideposts that Required a Condition:

- **The management system incorporates a research component that provides for the collection and analysis of information necessary for formulating management strategies and decisions for both target and non-target species.**
- **The research plan addresses concerns related to the impact of the fishery on the ecosystem.**
- **The research plan addresses socioeconomic issues that result from the implementation of management.**
- **The research plan is responsive to changes in the fishery.**
- **Funding is adequate to support short-term research needs.**

Condition 27: Certification will be conditional until the management agency provides a research plan that addresses identified concerns related to the impact of the fishery on the ecosystem, with emphasis on non-target stocks (e.g. Skeena summer-run steelhead), and takes into consideration socioeconomic factors and anticipated changes to fisheries. This task should be completed by May 2012

Action Plan Summary: In addition to the more generic response provided above, the Skeena Watershed Process will provide a forum to help meet this condition. A socio-economic review of Skeena salmon fisheries was released in late October 2008, and is currently being reviewed as will be used to inform the Skeena Watershed Process. A “habitat” subcommittee has been formed and as a first step has initiated a mapping project to be completed by the spring of 2009, intended as a public information tool on salmon habitat, land use and ecosystem factors DFO will develop a program for monitoring the by-catch in Skeena sockeye fisheries including steelhead. Fishery impacts on steelhead have been estimated using a model jointly created by DFO and MOE, and reviewed by PSARC. The Skeena Independent Science Review commented on the model and expressed concern over the uncertainty in the model parameters. As recommended, DFO will work with MOE to review the utility of the model to estimate steelhead catch in the Skeena sockeye fisheries.

Research plans will be incorporated into a revised IFMP for the Skeena fishery by May 2012.

Comments from 2011 Audit: DFO indicated that there are on-going discussions on how to best develop the management/assessment framework, which will incorporate the requirements of the condition.

General feedback was provided in regard to this condition. DFO committed that the research plans will be provided in the second surveillance audit in 2012. This condition will be evaluated at the next surveillance audit.

Progress against the Condition: The condition requires an integration of research on identified concerns related to the impact of the fishery on the ecosystem, with emphasis on non-target stocks (e.g. Skeena summer-run steelhead), and takes into consideration socioeconomic factors and anticipated changes to fisheries. DFO proposed the SWI as a way to integrate these concerns. The SWI has since collapsed.

As the Assessment Team stated in its original assessment of the Skeena sockeye fishery: *"The lack of any research plan for Skeena sockeye fisheries makes it impossible to assess whether the plan addresses concerns related to the impact of the fishery on the ecosystem, what socioeconomic issues result from the implementation of management plans, or if the research plan is responsive to changes in the fishery*". The situation remains unchanged. Therefore, it is difficult to see how the Assessment Team would be able to close out the condition in 2012.

However, work on benchmarks and stock status may provide the basis for a future research plan. Also, DFO is required under the WSP to initiate Strategy 4 discussions to address these same concerns.

DFO may argue that it plans to move ahead with an integrated research plan under either the IHPC or WSP, but this is inadequate. MSC requires direct evidence that the requirements of the condition are effectively addressed.

Appendix B – Stakeholder Presentations

Upper Fraser Fisheries Conservation Alliance

Presentation to the Marine Stewardship Council Surveillance Audit Team – May 2012

Regarding Certification Unit – Fraser Sockeye

Concerning – "New" Information on Sockeye Stock/CU Status and MA Performance (Relative to MSC Standards and Principles, and *Conditions* of Certification)

Prepared by:

Upper Fraser Fisheries Conservation Alliance
Carrier Sekani Tribal Council
Lheidli T'enneh First Nation

Presented by:

Brian Toth, R.P.Bio., MBA

May 18, 2012

Outline/Introduction

Email to Steve Devitt from Brian Toth – April 26th 2012…

> *I would like the opportunity to meet with the Audit Team during the annual surveillance audit pertaining to BC Sockeye Fisheries, and in particular, Fraser sockeye (May 14-18, 2012).*
>
> *Specifically, I would like to provide and discuss recent information regarding the status of several Fraser sockeye conservation units relative to MSC's Conditions of Certification, and also discuss matters relating to the Management Agency's performance in relation to First Nation's FSC access.*
>
> a) *Brian Toth, Executive Director, Upper Fraser Fisheries Conservation Alliance - UFFCA; briantoth@shaw.ca<mailto:briantoth@shaw.ca>, phone 250-613-5680, fax 250-562-0404*
> b) *Biologist/Technical Advisor; the UFFCA is a Society (technically-focussed organization) that works towards the fisheries-related interests of First Nations in the upper Fraser watershed*
> c) *I would like to discuss recent information regarding the status of several Fraser sockeye conservation units and matters relating to the Management Agency's performance in relation to First Nation's FSC access*
> d) *If it would be possible to arrange a meeting time on Friday May 18 – that would be most preferable.*

The Upper Fraser Fisheries Conservation Alliance (UFFCA) is a Prince George-based non-profit society mandated to work towards the fisheries related interests of the First Nations in the upper Fraser River watershed. It is a technically rather than politically focussed organization http://www.uffca.ca/.

The UFFCA area includes up to 23 First Nation organizations that are eligible for membership within the organization. The area includes the spawning and natal habitat of numerous fish stocks, including the following sockeye stocks; Early Stuart, Bowron, Nadina and Taseko (Early Summer timing group) and all Summer sockeye stocks (Late Stuart, Stellako, Quesnel/Horsefly and Chilko).

The main impetus for the formation of the UFFCA was the common connection (amongst area First Nations) to the spawning and natal habitats of these stocks, and common challenges frequently created by the existing Fraser sockeye management framework – whereby these Central Interior/headwater groups are annually reliant upon the returning abundances of these

stocks – which return to headwater areas as a reflection of the effects of all other downstream impacts, including harvests by all other user groups and the impacts of environmental factors.

The UFFCA works through available means to promote and facilitate a management approach to Fraser sockeye that reflects the interests of the UFFCA area First Nations – primarily conservation and risk-averse management, and adequate escapements (in recent years). The UFFCA has been primarily funded through Federal programs, including AAROM and PICFI.

Surveillance Audit Presentation/Submission Summary

"New" information is available (that has, in the opinion of the UFFCA, undergone adequate peer review and scrutiny, to be considered by the Surveillance Audit Team) that documents the status of several Fraser sockeye stocks as being below levels of population abundance that demonstrate a substantive conservation concern, and would definitively indicate that (passive and facilitated) rebuilding-recovery are required, and that MSC Principle 1 and related Criteria are not being achieved.

Information will be presented to…

1. Provide stock/CU-specific examples of population declines and diminished abundance and relate them to recently completed assessments relating to stock/CU status
2. Outline how the specific situations described are analogous to previously imposed *Conditions* on the Conditional MSC Certification of the Fraser sockeye Certification Unit
3. Identify "new" or "renewed" *Conditions* for Conditional MSC Certification of the Fraser sockeye Certification Unit, and request their inclusion within the findings stemming from this audit advising the MA that their management framework must incorporate mechanisms to reflect the "new" or "renewed" *Conditions* during 2012 management, and beyond.

The intent of this presentation of "New" information is to provide the MSC Surveillance Audit Team with ample rationale to institute additional *Conditions* on the MA (in relation to the Fraser sockeye Certification Unit) to compel further change in their management framework towards full-achievement of the intent of MSC Principles and Criteria, and the implementation of Canada's Wild Salmon Policy in the manner in which it was Consulted and intended.

Further, (<u>in a subsequent written submission</u>) the components of the MA's management framework that have led to their failure to recognize/detect and adequately respond to the documented stock/CU-specific population declines presented will be outlined and related to MSC Principle 3, and specifically *Condition* 29 – Fraser *Condition* #3.6, which were, in the opinion of the UFFCA, incorrectly assessed and scored, resulting in the *Condition* being prematurely closed-out.

Origin of "New" Information

In response to a number of *Conditions* that MSC placed on the MA (primarily in relation to the implementation of Strategy 1 of the WSP), substantive work has been completed (by the MA) that has facilitated assessments of stock/CU or MU status. The MA's work towards WSP Strategy 1 and the MSC Conditions is summarized at http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/wsp-pss/strat1-eng.htm and related literature includes:

- Holtby, L.B. and K.A. Ciruna. 2007. Conservation units for Pacific salmon under the wild salmon policy.

- Holt et al 2009. Indicators of status and benchmarks for conservation units in Canada's Wild Salmon Policy.

- Holt 2009. Evaluation of Benchmarks for Conservation Units in Canada's Wild Salmon Policy.

Additional works focusing on Fraser sockeye stocks/CUs population health/status assessments have also been undertaken, including:

- CSAS Workshop, November 23, 2011 – Fraser Stock/CU status assessment relative to BMs

- Nelitz et al. 2011. Evaluating the status of Fraser River sockeye salmon and role of freshwater ecology in their decline

- Lheidli T'enneh 2011. A Review and Summary of the Status of Bowron Sockeye (CU 007); and Recommended Actions and Measures for Conservation and Rebuilding

- Levy et al. 2007. Stuart Area Sockeye Salmon Runs and their Importance to the First Nations of the Upper Fraser River Watershed

All provide insight into trends and status of Fraser sockeye stock/CU population abundance & health in relation to criterion established by MSC, WSP, COSEWIC, and various other status-assessment-mechanisms investigated by the MA. The key results of the MA's (and other's) stock/CU status assessments are summarized below [(in relation to 3 upper Fraser stocks/CUs of particular concern to the UFFCA – the Early Stuart, Bowron (Early Summer timing group) and Late Stuart (Summer timing group)]. Summarized status assessment information from the above cited works are provided in more detail in Appendix 1.

"New" Information – Fraser Sockeye Stock/CU Status

The findings of the MA's work with regard to assessing the health/status of the 3 upper Fraser stocks/CUs discussed, relative to WSP and MSC criterion, are summarized as follows:

- Grant et al. 2011 – All 3 stocks/CUs assessed as below their LRP/BM at all probabilities assessed
- Holt et al. 2009 – Early Stuart (Takla/Trembleur) "Spawner Abundance" criteria – assessed as below BM at all BMs utilized

Other works:

- Nelitz et al. (2011) – Early Stuart (severity of status high risk – moderate to low uncertainty), Bowron (moderate-high for both severity of status and uncertainty – At-Risk by COSEWIC Standards)
- CSAS Workshop November 23, 2011 – Early Stuart, Bowron and Late Stuart consistently assessed as being presently trending below their BMs

Summaries of the information regarding CU assessments complete to date are provided in Appendix 1.

To provide additional context to the status-assessment work recently completed (and ongoing), following is escapement data (PSC Fraser Sockeye Database) demonstrating population abundance trends for 3 sockeye stocks/CUs from the upper Fraser – assessed as currently being below their BMs/LRPs according to the above cited works.

Early Stuart Status (E. Stuart run-timing group)

See Appendix 1 - Presentation

Bowron Status (E. Summer timing group)

See Appendix 1 - Presentation

Late Stuart Status (Summer timing group)

See Appendix 1 - Presentation

IMM Response: See IMM Response #1 in Section 4.2.2. See note on "New" information in Section 4.2.

"New" Information – Relation to MSC (Surveillance Audit and Conditional Certification)

The UFFCA's opinion is that the MA's and other's work and findings in relation to the status of the 3 upper Fraser stocks/CU or MUs described above, as well as others within the Fraser Certification Unit, constitutes significant "New" information as per MSC evaluation/ monitoring

guidelines[1] that require MSC to consider imposing new *Conditions* on the MA's Conditional MSC Certification of the Fraser Sockeye Certification Unit.

The UFFCA's opinion regarding the "New" information reflects the following aspects of MSC's evaluation and Certification framework:

- Principle 1: A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted; the fishery must be conducted in a manner that demonstrably leads to their recovery.
- MSC Criterion 1.1: The fishery shall be conducted at catch levels that continually maintain the high productivity of the target population(s) and associated ecological community relative to its potential productivity.
    - *Subcriterion and Indicators under this criterion are not being achieved (or adequately pursued – Management Goals reflecting stock/CU-specific rebuilding goals, LRPs, or TRPs)*
- Subcriterion 1.1.3: Management goals have been set and are appropriate to protect the stocks from decline to their Limit Reference Point or operationally equivalent undesirable low level of abundance.
- MSC Criterion 1.2: Where the exploited populations are depleted, the fishery will be executed such that recovery and rebuilding is allowed to occur to a specified level consistent with the precautionary approach and the ability of the populations to produce long-term potential yields within a specified time frame.
    - Expectation for Criterion 1.2: Our (Assessment Team's) interpretation of MSC Criterion 1.2: This criterion refers to "populations" where our indicators and evaluation criteria refer to stocks or stock units. The evaluation under this criterion will assess the degree to which the management strategy is designed to keep targeted stocks from becoming depleted, and to promote recovery if they become depleted.

IMM Response: See IMM Response #2 in Section 4.2.2. See note on "New" information in Section 4.2.

New Conditions

[1] 27.22.17.1 The CAB becomes aware of major changes in relation to the circumstances of the fishery

a. A 'major change' is one that is likely to have a material difference on the certification status. A PI score falling below 60 or outcome PI score falling below 80, or a change that could bring about a Principle Level aggregate score to drop below 80 shall be considered material differences to certification status.

27.22.17.2 Significant new information becomes available in relation to the circumstances of the fishery including during the period between the original assessment and the issue of a certificate.

a. Significant new information is that which is likely to have a material difference on the certification status. A PI score falling below 60 outcome PI score falling below 80, or a change that could bring about a Principle Level aggregate score to drop below 80 shall be considered material differences to certification status.

The new *Conditions* envisioned would be analogous to and congruent with the previous *Conditions* imposed by the MSC in relation to the stocks/CUs impacted by fisheries on Fraser stocks that were documented as requiring rebuilding and recovery actions at the time of the initial Conditional Certification of the Fraser sockeye unit (and reflect a consistency in MSC's Certification-approach) e.g.:

- Condition 7: Certification is conditional until the management agency provides a clear commitment to implement the recovery plan for Cultus sockeye and evidence that fisheries management actions are consistent with the recovery goals for Cultus sockeye, within one year.
- Condition 25: Certification will be conditional until the management agency provides a clear commitment to implement recovery action plans for Cultus and Sakinaw sockeye, within one year

The UFFCA is available and willing to provide its technical resources (immediately) to work with the MSC Assessment Team to develop the specific wording of MSC *Conditions* for the Fraser sockeye Certification Unit related to rebuilding-recovery plans for Early Stuart, Bowron and Late Stuart sockeye stocks/CUs.

Noting the following:

1. The MA, in recent years, has managed Early Stuart to (10%) ER target reflective of a stock posing a serious conservation concern but has, despite several requests, not supported the pursuit of directed-facilitated rebuilding-recovery planning or activities.
2. The MA has in the last two years implemented a 1-week window closure that affords Early Summer Fraser sockeye, including the Bowron stock/CU, a level of reduced exploitation (of unknown benefit). However ER options on the Early Summer stocks are still considered in aggregate, and in some years, depending on forecast and in-season Early Summer aggregate abundance, ERs on the Bowron are substantial and above what would be considered adequate given the stock's/CU's status.
    a. Lheidli T'enneh has developed a facilitated rebuilding-recovery plan for the stock/CU through their AFS Agreement, and has been endorsed (by the MA) to implement portions of the plan through their AFS funding. Discussions regarding the MA's support for, commitment too and involvement in the implementation of the plan are ongoing.
    b. Lheidli T'enneh has annually (for more than a decade) requested (via Consultation mechanisms) the MA implement an ER on Bowron sockeye to facilitate rebuilding, and requested the MA jointly pursue and implement a rebuilding-recovery plan, and the Community has voluntarily avoided directed harvests of the stock for the same time period. The Community has developed

and submitted numerous applications to the Southern Fund to pursue rebuilding-recovery options, and conducted several studies of the stock's trends and its habitats – independently and in conjunction with DFO Science.

c. The Indian/Kruger stock/CU appears to have been extirpated – causative factors unknown.

3. The MA has not considered management actions for the Late Stuart stock/CUs in anyway reflective of its status, and continues to plan and implement fisheries on the Summer stocks in aggregate, based on abundances largely produced by the Chilko stock/CUs. ERs on the Late Stuart stock/CUs have therefore been unreasonably high considering it status, including the two most recent years (data not available for 2010 and 2011).

The UFFCA believes that the documented trends for the three stocks/CUs presented have and continue to demonstrate (spawner) population abundance levels that are contrary to prudent or sustainable management according to MSC Principle 1, and contrary to a management approach that adequately reflects the interests of most UFFCA-area First Nations in many instances. While the various status assessments (relative to estimated benchmarks/LRPs) completed nearly unanimously concur with that opinion (in reference to MSC or WSP principles), the UFFCA does not presently endorse the benchmarks established or contemplated to date[2] (they are likely lower than required).

Condition 29 – Fraser Condition #3.6

Further, (<u>in a subsequent written submission</u> – Addendum to this document) the components of the MA's management framework that have led to their failure to recognize/detect and adequately respond to the documented stock/CU-specific population declines below acceptable levels (some of which have been long-term in nature) will be outlined and related to MSC Principle 3, and specifically *Condition* 29 – Fraser *Condition* #3.6, which were, in the

[2] The UFFCA believes that the establishment of lower and upper benchmarks/LRPs-TRPs for Fraser sockeye is a matter that requires (deep) bilateral Consultation with effected First Nations, and that has yet to be initiated with Upper Fraser First Nations. Factors required to be considered in BM/LRP development include:

1. The abundance-based needs of headwater First Nations reliant on one or a few stocks to meet their FSC needs
2. The spawning and/or rearing habitat capacity of an individual stock
3. The cyclic-dominance patterns of individual stocks
4. Freshwater and related terrestrial ecosystem factors

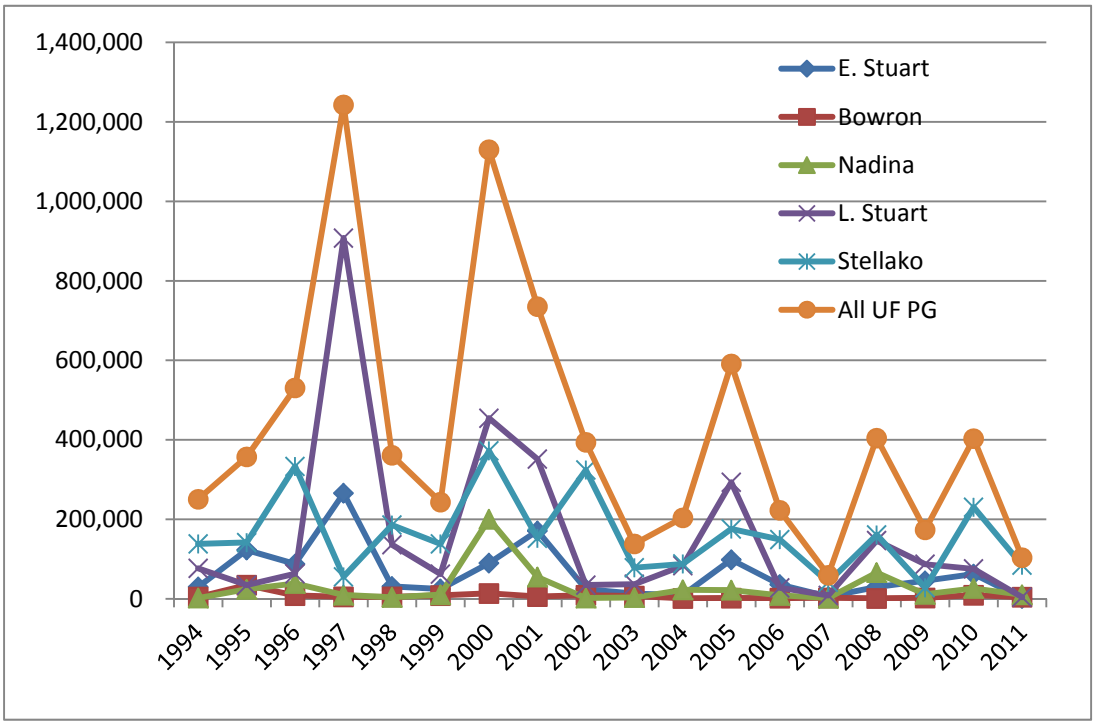
IMM Response: See IMM Response #3 in Section 4.2.2. See note on "New" information in Section 4.2.

opinion of the UFFCA, incorrectly assessed and scored, resulting in the *Condition* being prematurely closed-out.

The utility and adequacy of the MA's Consultation "processes" can be somewhat measured by fact that I've been directed to provide this information to and request the identified Conditions be imposed by – the MSC (Surveillance Audit) – a 3rd party Certifying Body.

The Aboriginal Programming (funding) listed in DFO's Condition 29 (Fraser 3.6):

- Cannot be utilized to facilitate FSC access
- Cannot be utilized to engage legal counsel for the purposes of, or engage in litigation
- Is highly controlled (in terms of what activities can be pursued) by DFO



IMM Response: See IMM Response in Section 4.2.2. See note on "New" information in Section 4.2.

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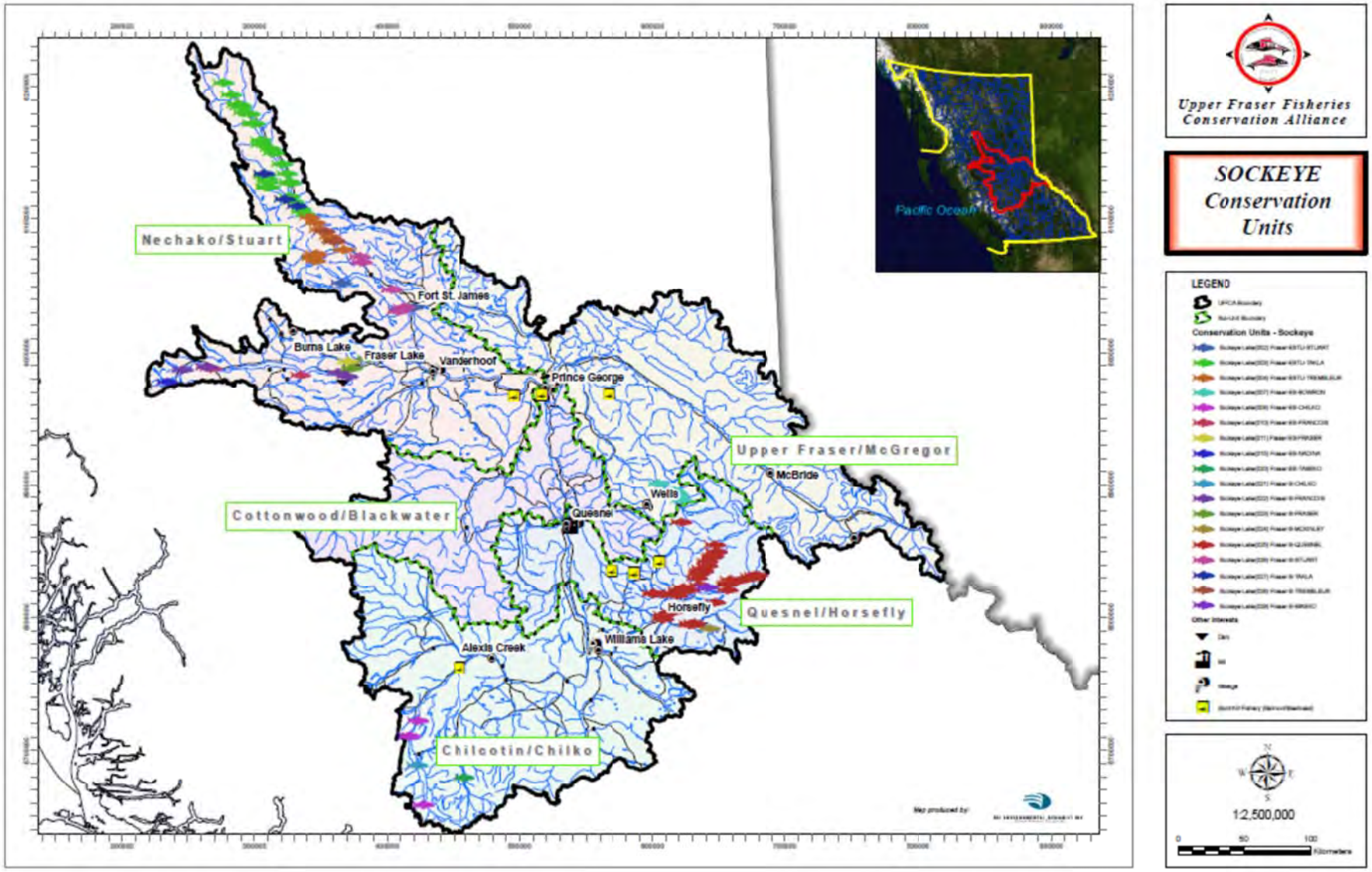
Lheidli T'enneh. 2010. A Review and Summary of the Status of Bowron Sockeye (CU 007); and Recommended Actions and Measures for Conservation and Rebuilding

Nelitz, M., M. Porter, E. Parkinson, K. Wieckowski, D. Marmorek, K. Bryan, A. Hall and D. Abraham. 2011. Evaluating the status of Fraser River sockeye salmon and role of freshwater ecology in their decline. ESSA Technologies Ltd. Cohen Commission Tech. Rept. 3: 222p. Vancouver, B.C. www.cohencommission.ca

Appendix 1

UFFCA Presentation to the Marine Stewardship Council

Surveillance Audit Team – May 2012


Upper Fraser Fisheries Conservation Alliance
SOCKEYE Conservation Units
Nechako/Stuart
Fort St. James
Burns Lake
Fraser Lake
Vanderhoof
Prince George
Upper Fraser/McGregor
McBride
Wells
Quesnel
Cottonwood/Blackwater
Horsefly
Quesnel/Horsefly
Williams Lake
Alexis Creek
Chilcotin/Chilko
Pacific Ocean
LEGEND
Conservation Units - Sockeye
1:2,500,000

From Grant et al. (2011) Table 4.

Run Timing Group / Conservation Unit	model (time series)	Abundance (Effective Total Spawner) Lower Benchmark 10%	25%	50%	75%	90%	Abundance (Effective Total Spawner) Upper Benchmark 10%	25%	50%	75%	90%	(ETS) Arithmetic Mean Last Gen. 2006-2009	Stock Status Probability Level 10% 25% 50% 75% 90%	(ETS) Geometric Mean Last Gen. 2006-2009	Stock Status Probability Level 10% 25% 50% 75% 90%
Early Stuart Run															
Takla-Trembleur-EStu	Ricker (1960-2004)	46,000	55,000	68,000	88,000	111,000	174,000	192,000	218,000	259,000	302,000	26,500		20,200	
	Ricker (1970-2004)	63,000	76,000	97,000	127,000	154,000	177,000	198,000	225,000	263,000	298,000				
	Ricker (1990-2004)	85,000	95,000	111,000	126,000	130,000	138,000	138,000	143,000	147,000	147,000				
	smoothed-Ricker (1960-2004)	62,000	72,000	85,000	104,000	126,000	74,000	84,000	97,000	117,000	139,000				
	Recursive-Bayes Ricker (1960-2004)	82,000	107,000	138,000	176,000	218,000	83,000	131,000	187,000	261,000	332,000				
Early Summer Run															
Bowron-ES	Ricker (1960-2004)	3,000	3,000	4,000	5,000	6,000	13,000	15,000	17,000	19,000	22,000	1,600		1,500	
	Ricker (1970-2004)	3,000	3,000	4,000	5,000	7,000	11,000	13,000	14,000	17,000	18,000				
	Ricker (1990-2004)	3,000	4,000	5,000	7,000	9,000	10,000	11,000	12,000	14,000	15,000				
	smoothed-Ricker (1960-2004)	4,000	5,000	5,000	6,000	7,000	5,000	6,000	6,000	7,000	8,000				
Summer Run															
Chilko-S & Chilko-ES aggregate	Ricker (1960-2004)	28,000	33,000	39,000	47,000	54,000	238,000	252,000	273,000	294,000	311,000	275,000		248,700	
	Ricker (1970-2004)	20,000	26,000	31,000	39,000	50,000	215,000	235,000	252,000	274,000	304,000				
	Ricker (1990-2004)	21,000	28,000	43,000	66,000	92,000	216,000	239,000	258,000	285,000	310,000				
	smoothed-Ricker (1960-2004)	44,000	51,000	61,000	72,000	85,000	200,000	209,000	222,000	236,000	253,000				
	Recursive-Bayes Ricker (1960-2004)	37,000	46,000	63,000	81,000	99,000	197,000	223,000	250,000	278,000	309,000				
Takla-Trembleur-Stuart-S	Ricker (1960-2004)	55,000	73,000	104,000	146,000	197,000	343,000	400,000	489,000	608,000	741,000	59,100		38,400	
	Ricker (1970-2004)	64,000	87,000	125,000	188,000	267,000	365,000	414,000	500,000	622,000	763,000				
	Ricker (1990-2004)	129,000	170,000	234,000	309,000	392,000	349,000	390,000	444,000	499,000	549,000				
	smoothed-Ricker (1960-2004)	105,370	150,000	209,000	284,000	392,000	216,000	336,000	482,000	703,000	958,000				
	Recursive-Bayes Ricker (1960-2004)	110,000	134,000	166,000	210,000	272,000	164,000	192,000	231,000	284,000	358,000				

Table 4. Abundance metric statuses for each assessable Fraser Sockeye Conservation Unit (CU) are presented across a range of model forms (structural uncertainty), probability levels (stochastic uncertainty), and methods for averaging recent abundances (geometric versus arithmetic). For each CU, benchmarks are presented for full time series standard Ricker models (first model in the series) and truncated Ricker models (second and possibly third model in the series, depending on the CU), with the time series length indicated in brackets besides the model name. The final two model forms used to estimate benchmarks for Fraser Sockeye, include the smoothed-Ricker and the recursive-Bayesian Ricker models. For each CU and model form, the cumulative probability distributions (from the 10% to 90% probability levels) of lower and upper benchmarks are also presented. Abundance metric status is evaluated by comparing a CU's arithmetic and geometric mean of the last generation ETS (2006-2009) in relation to these benchmarks. WSP Status is Red if the last generation ETS is below the lower benchmark, Green if it is above the upper benchmark and Amber if it is between the lower and upper benchmarks.

From Holt et al. (2009) – Appendix A

Status of Takla/Trembleur (Early Stuart) sockeye salmon according to various indicators grouped into four classes: spawner abundances, trends in abundance, distribution, and fishing mortality. Status is assessed relative to upper and lower benchmarks. Zone of status (Red, Amber, Green) is identified only for those metrics for which data and benchmarks are available. SRR is the stock-recruitment relationship. All other abbreviations are described in Table 5 and Table 6 in the text. See also Figs. A1-A5 below.

Class of Indicator

- Spawner Abundance – Red (below BM) at all BMs proposed
- Trends in Spawner Abundance – Red at all except using Ratio of geometric mean spawner abundance of current generation to historical mean **(**1950-2008) **(**Pestal and Cass, 2007)
- Fishing Mortality – green at all assessed levels (ER is no longer the population driver)

From Nelitz et al. (2011)

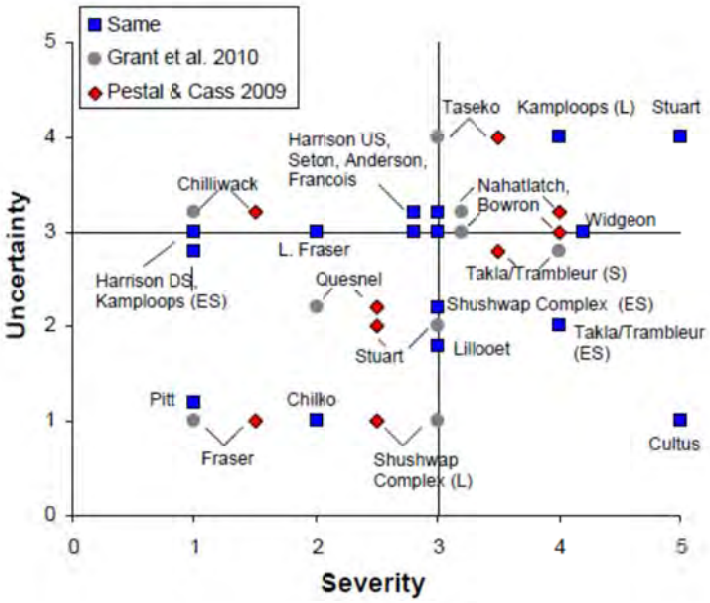


Figure 5. Modified conservation status for some CUs based on work of Grant et al. (2010). Blue squares indicate conservation status that did not change as a result of Grant et al.'s work. Grey circles represent conservation status as determined by Pestal and Cass (2009), and red diamonds represent modified CU status based on input from Grant et al. (2010).

From Nelitz et al. (2011)

8.0 Tables

Table 1. **Status of 36 sockeye salmon Conservation Units (as reported by Pestal and Cass 2009), alignment of these CUs with stocks for which there are productivity data from the Pacific Salmon Commission (as analyzed by Peterman et al. 2010), and summary of evidence / rationale for modifying status where appropriate (as part of this report's evaluation). Status is defined by severity (sev) and uncertainty (unc). Severity: 1 = low risk and 5 = high risk. Uncertainty: 1 = low uncertainty/high confidence, 5 = high uncertainty/low confidence, and 10 = insufficient information.**

CU Index	Management group	CU Type	Conservation Unit	Freshwater adaptive zone	Status category	Status scores		Stock name(s) for productivity data	Data avail		Status adjustment based on Grant et al. 2010
						Sev	Unc		Total	Juv	
L-6-12	Early Stuart	Lake	Stuart	Middle_Fraser	IV	5	4	E.Stuart	X	X	Not assessed by Grant et al.
L-6-14	Early Stuart	Lake	Takla/Trembleur	Middle_Fraser	III	4	2				Same
L-3-1	Early Summer	Lake	Chilliwack	Lower_Fraser	II	1	3				Severity 1/2
L-3-5	Early Summer	Lake	Pitt	Lower_Fraser	I	1	1	Pitt	X		Same
L-5-2	Early Summer	Lake	Nahatlatch	Fraser_Canyon	IV	3	3				Severity 4 (at risk by COSEWIC stds.)
L-6-1	Early Summer	Lake	Anderson	Middle_Fraser	IV	3	3	Gates	X	X	Unchanged
L-6-16	Early Summer	Lake	Taseko	Middle_Fraser	IV	3	4				Severity 4/3 (at risk by COSEWIC stds.)
L-6-2	Early Summer	Lake	Chilko	Middle_Fraser	UNK		10	Chilko	X	X	Same
L-6-4	Early Summer	Lake	Francois	Middle_Fraser	IV	3	3	Nadina	X	X	Same
L-6-6	Early Summer	Lake	Fraser	Middle_Fraser	UNK		10				Not assessed by Grant et al.
L-6-9	Early Summer	Lake	Nadina	Middle_Fraser	UNK		10	Nadina	X	X	Not assessed by Grant et al.
L-7-1	Early Summer	Lake	Bowron	Upper_Fraser	IV	3	3	Bowron	X		Severity 4 (at risk by COSEWIC stds)
L-7-2	Early Summer	Lake	Indian/Kruger	Upper_Fraser	UNK		10				Not assessed by Grant et al.
L-9-2	Early Summer	Lake	ShuswapComplex	South_Thompson	III	3	2	Scotch and Seymour	X		Same
L-10-1	Early Summer	Lake	Kamloops	North_Thompson	II	1	3	Fennel and Raft	X		Same
L-6-10	Summer	Lake	Quesnel	Middle_Fraser	I	2	2	Quesnel	X	X	Severity 2/3
L-6-13	Summer	Lake	Stuart	Middle_Fraser	III	3	2	L. Stuart	X		Same
L-6-15	Summer	Lake	Takla/Trembleur	Middle_Fraser	IV	4	3	L. Stuart	X		Severity 3/4
L-6-3	Summer	Lake	Chilko	Middle_Fraser	I	2	1	Chilko	X	X	Same
L-6-5	Summer	Lake	Francois	Middle_Fraser	UNK		10	Stellako	X	X	Not assessed by Grant et al.
L-6-7	Summer	Lake	Fraser	Middle_Fraser	I	1	1	Stellako	X	X	Severity 1/2
L-6-8	Summer	Lake	Mckinley	Middle_Fraser	UNK		10	Quesnel	X	X	Lumped with Quesnel-S
L-3-2	Late	Lake	Cultus	Lower_Fraser	III	5	1				Same
L-3-3	Late	Lake	Harrison(D/S)	Lower_Fraser	II	1	3	Harrison	X		Same
L-3-4	Late	Lake	Harrison(U/S)	Lower_Fraser	IV	3	3	Weaver	X	X	Same
L-4-1	Late	Lake	Lillooet	Lillooet	III	3	2	Birkenhead	X		Severity 2/3
L-5-1	Late	Lake	Kawkawa	Fraser_Canyon	UNK		10				Not assessed by Grant et al.
L-6-11	Late	Lake	Seton	Middle_Fraser	IV	3	3	Portage	X		Same
L-9-1	Late	Lake	Kamloops	South_Thompson	IV	4	4				Same (at risk by COSEWIC standards)
L-9-3	Late	Lake	ShuswapComplex	South_Thompson	III	3	1	L. Shuswap	X	X	Severity 2/3
R02	River	River	Widgeon	Widgeon	IV	4	3				Same (at risk by COSEWIC standards)
R03	River	River	Lower_Fraser	LFR	II	2	3				Same
R04	River	River	Fraser_Canyon	FRCany	UNK		10				Not assessed by Grant et al.
R05	River	River	Middle_Fraser	MFR	UNK		10				Not assessed by Grant et al.
R06	River	River	Upper_Fraser	UFR	UNK		10				Not assessed by Grant et al.
R07	River	River	Thompson_River	THOM	UNK		10				Not assessed by Grant et al.

From CSAS Workshop (assessment of Fraser sockeye CU status) November 23, 2011 (see Note 10 – below)

Run Timing Group	CU Name(1)	Abundance Metric(2 and 3)	Long-Term Trends(4)	Recent Trends(5)	Recent Productivity (6)	Cyclical Stock(7)	Abundance if Ricker/ Arithmetic Mean Used(8)	Abundance if Larkin Used(9)	Workshop Concensus(10)	Holtby Synoptic(11)	CU Code
Early Stuart											
	Takla-Trembleur	N/A	Amber	Red	Flat	Y	Red	Amber	Red	1	20
Early Summer											
	Bowron	Red	Red	Red	Declining				Red	1	16
	Kamloops	Red/Amber	Green	Green	Flat				Amber	6	13
	Anderson	Red/Amber	Green	Red					Red/Amber	2	
	Nadina-Francois	Red	Green	Red	Declining				Red	3	8
	Pitt	Green	Green	Red	Variable				Amber	6	17
	Shuswap	N/A	Green	Red	Variable	Y	Red/Amber	Amber	Amber/Green	2	23
	Nahatlach	Unavailable	Amber	Red	Unavailable				Red	1	12
	Chilliwack	Red (Carr Cap)	Unavailable	Unavailable	Unavailable				Amber	3	3
	Taseko	Unavailable	Red	Red	Unavailable				Red	1	10
Summer											
	Chilko	Amber/Green	Green	Red	Declining				Green	1	5
	Takla-Trembleur	N/A	Green	Red	Declining	Y	Red	Amber	Red/Amber	1	24
	Quesnel	N/A	Green	Red	Declining	Y	Red	Amber	Red	1	21
	Francois-Fraser	Red/Amber	Green	Red	Declining				Red/Amber	3	1
Late											
	Cultus	Red	Red	Red	Declining				Red	1	14
	Shuswap	N/A	Green	Green	Declining	Y	Amber/Green	Red	Amber/Green	4	22
	Seton	Red/Amber	Amber	Red	Declining				Red/Amber	2	18
	Harrison U/S	Amber	Amber	Red	Flat				Amber	3	7
	Harrison D/S	Unavailable	Green	Green	Unavailable				Green	6	11
	Harrison	Green	Green	Green	Increasing				Green		9
	Lillooet	Green	Green	Green	Declining				Green	6	15
	Widgeon	Amber	Amber	Green						2	2
	Kamloops	N/A	Green	Red	Declining	Y	Amber	Amber/Green	Amber	3	19

Notes

1. Please see Grant et al for more detail on specific CU's
2. The Abundance Metric employs several different S/R Models that used different productivity parameters. I used the status that best represented the information
3. The Abundance Metric employs Sgen as a Benchmark. Grant et al 2011 argues for Sgen based on Holt et 2009 and Holt and Bradford 2011
   Sgen generates a benchmark that has a low (<10%)probability of extirpation over 100 years and allows for rebuilding to Smsy in one generation in the absence of fishing
4. The Long-term Trends metric is a ratio of the current EFS (Effective Female Spawners) to the historical average: <50% Red; >75% Green; in between amber
5. The Recent Trends Metric is the linear change in abundance in the last 3 generations: <25% red; >15% decline green; in between amber
   This is described in terms of probabilities to capture uncertainty in the data. For example, the probability of a CU is below its lower benchmark is XX%
6. Measure of time-varying productivity. A rough estimate from either R/ETS or smooted a parameter (Kolman Filter removes large outliers).
7. Y denotes a cyclical CU. Workshop discussion led to the abundance metric not being used to determine stock status for cyclical CU's. More technical work is required
8. Grant et al 2009 suggests using Ricker with an aritmetic mean to generate Sgen as the lower benchmark. This column shows stock status relative to this lower benchmark.
9. It was suggested at the beginning of the workshop that Larkin would be a more appropriate model to generate the lower benchmark. This column shows stock status realtive to this lower benchmark
10. The workshop concensus status is a guide to what participants were thinking. It is NOT a CSAS recommendation.
11. Holtby's Synoptic methodology does not provide definitive conclusions about conservation status as does the WSP, nor is it part of the implementation of the WSP.
    However, it does provide a useful alternative measure of a CU's status: 1 = very high risk; 2 = high risk; 3= moderate risk; 4 = of concern; 5 = not of concern; 6 = not of concern

Table of revised Target and Non-Target Fraser CU's as described for MSC Certification; Lower and Upper Benchmarks as reported in Grant, 2010; and Current Status

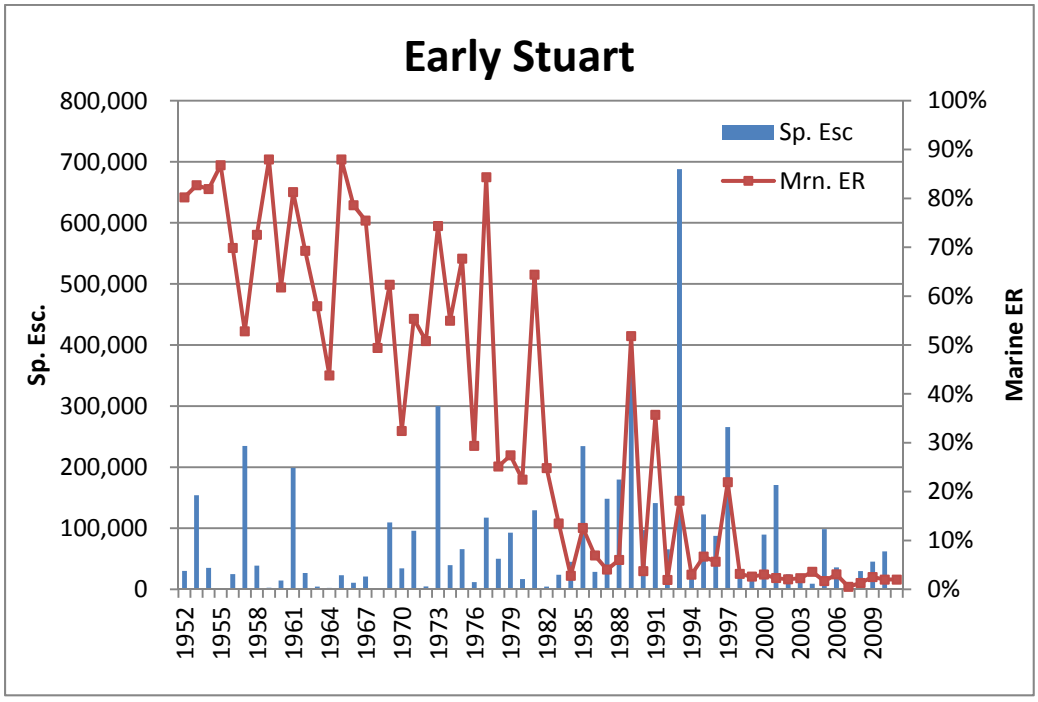
MSC Target Conservation Units for Fraser	Timing Group	2012 Cycle Year	2013 Cycle Year	2014 Cycle Year	2015 Cycle Year	Lower Benchmark	Upper Benchmark	Integrated Status	Holtby Synoptic
	Early Stuart								
		Takla-Trembleur	Takla-Trembleur	Takla-Trembleur	Takla-Trembleur	68-138,000	97-225,000	Red	Red
	Early Summer								
		Nadina-Francois	Nadina-Francois	Nadina-Francois	Nadina-Francois	17-20,000	48-58,000	Red	Amber
		Bowron	Anderson	Bowron	Bowron	4-5,000	6-17,000	Red	Red
		Taseko		Taseko	Taseko	N/A	N/A	Red	Red
		Anderson		Anderson	Anderson	3-5,000	14-25,000	Red/Amber	Red
		Shuswap		Shuswap	Shuswap	51-89,000	113-198,000	Amber/Green	Red
		North Barriere		North Barriere	North Barriere	510-2,000	5-7,000		
		Kamloops		Kamloops	Kamloops	4-19,000	22-60,000	Amber	Green
		Nahatlach		Nahatlach	Nahatlach	N/A	N/A	Red	Red
		Chilliwack		Chilliwack	Chilliwack	8,000	16,000	Amber	Amber
		Pitt	Pitt	Pitt	Pitt	6-10,000	22-27,000	Amber	Green
	Summer								
		Takla-Tembleur	Takla-Tembleur	Takla-Tembleur	Takla-Tembleur	104-234,000	231-500,000	Red/Amber	
		Francois-Fraser	Francois-Fraser	Francois-Fraser	Francois-Fraser	42-96,000	90-195,000	Red/Amber	
		Quesnel	Quesnel	Quesnel	Quesnel	112-255,000	369-701,000	Red	Red
		Chilko	Chilko	Chilko	Chilko	31-63,000	222-273,000	Green	Red
	Late								
		Shuswap		Shuswap	Shuswap	337-519,000	394-1,288,000	Amber/Green	Red
		Lillooet	Lillooet	Lillooet	Lillooet	11-27,000	51-77,000	Green	Green
		Seton	Seton	Seton	Seton	1-2,000	6-10,000	Red/Amber	Red
		Widgeon	Widgeon	Widgeon	Widgeon	N/A	N/A		
		Cultus				12-14,000	24-34,000		Red
MSC Non-Target Conservation Units	**Early Stuart**								
		None	None	None	None				
	Early Summer								
			Bowron			4-5,000	6-17,000		Red
			Kamloops			4-19,000	22-60,000	Amber	Green
			North Barriere			510-2,000	5-7,000		
			Shuswap			51-89,000	113-198,000	Amber/Green	Green
	Summer								
		None	None	None	None				
	Late								
			Cultus	Cultus	Cultus	12-14,000	24-34,000	Red	Red

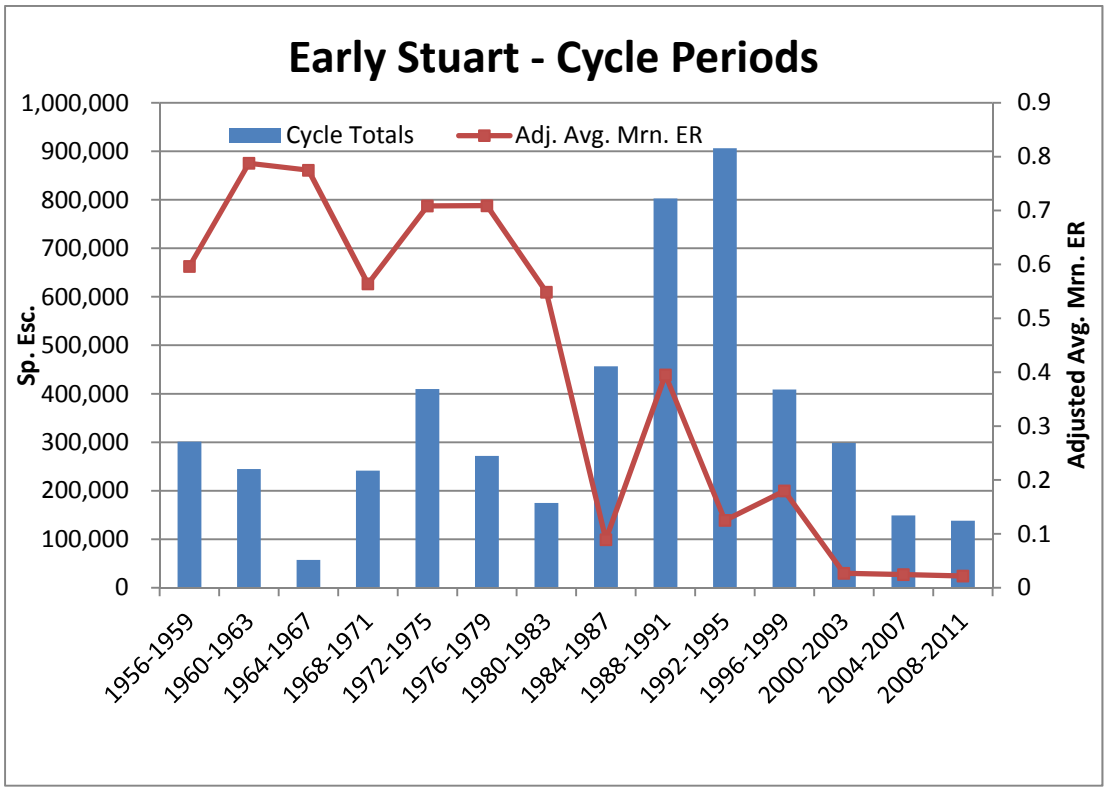
Notse: 1. Harrrison not included in original MSC Assessment
2. Late timing Kamloops not included in original MSC Assessment
3.Used 50% probability as reported in Grant, 2010
4. If uncertainty high might want to use greater than 50%p
5. Range determined by model chosen and time-series used
6. The higher lower benchmarks were often produced using more recent time-series of productivity. Conversely, the standard Ricker model using the longest time-series often produced the lowest benchmarks
7. The Recursive-Bayesian model also tended to produce higher lower benchmarks. It tends to reduce bias in parameter estimates found in other models
8. All lower benchmarks are calculated at Sgen 1. Higher benchmarks used 80% MSY
9. Benchmarks are colour coded for the abundance status. This is NOT the overall status for the Conservation Unit. The overall status is expected to be as described in the next column. It integrates the status from the three metrics: spawner abundance (S/R), and long and recent trends in abundance
10. Holtby Synoptic analysis was developed to provide a rapid but robust overview of the current status of a CU

Rancoast 2012 - Table describes the status of the three metrics used; the integrated stock status assigned at the Nov 2011 CSAS workshop, Holtby's Synoptic work; and Stock Status using COSEWIC definitions.

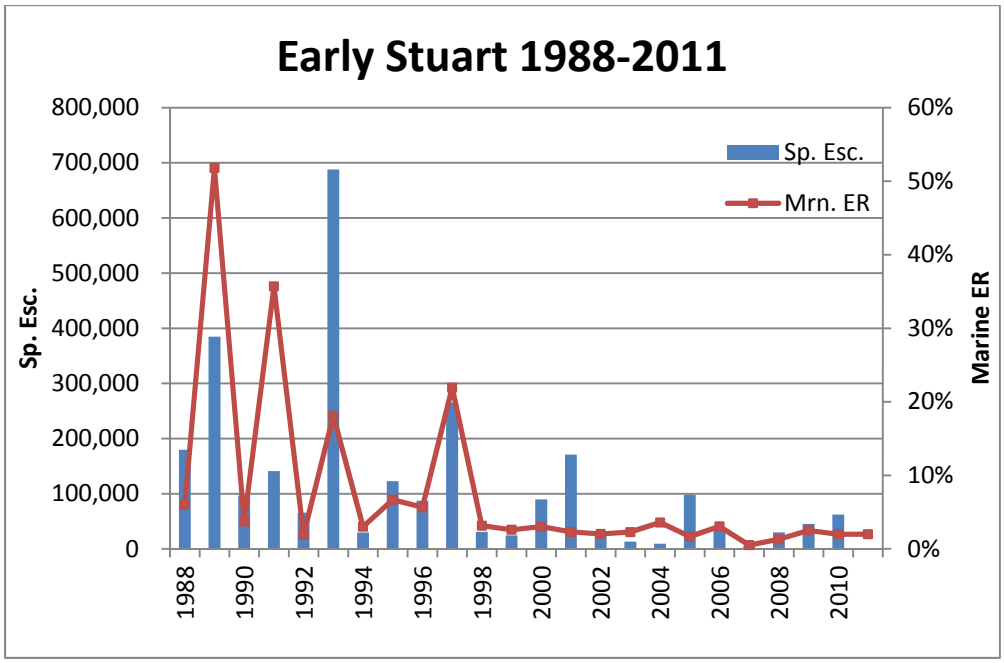
Run Timing Group	CU Name (1)	Abundance Metric (2	Long Term Trends (4)	Recent Trends	Recent Productivity	Cyclical	Abundance if Ricker/	Abundance if Larkin Used	Workshop Consensus	Holtby Synoptic	CU Code	Long Term Trend	Short Term	Abundance	COSEWIC Trend	COSEWIC Abundanc	COSEWIC RATING A / D
Early Stuart																	
	Takla-Trembleur	N/A	Amber	Red	Flat	Y	Red	Amber	Red	1	20	1.54	-85%		END		END /
Early Summer																	
	Bowron	Red	Red	Red	Declining				Red	1	16	0.28	-88%	<1000	END	THREAT	END / THREAT
	Kamloops	Red/Amber	Green	Green	Flat				Amber	6	13	0.76	46%	<250		END	/ END
	Anderson	Red/Amber	Green	Red					Red/Amber	2		1.75	-39%		THREAT		THREAT /
	Nadina-Francois	Red	Green	Red	Declining				Red	3	8	0.91	-44%		THREAT		THREAT /
	Pitt	Green	Green	Red	Variable				Amber	6	17	2.17	0%				/
	Shuswap	N/A	Green	Red	Variable	Y	Red/Amber	Amber	Amber/Gree	2	23	0.89	-34%	<1000	THREAT	THREAT	THREAT / THREAT
	Nahatlach	Unavailable	Amber	Red	Unavailable				Red	1	12	0.54	-82%	<1000	END	THREAT	END / THREAT
	Chilliwack	Red (Carr Cap	Unavailable	Unavaila	Unavailable				Amber	3	3	no data	no data	<1000	ND	THREAT	ND / THREAT
	Taseko	Unavailable	Red	Red	Unavailable				Red	1	10	0.22	-88%	<250	END	END	END / END
	North Barrier - Fennel ES		Green	Red								1.27	-68%	<250	END	END	END / END
Summer																	
	Chilko	Amber/Green	Green	Red	Declining				Green	1	5	1.23	-74%		END		END /
	Takla-Trembleur	N/A	Green	Red	Declining	Y	Red	Amber	Red/Amber	1	24	1.72	-82%		END		END /
	Quesnel	N/A	Green	Red	Declining	Y	Red	Amber	Red	1	21	5.74	-92%		END		END /
	Francois-Fraser	Red/Amber	Green	Red	Declining				Red/Amber	3	1	1.31	-38%		THREAT		THREAT /
Late																	
	Cultus	Red	Red	Red	Declining				Red	1	14	0.09	-69%	<250	END	END	END / END
	Shuswap	N/A	Green	Green	Declining	Y	Amber/Green	Red	Amber/Gree	4	22	0.76	46%	<250		END	/ END
	Seton	Red/Amber	Amber	Red	Declining				Red/Amber	2	18	0.67	-67%	<250	END	END	END / END
	Harrison U/S	Amber	Amber	Red	Flat				Amber	3	7	0.65	-39%		THREAT		THREAT /
	Harrison D/S	Unavailable	Green	Green	Unavailable				Green	6	11	13.3	2.74				/
	Harrison (river type???)	Green	Green	Green	Increasing				Green		9	6.96	24.53				/
	Lillooet	Green	Green	Green	Declining				Green	6	15	1.27	3%				/
	Widgeon	Amber	Amber	Green						2	2	0.46	736%	<250		END	/ END
	Kamloops	N/A	Green	Red	Declining	Y	Amber	Amber/Green	Amber	3	19	2.23	-31%	<1000	END	THREAT	END / THREAT

Early Stuart Trends/Status (E. Stuart run-timing group)



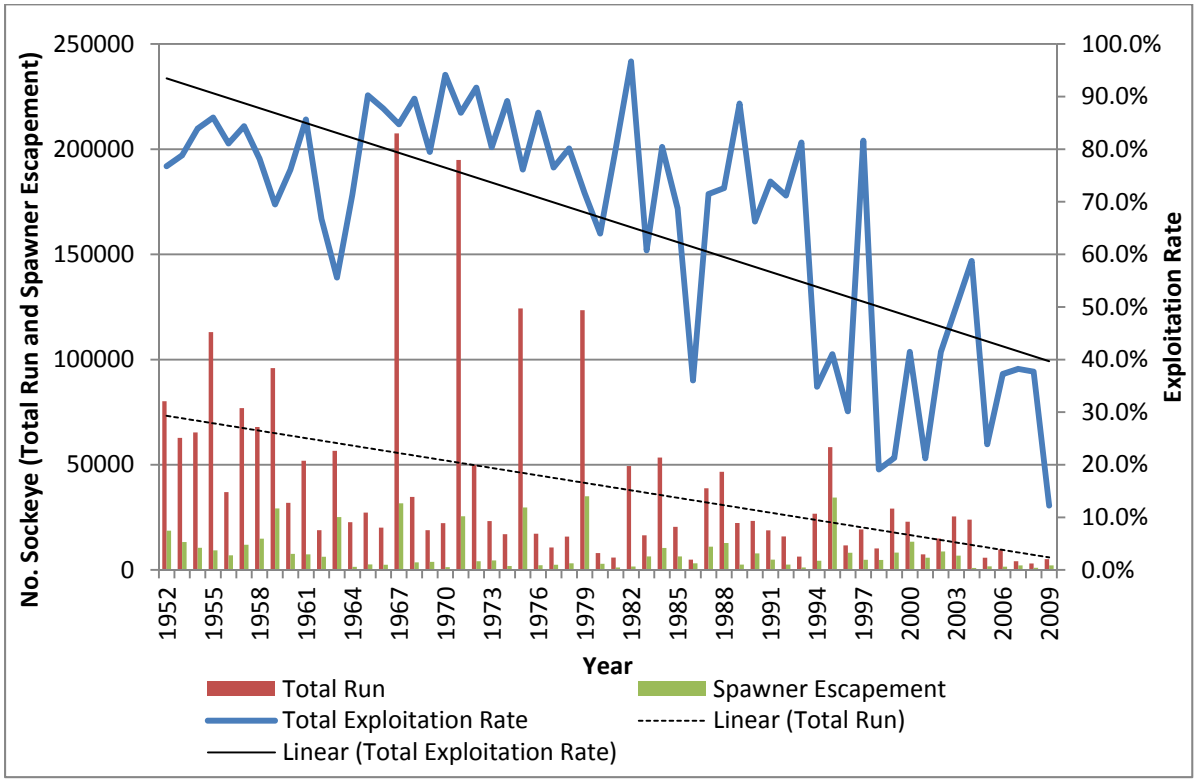


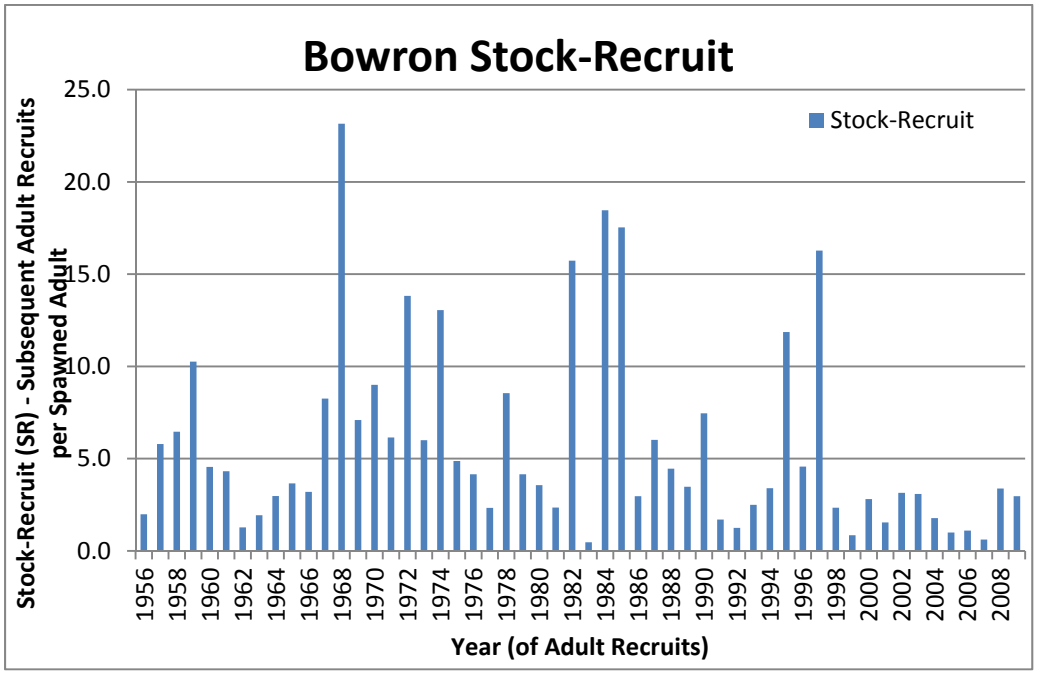
2010 & 2011 ER estimated

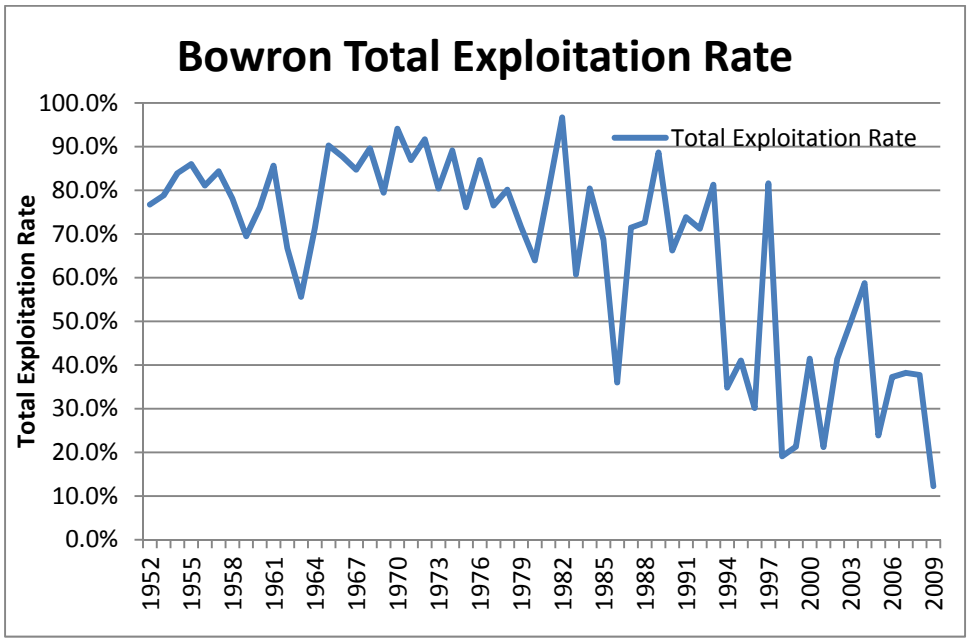


- **Absence of a response despite reduced ER – facilitated recovery necessary**

Bowron Trends/Status (E. Summer timing group)

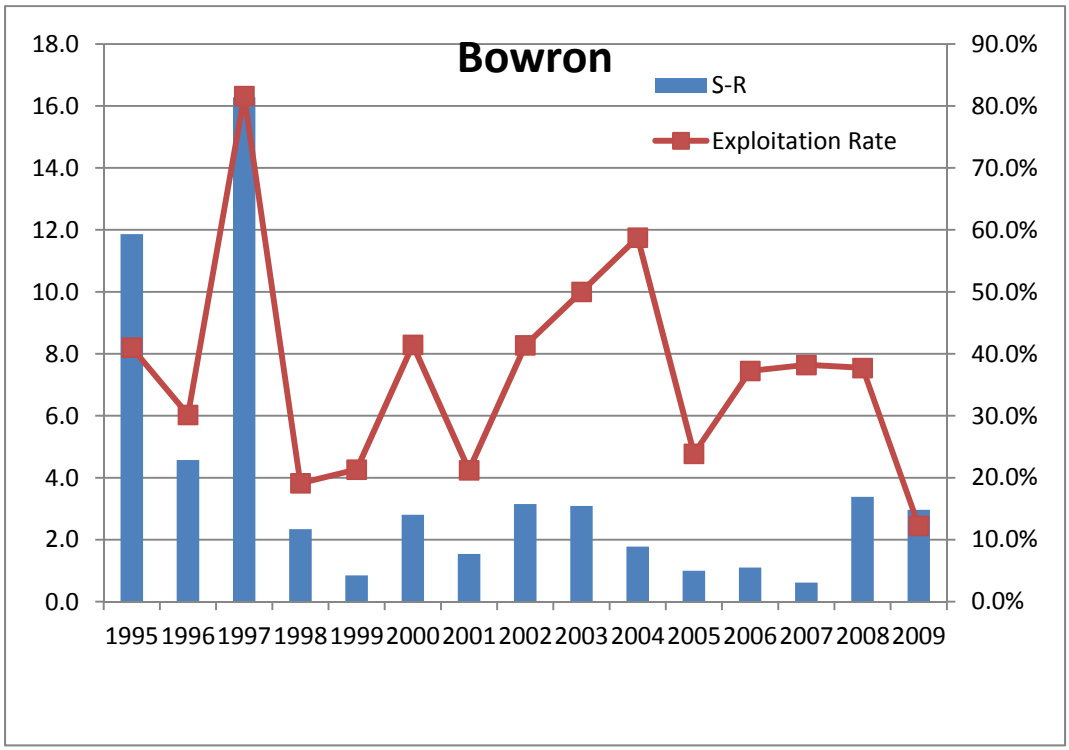




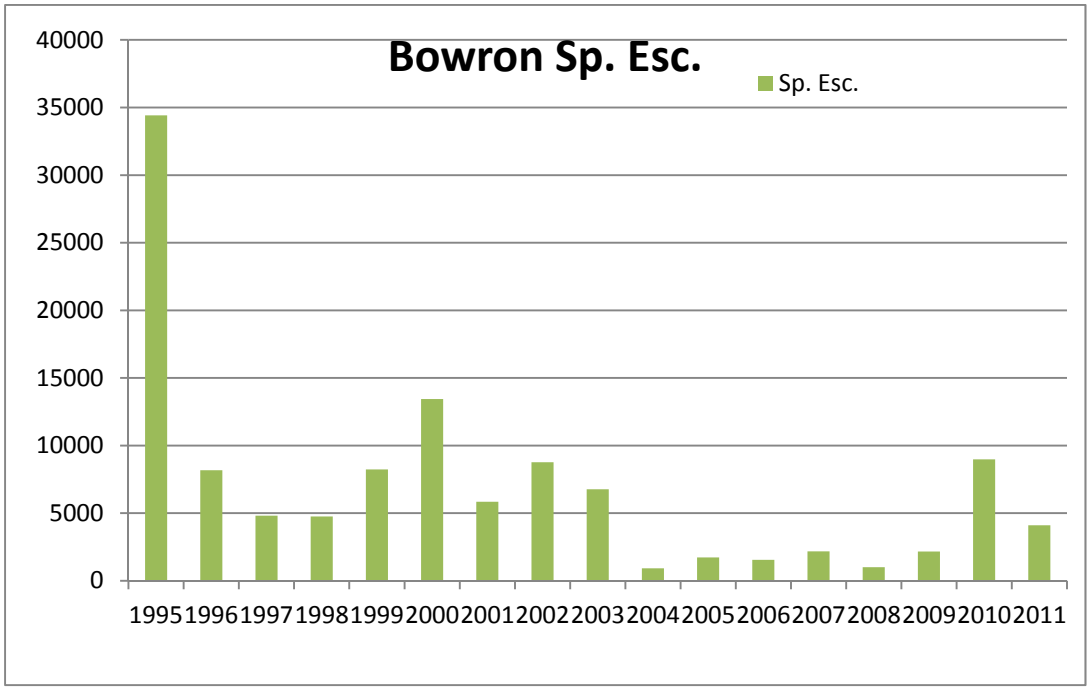


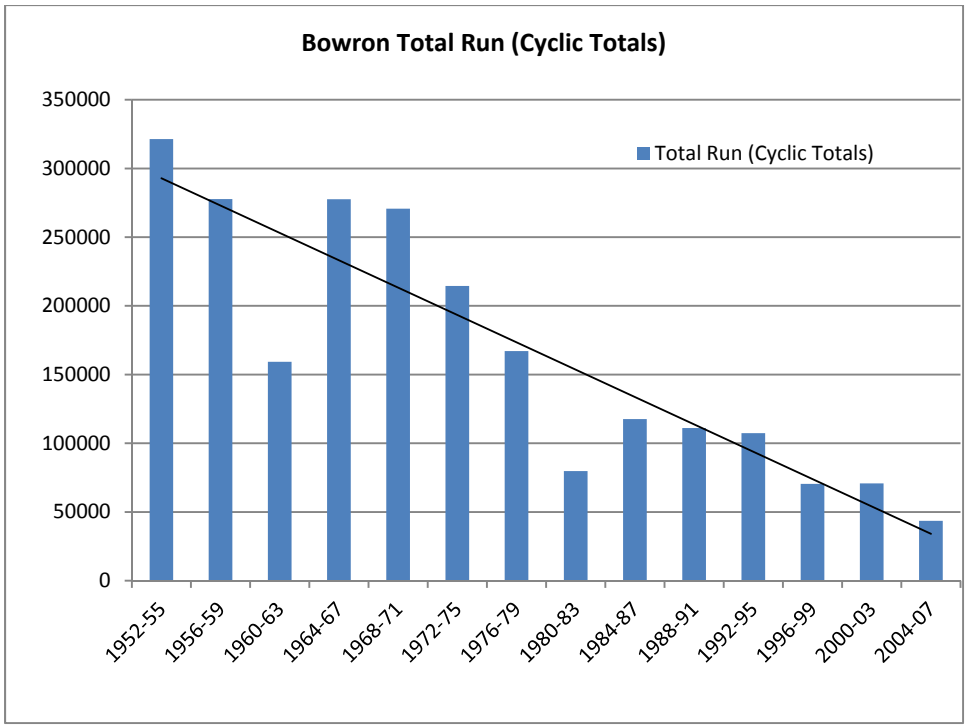
- Note that this is not a new issue, and has been recognized by the people reliant on the stock as being in decline for some time. IUCN, DFO-PSC, Grant et al. 2011 and CSAS all concur.
- The MA has been hesitant to recognize any response to the trend.
- Recently, at the request of Lheidli T'enneh and the UFFCA, as well as other First Nations with an interest in near-terminal Early Summer timing group sockeye, an additional 1-week window

closure has been added to the end of the 2-week (generally) window closure afforded to protect 90% of the Early Stuart returns in recent years.

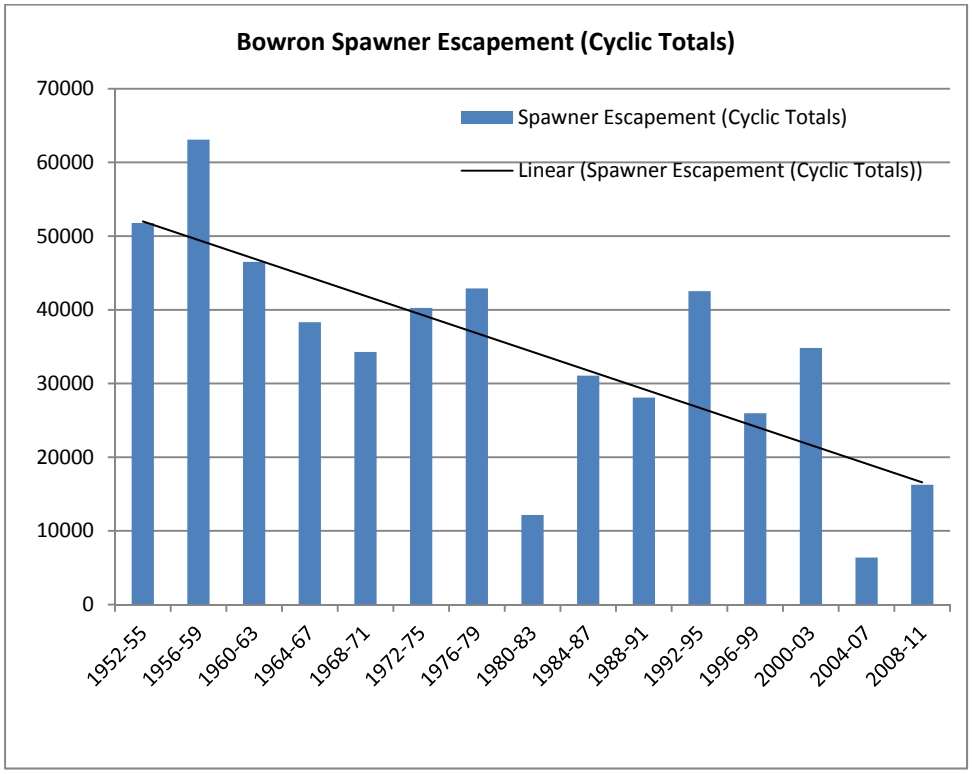


S-R (Total Run Size) and ER not available for 2010 & 2011

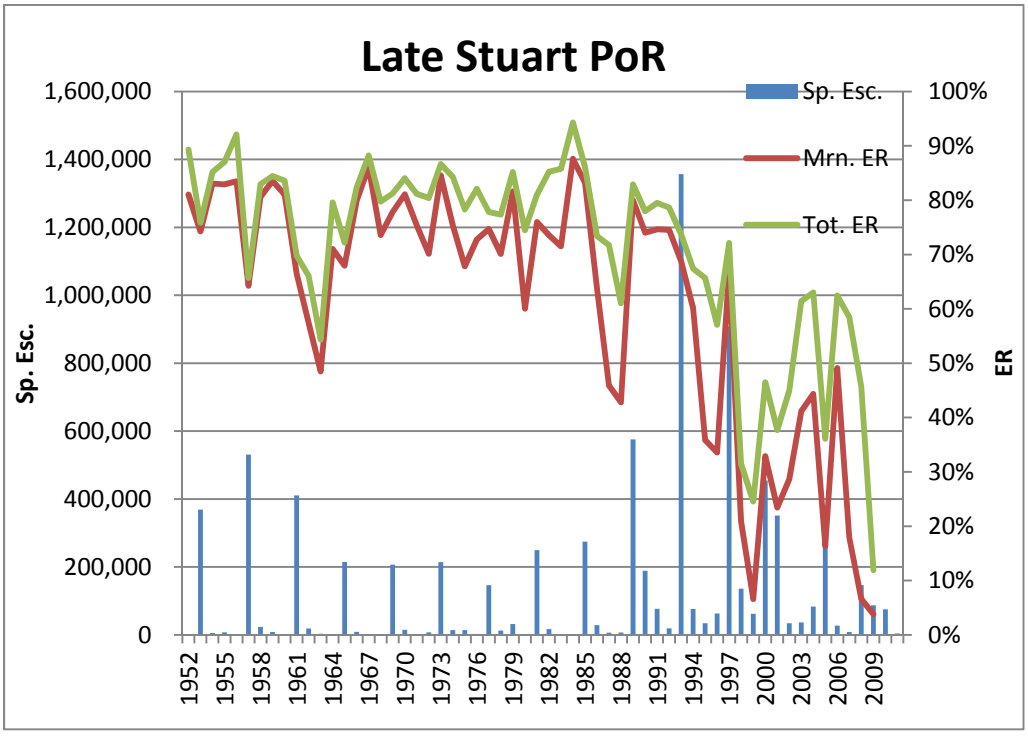


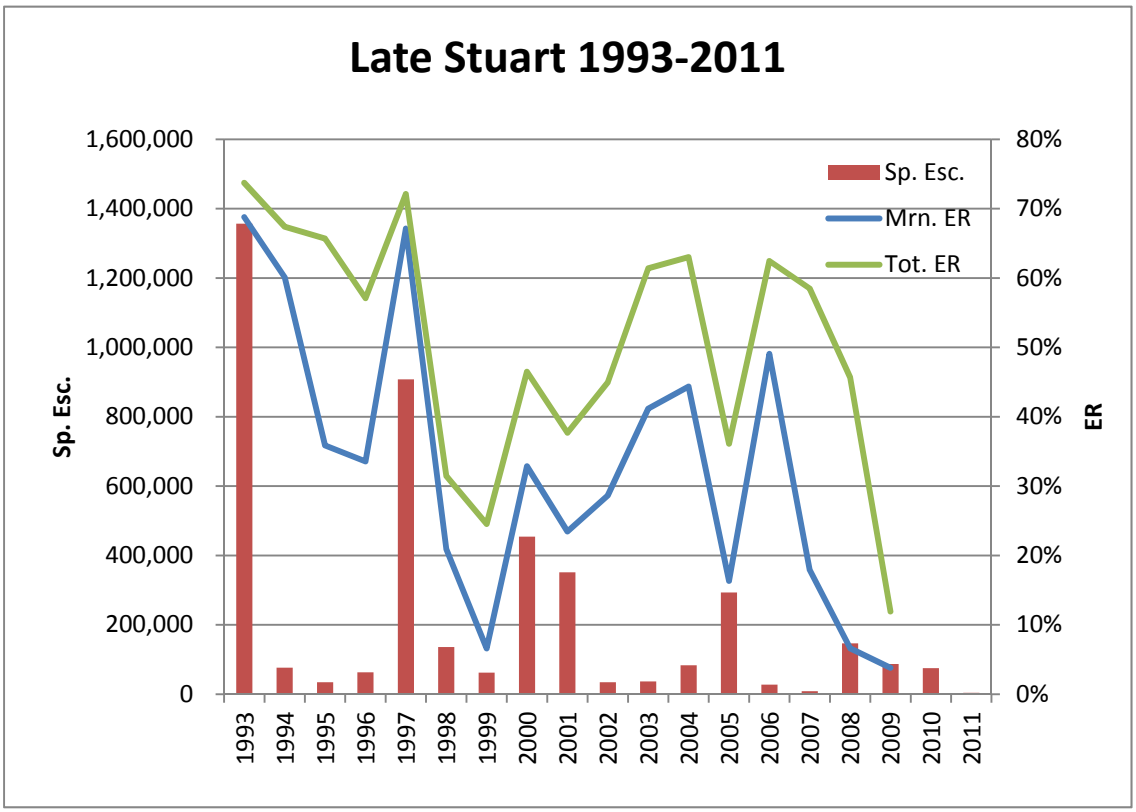


- **Total run size not available for 2010 & 2011**



Late Stuart Trends/Status (Summer timing group)





- **Similarities to Early Stuart – dominance no longer apparent and productivity diminished**

Appendix B – Stakeholder Presentations

Skeena Wild Conservation Trust

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MSC BC Sockeye Annual Audit – Progress Assessment

May, 2012

Skeena Conditions

Condition 13: Certification will be conditional until a peer reviewed (e.g. PSARC) assessment of the impact of production from Pinkut and Fulton spawning channels on wild sockeye stocks has been completed and the TRPs and LRPs have been clearly defined for the un-enhanced sockeye stocks, within two years.

DFO Action Plan Summary: DFO commits to providing a peer reviewed assessment of the impact of production from the Babine enhanced production on wild Skeena sockeye stocks in a PSARC reviewed stock assessment paper and TRPs and LRPs have been defined for Skeena sockeye CUs (December, 2011).

Audit Team Comments from May 2011 Audit: Fisheries and Oceans Canada informed the Assessment team that a Skeena sockeye technical workshop is planned for June, 2011. The proceedings from that meeting will form part of the basis of a report currently in preparation for review by the Canadian Science Advisory Secretariat (CSAS) in December 2011. The report will provide a stock status update for Skeena sockeye; include information from enhanced Babine stocks. Authors will include DFO scientists and at least one First Nation representative.

There is a project underway to define benchmarks for all Skeena species, including steelhead. The report from this project was scheduled for review by CSAS in December 2011.

DFO is going to provide a backgrounder on escapement & harvest impact info organized by conservation units (CU) to estimate productivity parameters and evaluate potential indicators. One meeting has been conducted to provide methodology and case studies for consideration.

Condition 13 Progress Assessment:

Peer Reviewed Assessment of Spawning Channels

No Skeena sockeye technical workshop has taken place or is scheduled, as promised by DFO during the first surveillance audit. Therefore, there are no proceedings from that meeting to form part of the basis of the CSAS report. Further, to our knowledge, there is only one new DFO report related to Babine sockeye - *"Update assessment of sockeye salmon production from Babine Lake, British Columbia"* (Cox-Rogers & Spilsted, 2012). This report has not been CSAS reviewed, and according to DFO, will be submitted to

the AT, but is not intended to fulfill condition 13 (Peacock, pers comm.). Please see the attached critique, which details why Cox-Rogers & Spilsted, 2012 does not meet "*a peer reviewed (e.g. PSARC) assessment of the impact of production from Pinkut and Fulton spawning channels on wild sockeye stocks"* required under condition 13. Also included in our submission is a manuscript submitted to the North American Journal of Fisheries Management (in review, submission number UJFM-2012-0076, April 12, 2012) titled "*Do artificial spawning channels negatively affect wild salmon?"* (Price, 2012). This report provides a literature review of the potential impacts from Pinkut and Fulton spawning channel production on wild Skeena sockeye, with a particular focus on wild Babine sockeye. This document offers recommendations and conclusions resulting from the collective research and recommendations of scientists studying Babine wild and enhanced sockeye interactions for over 4 decades.

DFO's commitment during the first surveillance audit to produce, *"stock status update for Skeena sockeye; include information from enhanced Babine stocks.",* has not been met to date.

IMM Response: See IMM Response 1 in Section 4.2.3.

TRP's and LRP's Clearly Defined for Un-enhanced Sockeye

No *"TRPs and LRPs have been clearly defined for the un-enhanced sockeye stocks, within two years".* Although progress has been made on developing benchmarks for un-enhanced sockeye CU's, benchmarks are still under development, and no date has been set for a CSAS review of the benchmark work. Further, benchmarks are only being developed for 14 of the 31 Skeena sockeye CU's (29 Lake-type & 2 river-type). To our knowledge no progress has been made on the remaining 17 Skeena sockeye CU's required to meet the condition. Finally, the development of LRP's and TRP's (benchmarks) for the Babine sockeye is limited to two CU's, and currently includes production from the Pinkut and Fulton enhancement facilities; thus, the health of depressed wild Babine sockeye cannot be assessed against their LRP's and TRP's.

Including enhanced sockeye in the development of LRP's and TRP's for the Babine CU is contradictory to the 80 scoring guideposts under criterion 1.1.1.5, because it does not allow for independent analysis of un-enhanced stocks:

- *" In fisheries where both enhanced and un-enhanced stocks are harvested at the same time, the harvest guidelines are based on the goals and objectives established for the un-enhanced stocks."*
- *"There are adequate data and analyses to determine that the presence of enhanced fish in the management units do not adversely impact the unenhanced fish stocks."*

The inclusion of enhanced sockeye in forming this CU, and its TRP's and LRP's (benchmarks) is also inconsistent with the Wild Salmon Policy, which states:

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"This policy goal will be advanced by safeguarding the genetic diversity of wild salmon populations, maintaining habitat and ecosystem integrity, and managing fisheries for sustainable benefits." (pg vi)

And;

"Salmon are considered "wild" if they have spent their entire life cycle in the wild and originate from parents that were also produced by natural spawning and continuously lived in the wild."

"Salmon that originate directly from hatcheries and managed spawning channels are not considered wild in this policy, and are called "enhanced" salmon." (pg 1)

Therefore, enhanced salmon from managed spawning channels such as Pinkut and Fulton should not be included in the Babine CU, its benchmark development, and status assessment (WSP, 2005).

CU delineation for wild Babine sockeye is another unresolved issue. DFO stock assessment staff have recently justified splitting the current Babine sockeye CU into 3 wild CU's based on run timing differences, which would exclude enhanced sockeye from Pinkut Creek and Fulton River (Cox Rogers & Spilsted, 2012):

"Although just two sockeye Conservation Units have been identified to date for the Babine Lake watershed based on rearing lake criteria (mid-timed Tahlo/Morrison and Babine Lake), more could be specified if other criteria are considered. For example, three wild sockeye "CU's" exist based on run-timing differences (the early, mid, and late wild runs), not including the enhanced mid-timed sockeye from Pinkut Creek and Fulton River." (pg xviii)

This approach would be consistent with the intent of the WSP and MSC criteria for assessing un-enhanced stocks.

In summary, TRP's and LRP's for un-enhanced sockeye have not been established, and a peer reviewed assessment of the effects of the enhancement facilities on un-enhanced sockeye has not been completed. Therefore, DFO has not addressed the requirements of condition 13 within the required timeframe. Until DFO meets the specific requirements of the condition, the 80 scoring guidepost cannot be restored, and the condition removed.

Steps Required to Meet Condition 13 & Indicator 1.1.1.5:

In order to meet the two 80 Scoring Guideposts, two objectives need to be met:

- *"Harvest guidelines based on the goals and objectives for the unenhanced stocks."*
- *"There is adequate data and analysis available, showing that the presence of enhanced fish does not adversely impact the unenhanced stocks."*

Therefore, meeting the 80 scoring guideposts should require:

- LRP's be established for all 31 Skeena sockeye CU's
- Sustainable ER's be established for each of the 31 Skeena sockeye CU's based on each CU's LRP, and current productivity rate.
- ER's for unenhanced stocks are set at or below the established sustainable ER's for each Skeena sockeye CU.
- ER's for all Skeena sockeye CU's found to be below their LRP are set low enough to allow for rebuilding within reasonable timeframes, consistent with the WSP.
- Data confirming that enhanced production is not limiting the productivity of wild Babine sockeye.
- Data confirming that enhanced Babine sockeye do not pose a risk in the transfer of pathogens to wild sockeye.

To help assess the enhancement facilities impacts on un-enhanced Skeena sockeye, we recommend that DFO use the WSP Hatchery Risk Assessment Tool development by DFO (attached). The assessment tool and resulting analysis, and literature review (Price, 2012) can be used in the yet to be completed sockeye technical workshop (committed to by DFO), and drafting the CSAS document, required by condition 13.

IMM Response: See IMM Response 2 in Section 4.2.3.

Condition 13b: Certification is conditional until the management agencies implement the escapement and fall fry monitoring plans for Skeena sockeye as defined in the Core Stock Assessment Review for North and Central Coast salmon stocks or a similar scientifically defensible program to address this key information gap, within two years

Action Plan Summary: DFO will use the existing core stock assessment program to develop and implement a plan for monitoring sockeye escapements. The program will be developed in cooperation with the FN interests in the watershed and may include direct visual escapement surveys, weir counts, and mark recapture programs for adults, or hydro-acoustic lake surveys to identify juvenile abundance. The Skeena Fisheries Commission has been conducting hydro-acoustic estimates in recent years, and DFO will continue to cooperate in planning and funding of these surveys. The program will be described in PSARC reviewed stock assessment paper (December, 2011).

Audit Team Comments from May 2011 Audit: A basic approach and workshop were reported as underway. A CSAS peer reviewed report will be produced which should identify the fishery independent indicators of abundance available for the non-target species harvested in the fishery. DFO appear to be on target with meeting their deliverable deadline at the second annual surveillance audit.

Condition 13b Progress Assessment:

DFO has not implemented *"the escapement and fall fry monitoring plans for Skeena sockeye as defined in the Core Stock Assessment Review",* and progress in meeting this condition is questionable. To our knowledge, no stock assessment workshop has been undertaken by DFO, as referenced by the audit team in the 2011 audit. Further, there has been no CSAS *"reviewed stock assessment paper"* describing the program, as committed to in the DFO Action Plan.

In addition, DFO has not committed to funding two core stock assessment programs highlighted, and recommended in the "*Core Stock Assessment Review for North and Central Coast salmon stocks".* The Babine smolt program provides critical information on productivity issues and general health of Babine sockeye. This program has not received funding since 2002, despite acknowledgement of its importance by DFO and First Nations scientists. The Gitanyow Salmonid Enumeration Facility has only been partially funded by DFO (30%) in recent years and has no long term funding commitment. Considering that the fence is one of the only stock assessment facilities counting all five species of salmon, including depressed Kitwanga sockeye, it should receive better funding support from DFO. Bear River sockeye are one of the most depressed CU's in the Skeena; commitment to annual monitoring of this CU should be included in core stock assessment activities. It is difficult to imagine how DFO will be able to meet condition 13b considering the recent $80 million budget cut announcement to DFO by the federal government.

Steps Required to Meet Condition 13b & Indicator 1.1.2.2:

Condition 13b should not be removed until:

- *"Fishery independent indicators of abundance are available for the non-target species harvested in the fishery"*

Therefore, meeting the 80 scoring guideposts should require:

- Implementation on an escapement and fall fry monitoring plans for Skeena sockeye as defined in the Core Stock Assessment Review for North and Central Coast salmon stocks, or;
- A similar scientifically defensible program to address these key information gaps is implemented (as required by the condition).

Identifying which Skeena sockeye CU's are impacted by commercial fisheries, and are inadequately monitored, may be a logical first step in meeting condition 13b. However, partial progress through holding a technical workshop, or developing a CSAS reviewed stock assessment paper, does not meet the intent of the condition. The audit team should not close out the condition until a *"scientifically defensible program to address this key information gap"* is fully implemented.

IMM Response: See IMM Response 3 in Section 4.2.3.

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Condition 13c: Certification is conditional until the management agencies have implemented the programs necessary to provide periodic assessments of the relative productivity for each Skeena sockeye CU or justification for the use of currently monitored populations as indicator stocks, within two years

Action Plan Summary: DFO commits to providing periodic assessments of the relative productivity of Skeena sockeye CU's, or representative indicators. Our experience has been that the productivity of the sockeye systems are relatively stable, and will place priority on assessments of systems for stocks of concern, those most susceptible to climate change impacts or subject to recent habitat perturbations. The relative productivity will be reviewed in a PSARC stock assessment paper (December, 2011).

Comments from May, 2011 audit: DFO is proposing a Skeena sockeye technical workshop in June 2011. The agenda will include a review and discussion on how to best move forward with designing and implementing the productivity assessments. The recommended plan for productivity assessments will be part of the CSAP report scheduled for December 2011.

Condition 13c Progress Assessment:

To our knowledge, no technical workshop has taken place to *"review and discuss how best to move forward with designing and implementing the productivity assessments"* committed by DFO in the first annual audit. Further, no plan for productivity assessments has been recommended as part of a CSAP report.

It is important to note that DFO and Josh Korman have identified changing productivity rates for Skeena sockeye CU's in their recent Skeena benchmark report (Korman & Cox-Rogers, 2012):

"escapements over the last decade or so for some CUs are low because productivity has dropped, likely because marine survival is lower. There was very weak statistical evidence for declining productivity based on the temporal trend in residuals from the stock-recruit curves, but the power of these tests for most CUs was generally low due to limited sample size. The fundamental question is whether any productivity changes are permanent or temporary. If the change is permanent, then use of benchmarks developed in this analysis for future management is not appropriate because they are based on data from an era that does not represent future conditions." (pg 13)

This is contrary to DFO's statement in the action plan - *"Our experience has been that the productivity of the sockeye systems are relatively stable",* and also raises the

question whether productivity estimations used in the stock recruitment benchmark analysis represent current conditions.

The issue of declining productivity is also discussed by Cox-Rogers & Spilsted (2012) in their recent assessment of Babine sockeye.

"It is currently unclear how freshwater and/or marine survival variation may be influencing recent Babine Lake brood year recruitment. Reduced adult returns the past decade could be due to fewer smolts leaving Babine Lake, fewer smolts surviving as adults in the ocean, or some combination of both. Several mechanisms affecting freshwater and marine survival have been proposed, but data are lacking to make a proper assessment. Future research will be required to address some of the concerns." (pg xvi)

Without re-instating the Babine smolt program (a likely requirement to meet condition 13b), causes of recent declines (i.e., marine or freshwater) cannot be examined or understood, as identified by Cox-Rogers & Spilsted (2012):

"Since cessation of the smolt program in 2002 (brood year 2000), it has not been possible to assess more recent relationships between adult recruitment and smolt production from Babine Lake. Marine survival was trending downward just prior to cessation of the smolt program, with three of the last four brood years below 2%. It is not known if this pattern has been maintained since then, or if poor smolt-adult survival has been the main reason Babine Lake brood year recruitment has declined so markedly in recent years" (pg xiv)

In summary, DFO has not *"implemented the programs necessary to provide periodic assessments of the relative productivity for each Skeena sockeye CU or justification for the use of currently monitored populations as indicator stocks",* as required by the condition. Korman & Cox-Rogers (2012) identified poor data quality as a reason for the large uncertainty in productivity estimates in their stock recruitment benchmark analysis:

"Estimates of a_i and b_i were confounded in most cases, which is not surprising given the limited information about productivity and density dependence in the stock-recruit data" and *"Stock productivity (e^a, the initial slope of the stock-recruit curve) is a key management parameter as it determines the harvest rate that maximizes yield. There was considerable uncertainty in a_i estimates from the HBM with the exception of Babine and Kitsumkalum"* (pg 8 & 9)

This highlights the fact that there is a significant issue in estimating productivity with current stock assessment information. It appears from the above statement that only two Skeena sockeye CU's (Babine and Kitsumkalum) have sufficient information to assess productivity. To our knowledge, DFO has not made any significant changes to their research and stock assessment programs to significantly improve their ability to assess productivity. When combined with recent information showing declining

productivity for many Skeena sockeye CU's, and the importance of this information for setting LRP's and rebuilding plans, ensuring this condition is fully met seems prudent.

The evidence showing declining and changing productivity rates for Skeena sockeye in recent years supports the need for regular productivity assessments for Skeena sockeye. Updating productivity information will be critical to revising LRP's, TRP's, rebuilding plans, and enabling adaptive management responses to changing environmental conditions.

Steps Required to Meet Condition 13c & Indicator 1.1.2.4:

Condition 13c should not be removed until:

- *There is adequate information to estimate the relative productivity of the non-target stocks where the fishery harvests may represent a significant component of those non-target stocks.*

Therefore, meeting the 80 scoring guideposts should require:

- Identification of CU's where the fishery removes a significant component (i.e. >15%), and has inadequate information to estimate the relative productivity of that CU.
- Implementing programs necessary to provide periodic assessments of the relative productivity for each of the CU's identified above.

We believe there is currently no justification for the audit team to close out condition 13c, because DFO science staff admit that current information is inadequate for all but two Skeena sockeye CU's. Although the benchmark analysis work provides some progress, it also highlights the deficiencies in data to estimate relative productivity. Also, we are not aware that any of the action plan and first annual audit commitments have been met (no technical workshop, no CSAS paper, no productivity program implementation). It is our understanding that DFO North Coast intends to submit reports to CSAP in the spring of 2012; however, it is unclear whether these documents will address the expectations of Condition 13c.

IMM Response: See IMM Response 4 in Section 4.2.3.

Condition 19: Continued certification of the Skeena sockeye salmon fishery is contingent upon developing and implementing a recovery plan for chum stocks harvested in Skeena sockeye fisheries that are below their LRP. The proposed recovery plan must include procedures for determining the impact of the existing fishery management system on these stocks and provide for decreasing incidental harvest rates on chum salmon, if harvest pressure is found to have significant risks to chum recovery. To be completed within two years.

Action Plan Summary: DFO will develop a chum rebuilding plan for Area 4 chum

included chum spawning in the Skeena River and its tributaries.

A management measure to reduce the impacts of the Skeena sockeye fishery on chum has been ongoing, and significant changes have been made to the Skeena gillnet and seine fisheries. Time and area closures and selective fishing measures are used to reduce chum impacts.

DFO supports the SISRP report recommendation 6:
chum salmon stocks appear to be severely depressed and should be protected by avoiding late season ocean fishery openings

Retention of chum salmon was not permitted by seines or gillnets in Skeena commercial fisheries in 2009. DFO will continue to revise the IFMP to take a more precautionary approach to chum concerns in the Skeena sockeye fishery. Monitoring and compliance of these release fisheries will remain an important component of the rebuilding plan for chum. LRP's will be developed for Skeena chum populations and provided for PSARC review by December 2011.

Comments from May, 2011 audit: The assessment team was informed that development of recovery plans are underway for Area 4 chum and are expected to be delivered at the next surveillance audit. Based on the baseline stock status work already prepared and the current restrictions in both the 2010 and 2011 fisheries, the assessment team considers that the action plan deliverable is on target for evaluation in 2012.

Condition 19 Progress Assessment:

All three CU's of Skeena chum salmon remain severely depressed. Although LRP's have not been established, DFO supports the ISRP comments, recognizing that these populations are almost certainly below yet to be defined LRP's:

"chum salmon stocks appear to be severely depressed and should be protected by avoiding late season ocean fishery openings"

DFO has also committed to developing and implementing rebuilding plans for Skeena chum, as required by the condition. To our knowledge, neither LRP's nor rebuilding plans have been developed or implemented for Skeena chum salmon. The domestic exploitation rate cap of 10% for area 4 chum, proposed for the 2012 IFMP, may be an important component for helping protect and rebuild depressed Skeena chum. While we support such management measures, implementing an exploitation rate cap does not fulfill the condition. As required by condition 19, rebuilding plans, *"must include procedures for determining the impact of the existing fishery management system on these stocks and provide for decreasing incidental harvest rates on chum salmon".*

We are concerned that a rebuilding plan(s) developed by DFO will be based on very poor information as to the fishery impact, escapement, and productivity, given the

current paucity of data. Implementing programs to reduce fishery impact, improve stock assessment and productivity information will be critical to assessing the effectiveness of any rebuilding strategies. A data-poor environment requires implementing a precautionary approach and adaptive management strategy. Precautionary, adaptive management, combined with a program to improve necessary management information should be required as necessary components of a rebuilding plan by the audit team.

In summary, progress in changing management to reduce impacts on Skeena chum is important, but does not meet the requirements (LRP's and rebuilding plans) of condition 19. Until such time as LRP's and rebuilding plans have been developed and implemented for the three Skeena chum conservation units, the condition cannot be considered met, and closed out.

Steps Required to Meet Condition 19 & Indicator 2.3.1:

Condition 13c should not be removed until:

- *The management system includes assessment of plans for the recovery of non-target stocks to levels above established LRPs. The management system has a reasonable (>60%) probability of achieving long-term recovery of depleted non-target stocks.*

- *Monitoring and assessment programs are established to determine with a high degree of confidence and in a timely manner that recovery is occurring. Escapement goals will be revised periodically to accommodate new data indicating success or failure of existing recovery plans.*

Therefore, meeting the 80 scoring guideposts should require:

- The development of LRP's (lower benchmarks) for the 3 Skeena chum CU's (as required by the condition).
- Information on fishery impacts, escapements, and productivity for the 3 Skeena chum CU's.
- Development and implementation of recovery plans for the 3 Skeena chum CU's (unless they are found to be above their LRP) with a >60% probability of long-term recovery. The rebuilding plans must include: *"procedures for determining the impact of the existing fishery management system on these stocks and provide for decreasing incidental harvest rates on chum salmon"* (as required by the condition).
- Implementing a program for improving information on fishery impacts, escapements, and productivity, so as to adequately assess recovery and impacts.

IMM Response: See IMM Response 5 in Section 4.2.3.

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Condition 21b: Certification will be conditional until Limit Reference Points or their equivalent have been defined for Skeena sockeye salmon stocks, and recovery plans have been developed and implemented for stocks harvested in Skeena sockeye fisheries that are below their LRP. The proposed recovery plans must provide information regarding the probability of recovery and the timing for recovery. To be completed within one year.

Action Plan Summary: As an interim measure for the 2009 fishing season DFO adopted a precautionary management objective of reducing the Canadian commercial exploitation rate on Skeena sockeye to begin rebuilding individual stocks of concern by maintaining on average, a Canadian commercial exploitation rate in the range of 20 to 30%. This represents a reduction of 30 to 50% from recent decade averages. This range was consistent with the advice provided in the Skeena ISRP (Independent Science Review Panel).

DFO also supports recommendation #1 of the ISRP, “there is a need to confront the major trade-off decisions that are implied by the Wild Salmon policy and the impacts of mixed-stock ocean fisheries on Skeena stocks. There should be an explicit public decision about the loss of biodiversity (number of weak stocks allowed to remain overfished or at risk of extinction) that is deemed acceptable and changes required to fisheries in order to achieve particular harvest objectives”. Resolving this issue will be the central focus of the Skeena Watershed Process over the next few years.

Comments from May, 2011 audit: DFO has indicated that publications related to Skeena stock status and benchmarks for Skeena stocks is scheduled for release later in 2011.

The assessment team recognizes that management changes have been made to provide protection for Skeena stocks. Appendix 9 of the 2011 IFMP for Northern Salmon defines the Commercial Fishing Plan for Northern BC salmon including the Skeena. DFO has defined interim LRPs for most Skeena sockeye stocks and implemented an exploitation rate ceiling to ensure that the total exploitation rate for Skeena sockeye is less than 40%. This approach is consistent with Independent Science Review Panel (ISRP) recommendations and represents a key component of the recovery plan for Skeena sockeye that are at or below their interim LRPs. These steps show good progress towards the fulfillment of this condition but given this relatively recent implementation of this plan, the assessment team proposes to defer the full evaluation of this condition until the second surveillance audit.

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Condition 21b Progress Assessment:

Condition 21b requires the development of LRP's and rebuilding plans for CU's below their LRP's. To date, neither of these requirements has been fully met by DFO. The benchmark work by Josh Korman and Steve Cox-Rogers is still under development, and has not been peer reviewed. At present, benchmarks are only being developed for 14 of the 31 Skeena sockeye CU's.

Preliminary benchmark / stock status results performed by Korman & Cox-Rogers (2012) show that 6 Skeena sockeye CU's (of the 14 CU's benchmarks are being developed for) are in the red zone (below their LRP). To our knowledge, the only recovery plan that has been developed (for the 6 CU's identified to be below their LRP) is for the Kitwanga CU. The Kitwanga rebuilding plan is from 2006 (out of date), and does not include *"information regarding the probability of recovery and the timing for recovery",* as required by the condition. Further, the status of the remaining 17 Skeena sockeye CU's (that benchmarks (LRP's) have not been established for) are currently unknown. Several of these CU's may also be below their LRP and require rebuilding plans.

The ER reduction in 2009 was an important step in reducing impacts on un-enhanced Skeena sockeye CU's. However, the reduction does not meet the requirements of the condition, and should not be used by the audit team as sufficient reasoning to close out the condition. It should be noted that the 2009 ER reduction was an aggregate cut. Due to a concentration of fishing within a three-week window, CU's with similar run timing (i.e., Kitwanga, Bear, Slamgeesh, some Babine Wild stocks) continue to experience high ER's. For example, an ER of 30% (allowed under the current harvest rules) can result in ER's in excess of 50% on CU's with the similar run timing as enhanced sockeye. While the 2009 ER reduction may be an important component of a rebuilding plan for a CU below its LRP, it is not the equivalent to a rebuilding plan that contains *"information regarding the probability of recovery and the timing for recovery"* for that specific CU.

Using Korman & Cox-Rogers benchmark modeling results and data, it should be a fairly straight forward process to model rebuilding for the 6 CU's found to be below their LRP's to assess rebuilding trajectories. Scenarios could be produced using modeled productivity rates, management strategies (i.e. domestic harvest rate rules brought into effect in 2009), and recent escapements to show how rebuilding may occur under stable conditions. This information could be incorporated into rebuilding plans, and would help meet condition 21b requirement for *"information regarding the probability of recovery and the timing for recovery".* The Pacific Salmon Foundation has resources available to undertake such modeling, and this would be a logical follow up exercise to the benchmark development work being performed by Josh Korman.

In summary, LRP's (benchmarks) have not been finalized for the 14 Skeena sockeye CU's being analyzed by Korman & Cox-Rogers (2012), and no LRP's have been set for the remaining 17 data-deficient Skeena sockeye CU's. Only one (Kitwanga) of the 6

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CU's found to be below their LRP, has a rebuilding plan, which is outdated. No rebuilding plans have been developed for the remaining 5 CU's that are below their LRP's. Therefore, condition 21b has not been met, and cannot be closed out during the 2012 audit.

Steps Required to Meet Condition 21b & Indicator 2.3.1:

Condition 21b should not be removed until:

- *The management system includes assessment of plans for the recovery of non-target stocks to levels above established LRPs. The management system has a reasonable (>60%) probability of achieving long-term recovery of depleted non-target stocks.*

- *Monitoring and assessment programs are established to determine with a high degree of confidence and in a timely manner that recovery is occurring. Escapement goals will be revised periodically to accommodate new data indicating success or failure of existing recovery plans.*

Therefore, meeting the 80 scoring guideposts should require:

- Finalizing LRP's (lower benchmarks) for the 14 Skeena sockeye CU's analyzed by Korman & Cox-Rogers (2012) through a peer review process (CSAS).
- The development of LRP's (lower benchmarks) for the remaining 17 Skeena sockeye CU's (not analyzed by Korman & Cox-Rogers (2012)) using Blair Holtby's benchmark methodology for data deficient CU's.
- Development and implementation of recovery plans for the 5 Skeena sockeye CU's indentified to be below their LRP by Korman & Cox-Rogers (2012), with a >60% probability of long-term recovery. The rebuilding plans must include: *"information regarding the probability of recovery and the timing for recovery"* (as required by the condition).
- Updating the Kitwanga sockeye rebuilding plan to include recent benchmark analysis information, and *"information regarding the probability of recovery and the timing for recovery".*
- Implementing a program for improving information on fishery impacts, escapements, and productivity, so as to adequately assess recovery and impacts.

IMM Response: See IMM Response 6 in Section 4.2.3.

4505 Greig Avenue, Terrace, British Columbia, Canada, V8G 1M6
Tel: 250.638.0998 E-mail: info@skeenawild.org Web: www.skeenawild.org

Literature cited

Cox-Rogers, S., & Spilsted, B., (2012). *Update Assessment of Sockeye Salmon Production from Babine Lake, British Columbia*. Science Branch, Pacific Region Fisheries and Oceans Canada North Coast Stock Assessment Unit. Canadian Technical Report of Fisheries and Aquatic Sciences 2956

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Korman & Cox-Rogers (2012) *Summary of Preliminary Benchmark Analysis for Lake Sockeye CUs in the Skeena Watershed*. Pacific Salmon Foundation & Fisheries and Oceans Canada Report.

Price, M.H.H. (2012). *Do artificial spawning channels negatively affect wild salmon?* North American Journal of Fisheries Management (in review).

Price, M., (2012). *Evaluation of whether Cox-Rogers and Spilsted's (2012) report satisfies Condition 13 of the Marine Stewardship Council certification of Skeena River sockeye salmon.* Prepared for SkeenaWild Conservation Trust.

Walters, C., Lichatowich, J., Peterman, R., Reynolds, J., (2008). *Report of the Skeena Independent Science Review Panel.* A Report to the Canadian Department of Fisheries & Oceans and the BC Ministry of Environment.

Appendix B – Stakeholder Presentations

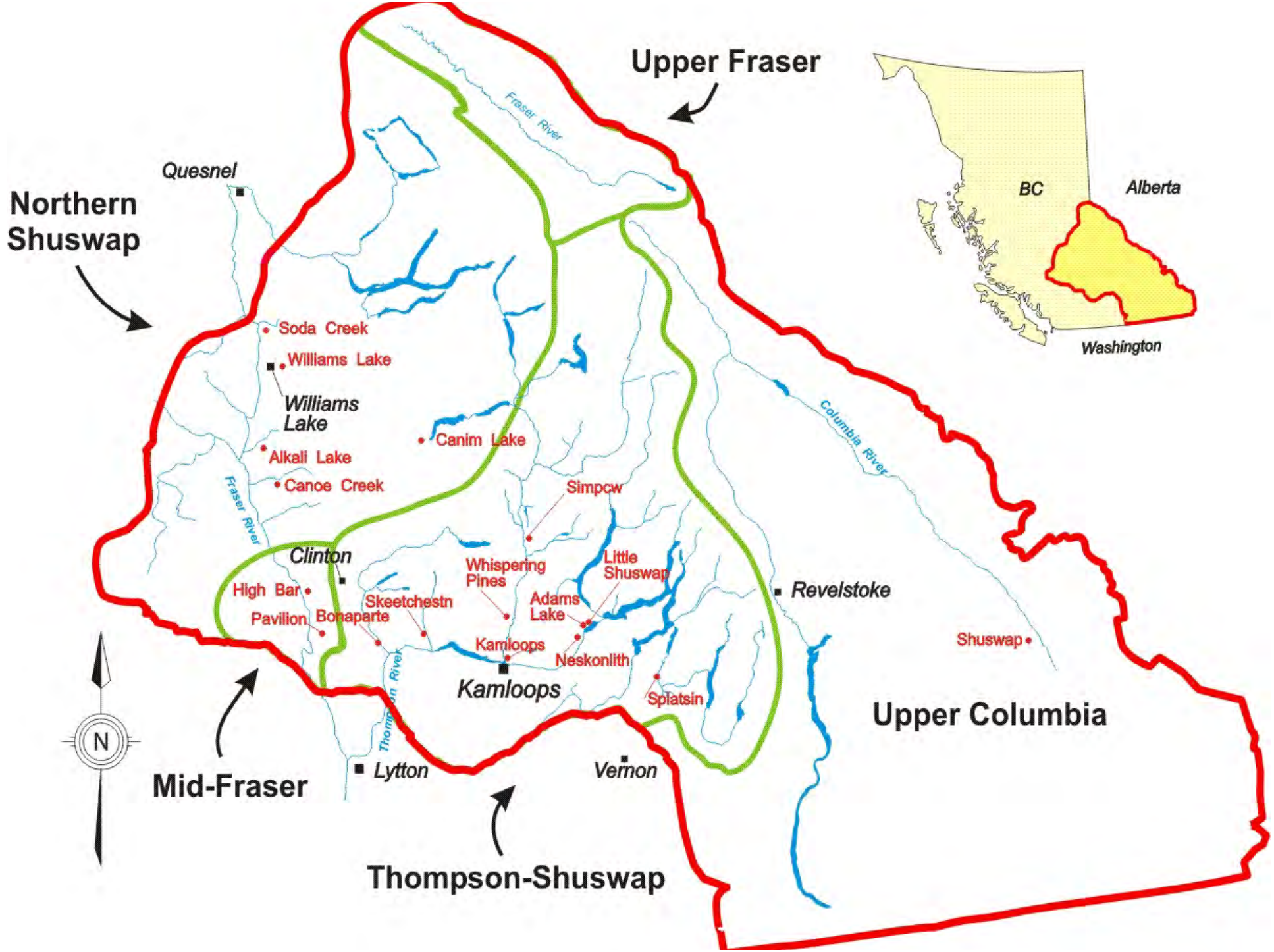
Secwepemc Fisheries Commission

Secwepemc Fisheries Commission

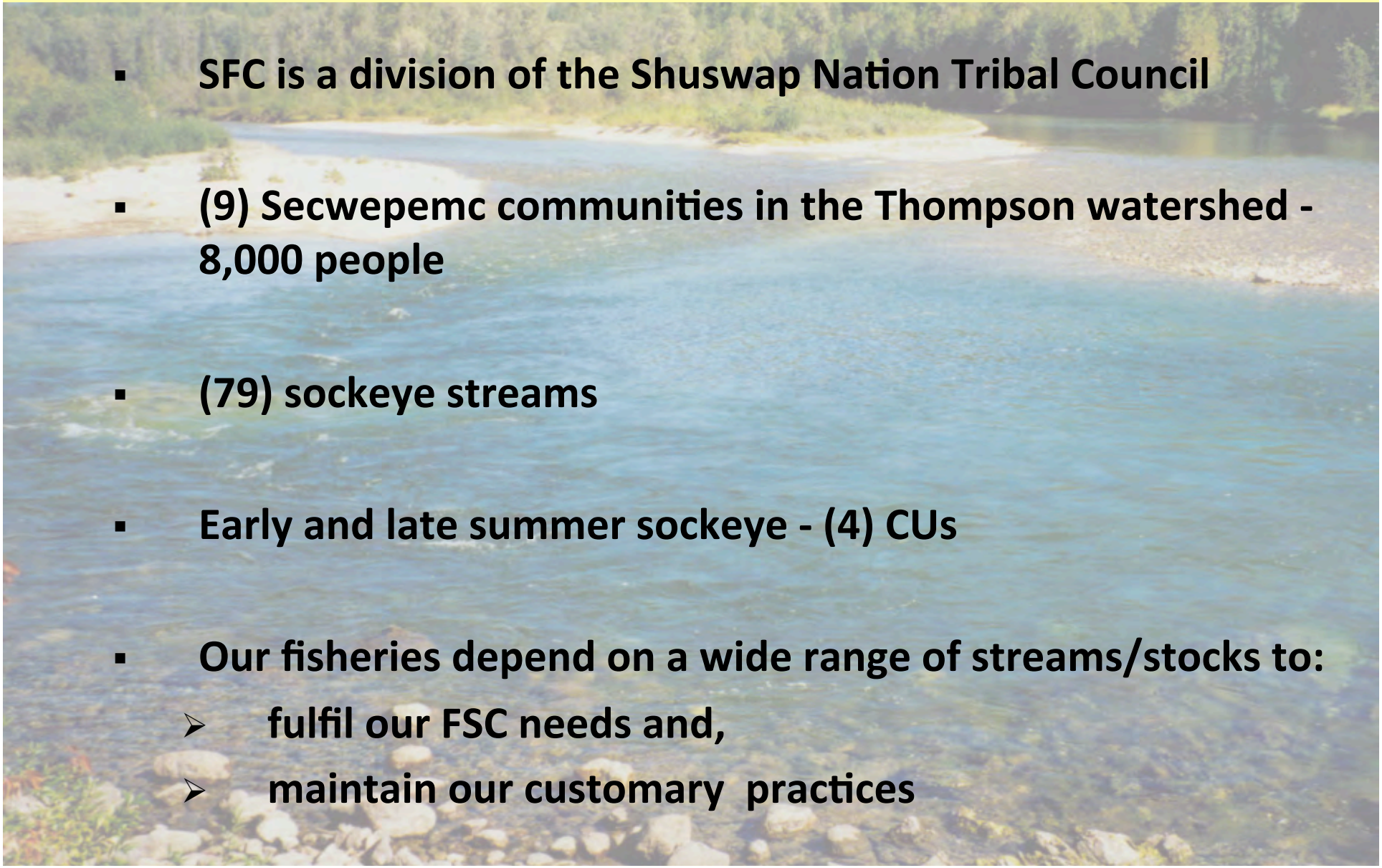
a division of the Shuswap Nation Tribal Council (SNTC)

Marine Stewardship Certification

MSC - May 18, 2012


Upper Fraser
Fraser River
Quesnel
Northern Shuswap
BC
Alberta
Washington
Soda Creek
Williams Lake
Williams Lake
Canim Lake
Alkali Lake
Canoe Creek
Fraser River
Columbia River
Simpcw
Clinton
Whispering Pines
Little Shuswap
High Bar
Skeetchestn
Adams Lake
Revelstoke
Pavilion
Bonaparte
Kamloops
Neskonlith
Shuswap
Kamloops
Splatsin
Upper Columbia
N
Thompson River
Lytton
Vernon
Mid-Fraser
Thompson-Shuswap

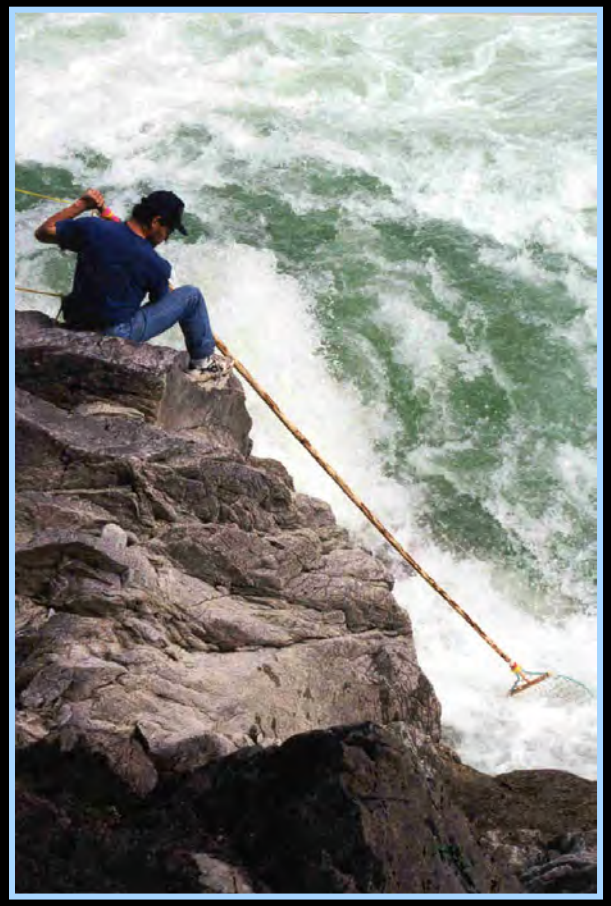
Secwepemc Fisheries Commission(SFC)



- SFC is a division of the Shuswap Nation Tribal Council
- (9) Secwepemc communities in the Thompson watershed - 8,000 people
- (79) sockeye streams
- Early and late summer sockeye - (4) CUs
- Our fisheries depend on a wide range of streams/stocks to:
  - fulfil our FSC needs and,
  - maintain our customary practices

Secwepemc fishing practices

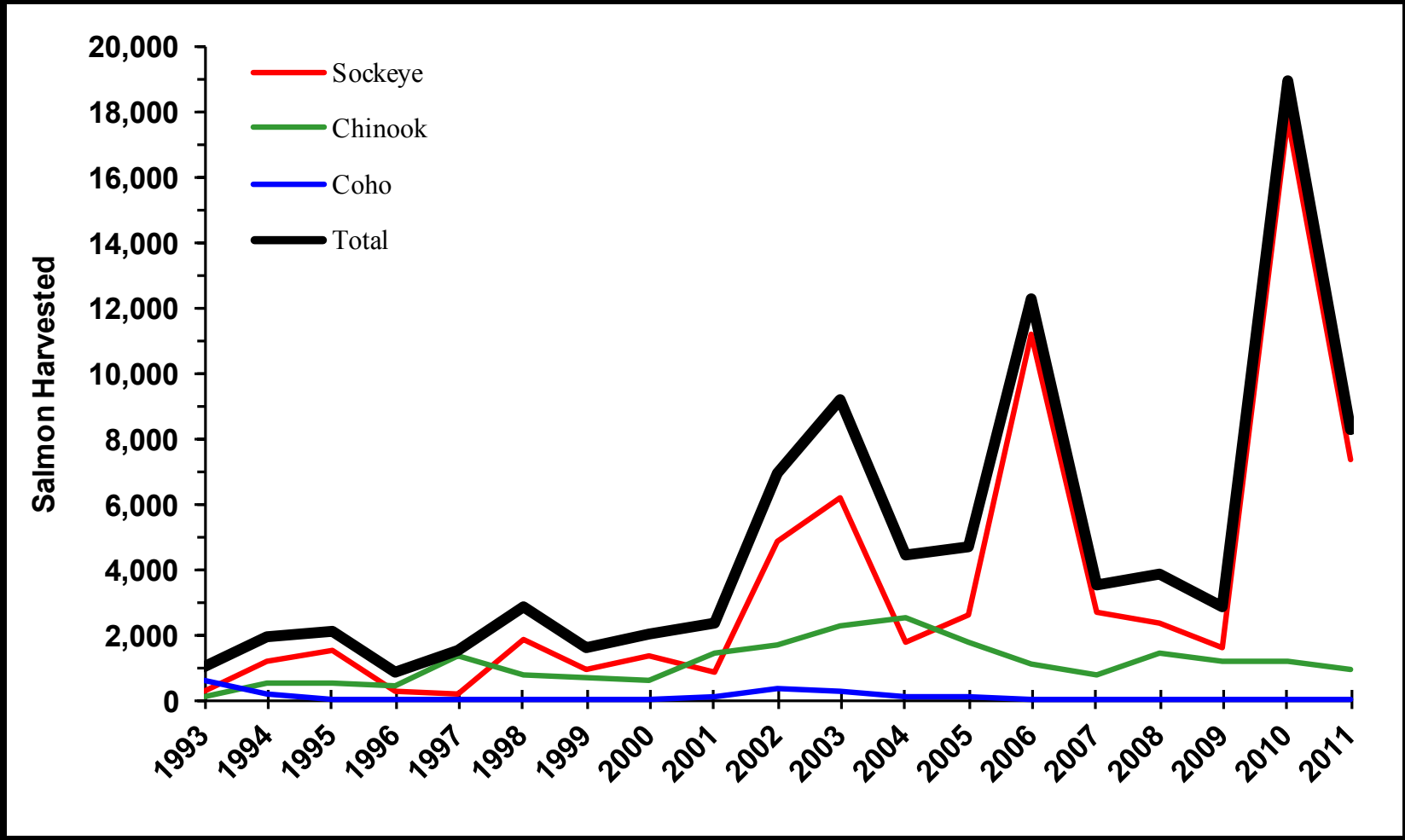
- Traditional practices include spears, dipnets weirs and gaffs
- Contemporary methods: gillnet and seine
- Sockeye stocks harvested
  - Early summer
    - ✓ Raft , N Thompson, Fennell
    - ✓ Scotch, Seymour, Eagle, upper Adams
  - Late summer
    - ✓ Late Shuswap / Adams



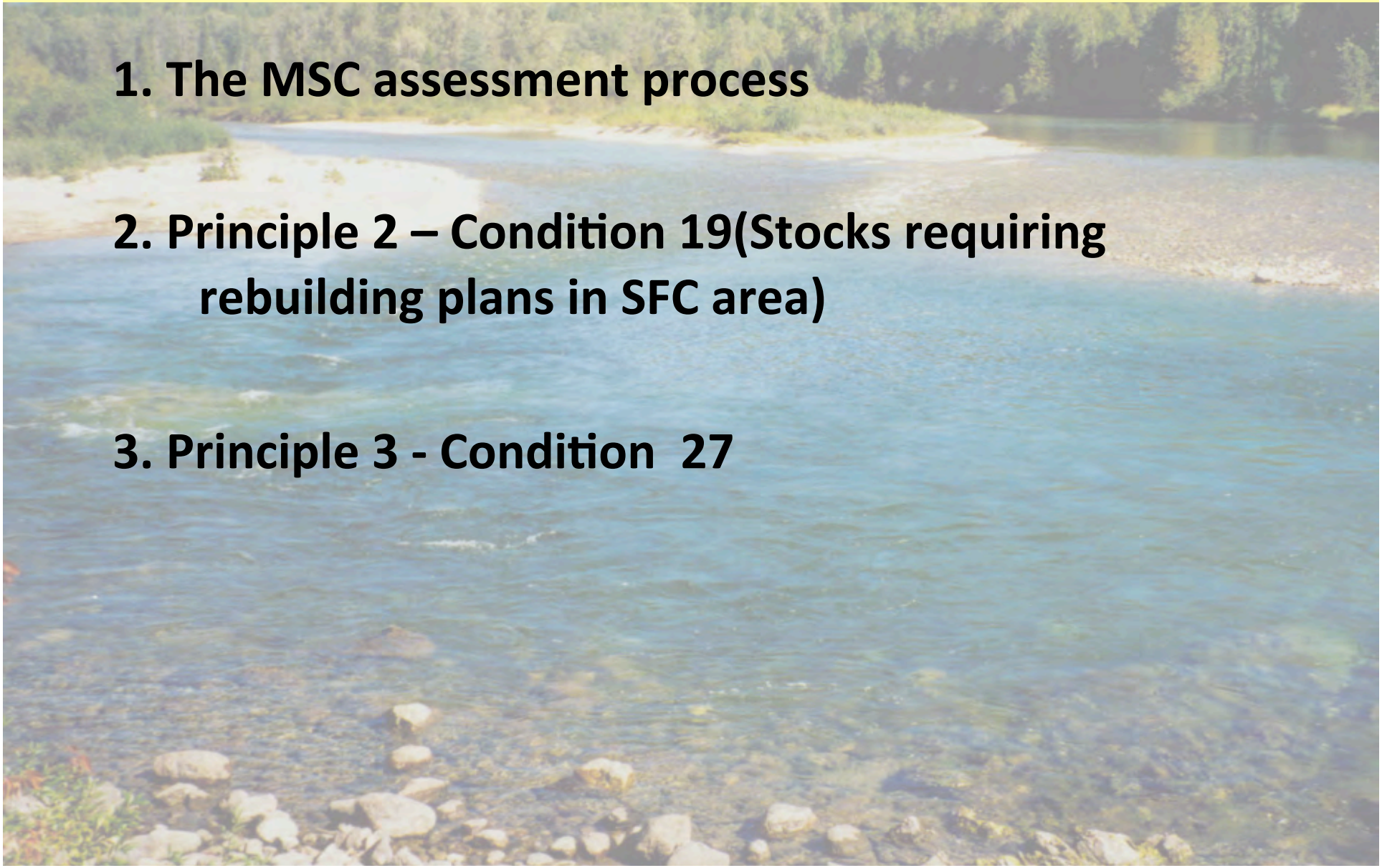
Traditional

Contemporary

Catch Surveying & Reporting



Key MSC issues



1. The MSC assessment process

2. Principle 2 – Condition 19(Stocks requiring rebuilding plans in SFC area)

3. Principle 3 - Condition 27

1. The MSC Assessment Process

- Only Cultus / Sakinaw identified in the previous MSC assessment
- No consultation with First Nations on the appropriate assessment methodology (CSAS, Holtby, COSEWIC) to use for MSC
- CSAS(Integrated) and Holtby (Synoptic) reveal many CUs require rebuilding plans
  - All stocks in the red or amber zone require rebuilding

SFC Recommendation 1. MSC certification should be conditional until First Nations are consulted on the appropriate assessment methodology to use.

IMM Response: See IMM Response 1 in Section 4.2.4

Prelim. results from CSAS Review

(Raincoast Conservation Foundation)

Timing Group	2012 Cycle Year	2013 Cycle Year	2014 Cycle Year	2015 Cycle Year	Lower Benchmark	Upper Benchmark	Integrated Status	Holtby Synoptic
Early Stuart								
	Takla-Trembleur	Takla-Trembleur	Takla-Trembleur	Takla-Trembleur	68,000	218,000	Red	Red
Early Summer								
	Nadina-Francois	Nadina-Francois	Nadina-Francois	Nadina-Francois	17,000	58,000	Red	Amber
	Bowron	Anderson	Bowron	Bowron	4,000	17,000	Red	Red
	Taseko		Taseko	Taseko	N/A	N/A	Red	Red
	Anderson		Anderson	Anderson	3,000	19,000	Red/Amber	Red
	Shuswap		Shuswap	Shuswap	89,000	198,000	Amber/Green	Red
	North Barriere		North Barriere	North Barriere	1,000	5,000		
	Kamloops		Kamloops	Kamloops	6,000	23,000	Amber	Green
	Nahatlach		Nahatlach	Nahatlach	N/A	N/A	Red	Red
	Chilliwack		Chilliwack	Chilliwack	8,000	16,000	Amber	Amber
	Pitt	Pitt	Pitt	Pitt	8,000	22,000	Amber	Green
Summer								
	Takla-Tembleur	Takla-Tembleur	Takla-Tembleur	Takla-Tembleur	104,000	489,000	Red/Amber	Red
	Francois-Fraser	Francois-Fraser	Francois-Fraser	Francois-Fraser	42,000	195,000	Red/Amber	Amber
	Quesnel	Quesnel	Quesnel	Quesnel	121,000	701,000	Red	Red
	Chilko	Chilko	Chilko	Chilko	39,000	273,000	Green	Red
Late								
	Shuswap		Shuswap	Shuswap	355,000	1,288,000	Amber/Green	Red
	Lillooet	Lillooet	Lillooet	Lillooet	11,000	77,000	Green	Green
	Seton	Seton	Seton	Seton	1,000	8,000	Red/Amber	Red
	Widgeon	Widgeon	Widgeon	Widgeon	N/A	N/A		
	Cultus				12,000	32,000	Red	Red
Early Stuart								
	None	None	None	None				
Early Summer								
		Bowron			4,000	17,000	Red	Red
		Kamloops			6,000	23,000	Amber	Green
		North Barriere			1,000	5,000		
		Shuswap			89,000	198,000	Amber/Green	Green
Summer								
	None	None	None	None				
Late								
		Cultus	Cultus	Cultus	12,000	32,000	Red	Red

2. Principle 2 – Condition 19

Lower and upper benchmarks (Grant 2010) were applied to most recent final escapement data for CUs in our area(2005-09) to determine which CUs require rebuilding:

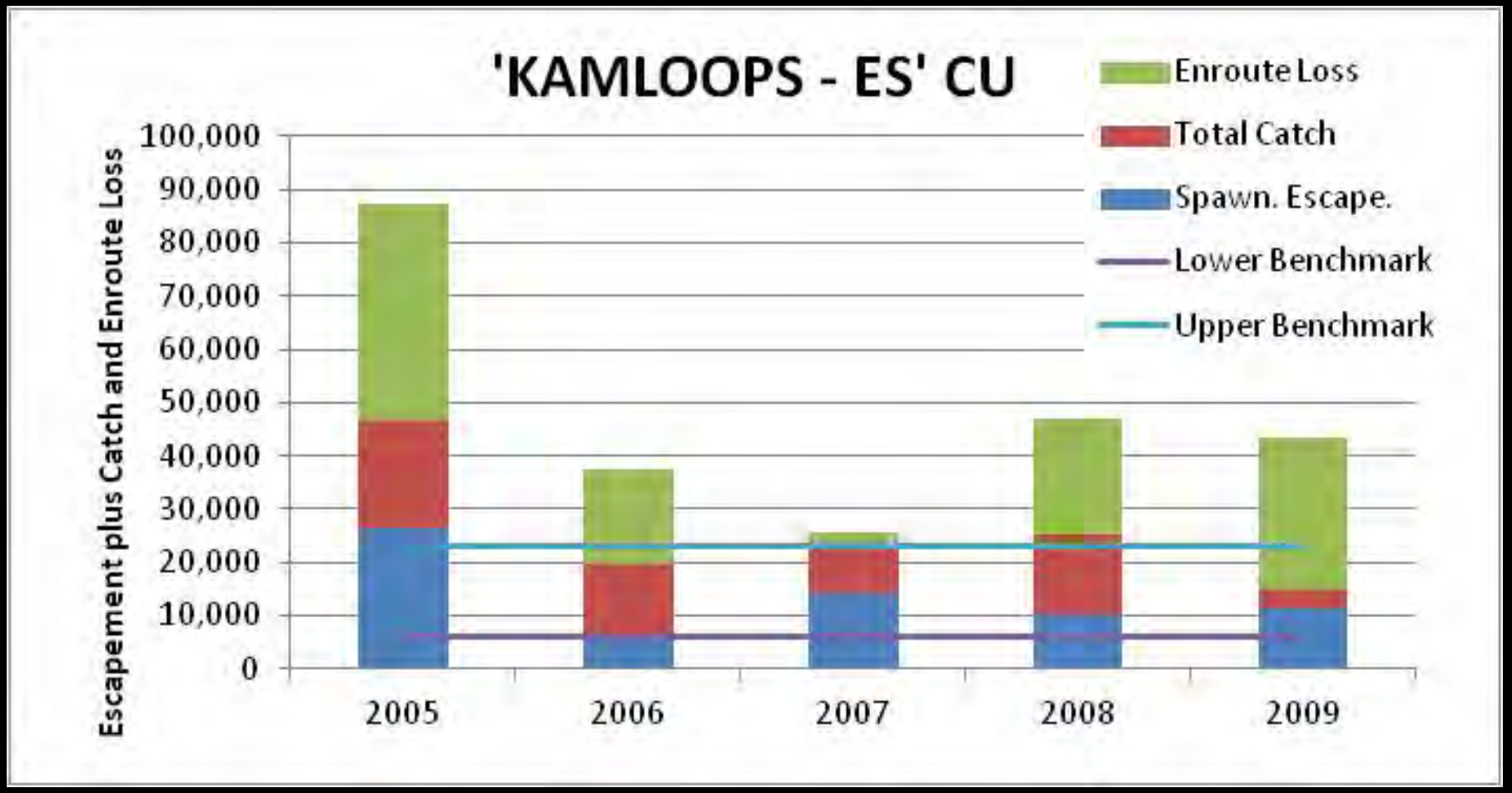
Kamloops Early Summer CU

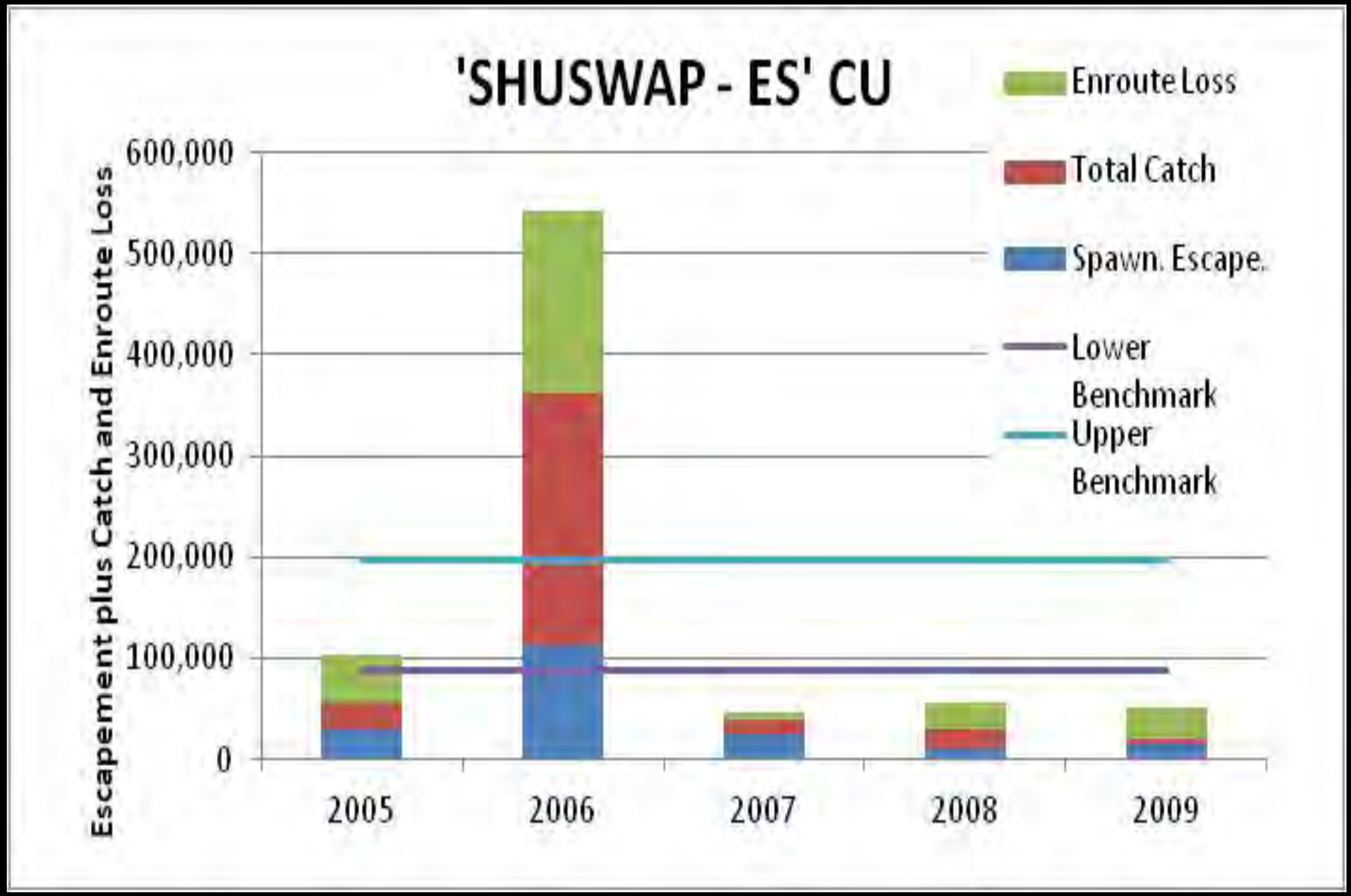
- **4 of 5 yrs escapements are in amber zone**
- **Escapement above the upper benchmark in one year only**

Shuswap Early Summer CU

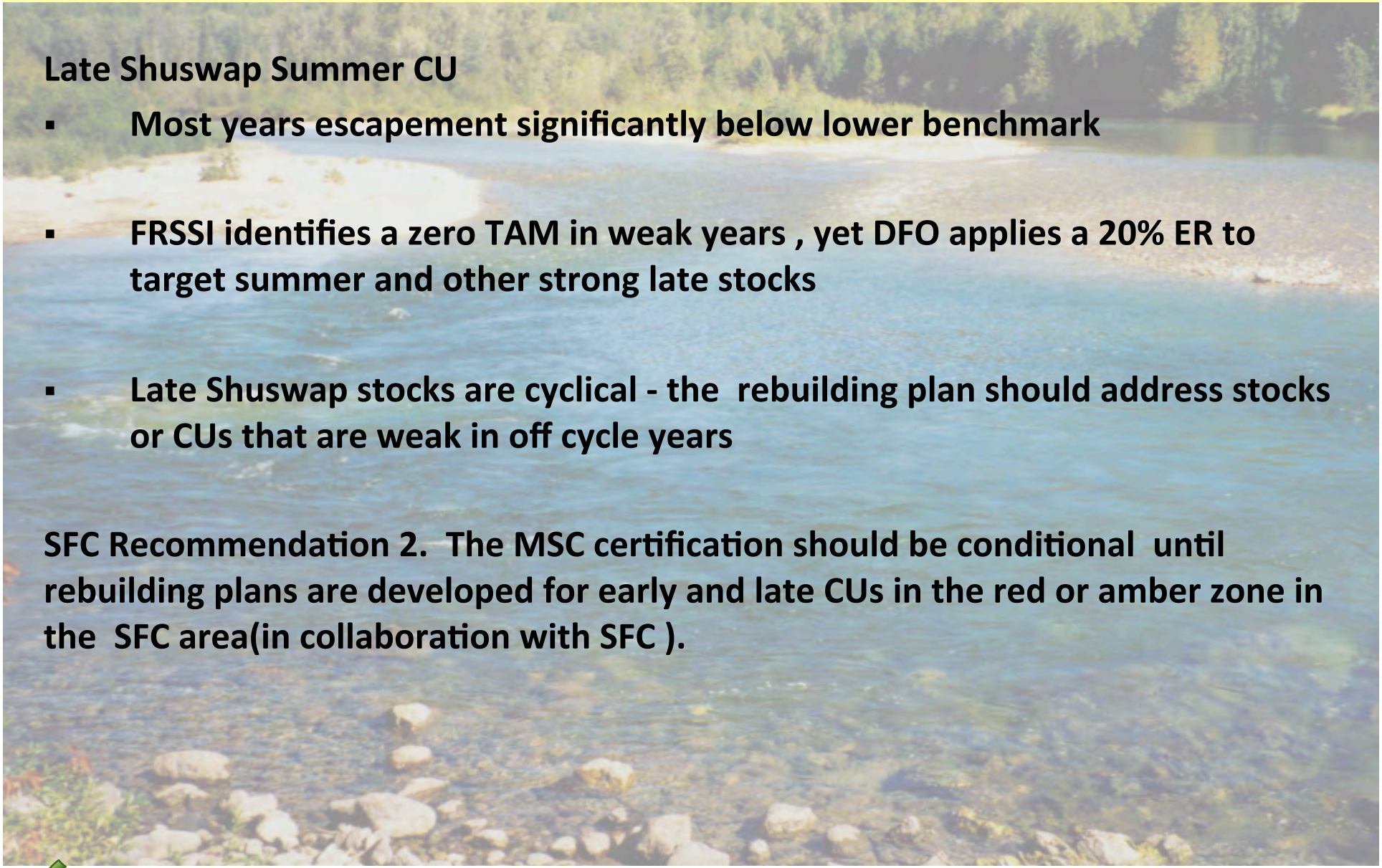
- **Escapements significantly below lower benchmark**
- **2006 escapement barely above lower benchmark**

✓ IMM Response: See IMM Response 2 in Section 4.2.4


'KAMLOOPS - ES' CU
Escapement plus Catch and Enroute Loss
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
2005
2006
2007
2008
2009
Enroute Loss
Total Catch
Spawn. Escape.
Lower Benchmark
Upper Benchmark


'SHUSWAP - ES' CU
Escapement plus Catch and Enroute Loss
600,000
500,000
400,000
300,000
200,000
100,000
0
2005
2006
2007
2008
2009
Enroute Loss
Total Catch
Spawn. Escape.
Lower Benchmark
Upper Benchmark

2. Principle 2 – Condition 19

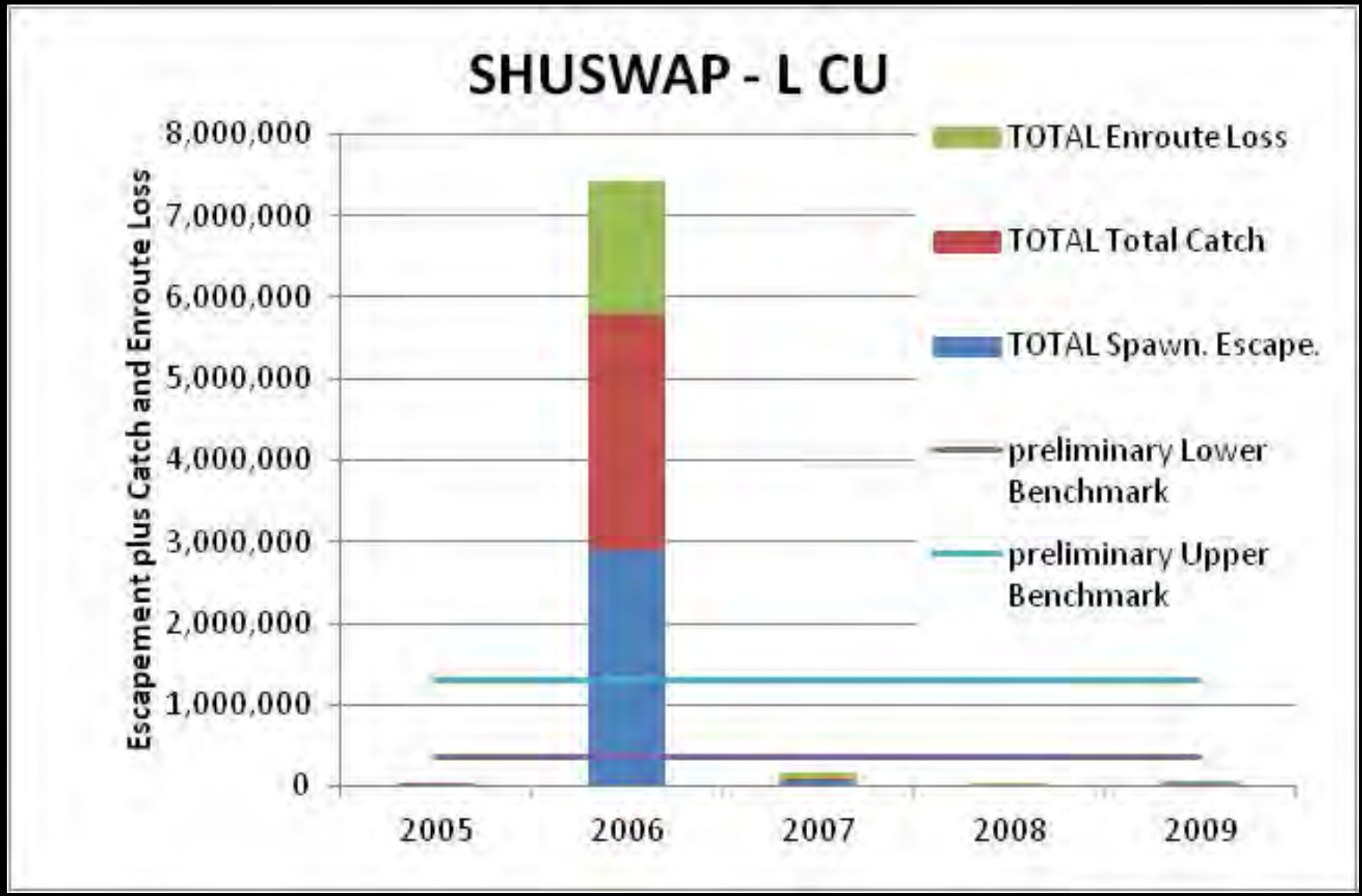


Late Shuswap Summer CU

- **Most years escapement significantly below lower benchmark**
- **FRSSI identifies a zero TAM in weak years , yet DFO applies a 20% ER to target summer and other strong late stocks**
- **Late Shuswap stocks are cyclical - the rebuilding plan should address stocks or CUs that are weak in off cycle years**

SFC Recommendation 2. The MSC certification should be conditional until rebuilding plans are developed for early and late CUs in the red or amber zone in the SFC area(in collaboration with SFC).

✔ IMM Response: See IMM Response 3 in Section 4.2.4


SHUSWAP - L CU
Escapement plus Catch and Enroute Loss
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
2005
2006
2007
2008
2009
TOTAL Enroute Loss
TOTAL Total Catch
TOTAL Spawn. Escape.
preliminary Lower Benchmark
preliminary Upper Benchmark

3. Principle 3 - Condition 27

The depressed status of CUs within the SFC area directly impacts SFC communities Food, Social, Ceremonial(FSC) fisheries.

- **an abundance of sockeye in each of the stocks that make up the CU is required to make our fishery successful.**

- **DFO has no means of managing CUs or stocks through marine or in river fisheries to meet escapement objectives or FSC needs.**

- **DFO has never discussed a research plan with SFC that considers the socio economic impact that fisheries may have on FSC requirements**

SFC Recommendation 3. Condition 27 should not be closed out until DFO and First Nations develop rebuilding plans that incorporate FSC requirements.

SFC Recommendation 4. DFO and SFC need to develop a research plan that focuses on managing sockeye back to the Thompson watershed to meet escapement objectives and FSC requirements

IMM Response: See IMM Response 4 in Section 4.2.4

3. Principle 3 Condition 27

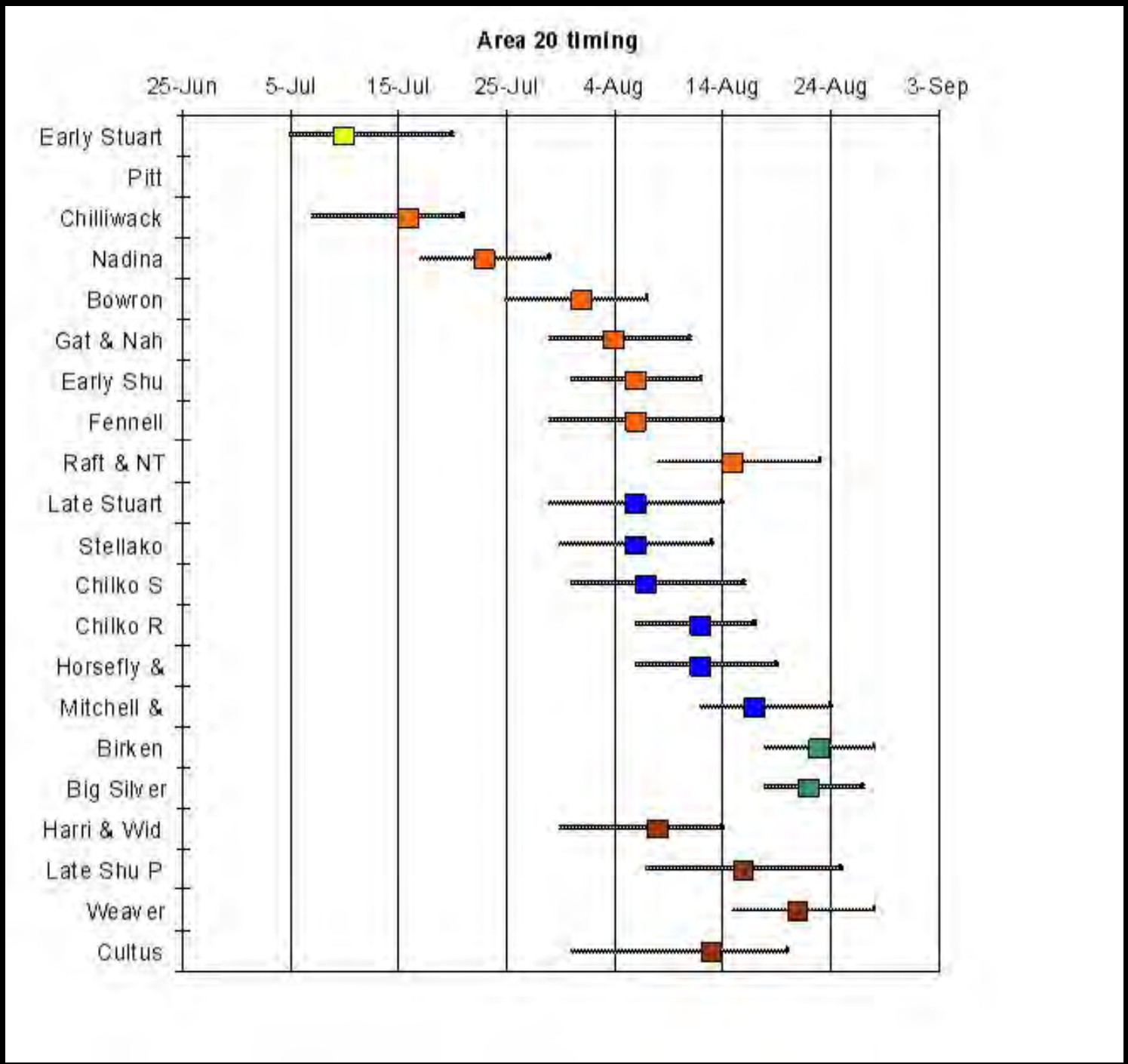
DFOs operation framework is based upon an aggregate management approach. This approach is not conducive to actively manage depressed or less productive stocks or CUs back to a geographic area to meet escapement or FSC requirements.

Harvesting strong or more dominant aggregates has potential to seriously impact co migrating depressed or less productive stocks:

In years when summer runs are strong - weak or less productive early Shuswap CUs and associated stocks face Exploitation Rates designed for summers.

- Early Shuswap CU timing is similar to some of the summer aggregate stocks (Scotch Creek is one of them)

- The 2012 Scotch Creek run size forecast is 300(one of lowest on record);
  - applying the 60% TAM for early summer leaves only 180 spawners for escapement(approx. 90 females).


Area 20 timing
25-Jun
5-Jul
15-Jul
25-Jul
4-Aug
14-Aug
24-Aug
3-Sep
Early Stuart
Pitt
Chilliwack
Nadina
Bowron
Gat & Nah
Early Shu
Fennell
Raft & NT
Late Stuart
Stellako
Chilko S
Chilko R
Horsefly &
Mitchell &
Birken
Big Silver
Harri & Wid
Late Shu P
Weaver
Cultus

3. MSC Condition 27 cont'd

SFC recommendation 5: DFO should work with First Nations to develop a management system that actively manages weak or less productive CUs or stocks to meet rebuilding objectives as per MSC requirements.

Secwepemc Fisheries Commission

680 Athabasca Street West Kamloops, BC, V2H 1C4

May 28, 2012

Steven Devitt
Suite #202 - 10310 124th Street
Edmonton, Alberta
T5N IR2

Re: Secwepemc Fisheries Commission (SFC) Recommendations on 2012 Surveillance Audit of BC's Marine Stewardship Council Certification of BC Sockeye Salmon Fisheries

Dear Mr. Devitt:

This letter is written on behalf of the following Secwepemc communities:

Adams Lake Indian Band
Bonaparte Indian Band
Little Shuswap Lake Indian Band
Neskonlith Indian Band
Simpcw First Nation
Skeetchestn Indian Band
Splatsin First Nation
Tk'emlups Te Secwepemc
Whispering Pines / Clinton Indian Band

These communities are not engaged in the BC Treaty Process and maintain their assertion that their Aboriginal Title and Rights exist over the entire territory, as they have done so since time immemorial.

Secwepemc Fisheries Commission (SFC) is a fisheries organization formed in 1992 that works within the mandate of Secwepemc communities and Tribal Chiefs. We support the work of our

communities to provide stewardship for the fisheries in their territories and to assert their traditional fisheries rights within a co-management framework.

The Thompson drainage, within the Secwepemc Territory(see map), has seventy-nine sockeye streams, both early and late summer sockeye timing groups and four Wild Salmon Policy Conservation Units. Our community fisheries depend on an abundance of sockeye distributed over a wide range of streams to provide for Food, Social and Ceremonial needs.

The MSC's effort to recognize and reward sustainable fishing practices through international certification and seafood eco-labeling is appreciated. SFC, however, is concerned that BC sockeye fisheries certified as sustainable in July of 2010 by MSC are not conforming to MSC standards which requires stocks identified as depleted or within the red or amber zone to have associated rebuilding plans.

The following is a summary of key issues and recommendations provided by SFC on May 18, 2012 regarding the 2012 Surveillance Audit of BC's Certified Fraser Sockeye salmon fisheries.

1. Only Cultus and Sakinaw were identified in the previous MSC assessment as requiring rebuilding plans however new information on Wild Salmon Policy Conservation Unit (CU) Status using a variety of assessment methods (CSAS – Integrated and Holtby – Synoptic) indicates there are more stocks in the red or amber zones that require rebuilding plans (see Table 1).

   There has been no consultation with SFC or other First Nations on the appropriate assessment methodology (CSAS, Holtby, and COSEWIC) to assess the status of stocks or CUs for MSC.

SFC Recommendation 1. MSC certification should be conditional until First Nations are consulted on the appropriate assessment methodology to use.

IMM Response: Addressed above in previous presentation. See IMM Response 1 in Section 4.2.4.

Table 1 – Preliminary results from Canadian Science Advisory Secretariat - Oct 2011)

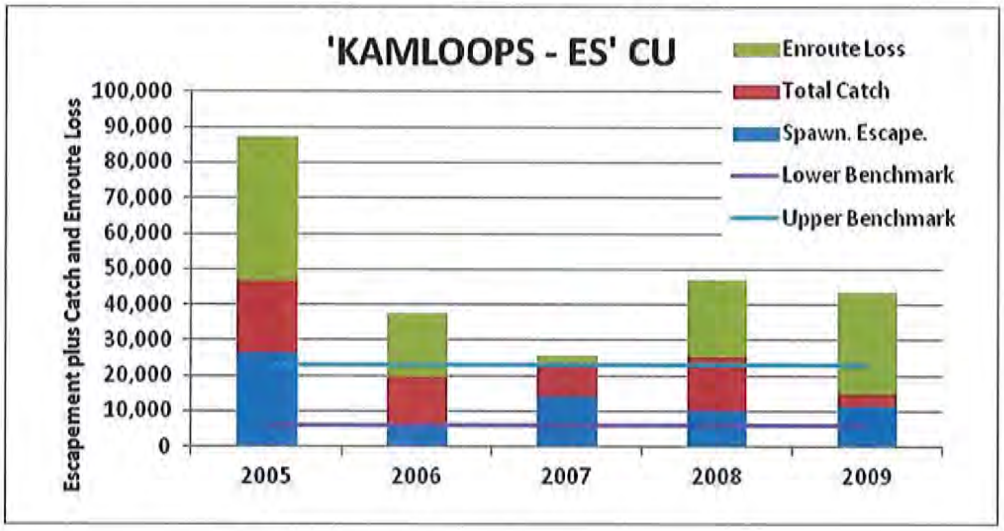
Timing Group	2012 Cycle Year	2013 Cycle Year	2014 Cycle Year	2015 Cycle Year	Lower Benchmark	Upper Benchmark	Integrated Status	Holtby Synoptic
Early Stuart								
	Takla-Trembleur	Takla-Trembleur	Takla-Trembleur	Takla-Trembleur	68,000	218,000	Red	Red
Early Summer								
	Nadina-Francois	Nadina-Francois	Nadina-Francois	Nadina-Francois	17,000	58,000	Red	Amber
	Bowron	Anderson	Bowron	Bowron	4,000	17,000	Red	Red
	Taseko		Taseko	Taseko	N/A	N/A	Red	Red
	Anderson		Anderson	Anderson	3,000	19,000	Red/Amber	Red
	Shuswap		Shuswap	Shuswap	89,000	198,000	Amber/Green	Red
	North Barriere		North Barriere	North Barriere	1,000	5,000		
	Kamloops		Kamloops	Kamloops	6,000	23,000	Amber	Green
	Nahatlach		Nahatlach	Nahatlach	N/A	N/A	Red	Red
	Chilliwack		Chilliwack	Chilliwack	8,000	16,000	Amber	Amber
	Pitt	Pitt	Pitt	Pitt	8,000	22,000	Amber	Green
Summer								
	Takla-Tembleur	Takla-Tembleur	Takla-Tembleur	Takla-Tembleur	104,000	489,000	Red/Amber	Red
	Francois-Fraser	Francois-Fraser	Francois-Fraser	Francois-Fraser	42,000	195,000	Red/Amber	Amber
	Quesnel	Quesnel	Quesnel	Quesnel	121,000	701,000	Red	Red
	Chilko	Chilko	Chilko	Chilko	39,000	273,000	Green	Red
Late								
	Shuswap		Shuswap	Shuswap	355,000	1,288,000	Amber/Green	Red
	Lillooet	Lillooet	Lillooet	Lillooet	11,000	77,000	Green	Green
	Seton	Seton	Seton	Seton	1,000	8,000	Red/Amber	Red
	Widgeon	Widgeon	Widgeon	Widgeon	N/A	N/A		
	Cultus				12,000	32,000	Red	Red
Early Stuart								
	None	None	None	None				
Early Summer								
		Bowron			4,000	17,000	Red	Red
		Kamloops			6,000	23,000	Amber	Green
		North Barriere			1,000	5,000		
		Shuswap			89,000	198,000	Amber/Green	Green
Summer								
	None	None	None	None				
Late								
		Cultus	Cultus	Cultus	12,000	32,000	Red	Red

2. Principle 2 – Condition 19 (Stocks requiring rebuilding plans in SFC area):

SFC conducted an analysis of the CUs stocks in the Thompson drainage to determine if rebuilding was required. The lower and upper benchmarks (Grant 2010) were applied to most recent final escapement data for Conservation Units in the Thompson (2005-09) to determine status.

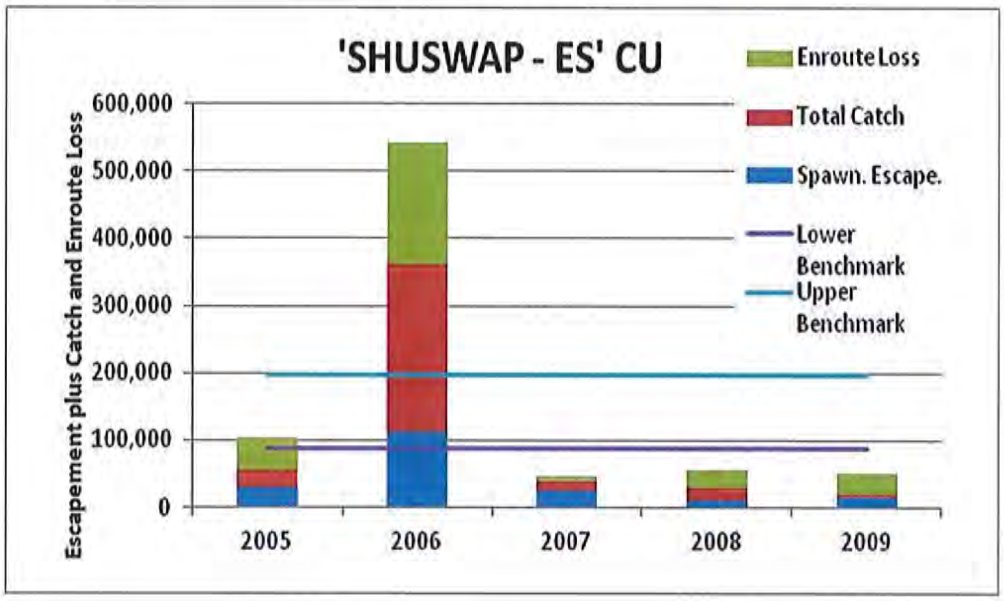
Kamloops Early Summer CU (Raft River, North Thompson River)

- 4 of 5 years escapements are in amber zone
- Escapement above the upper benchmark in one year only



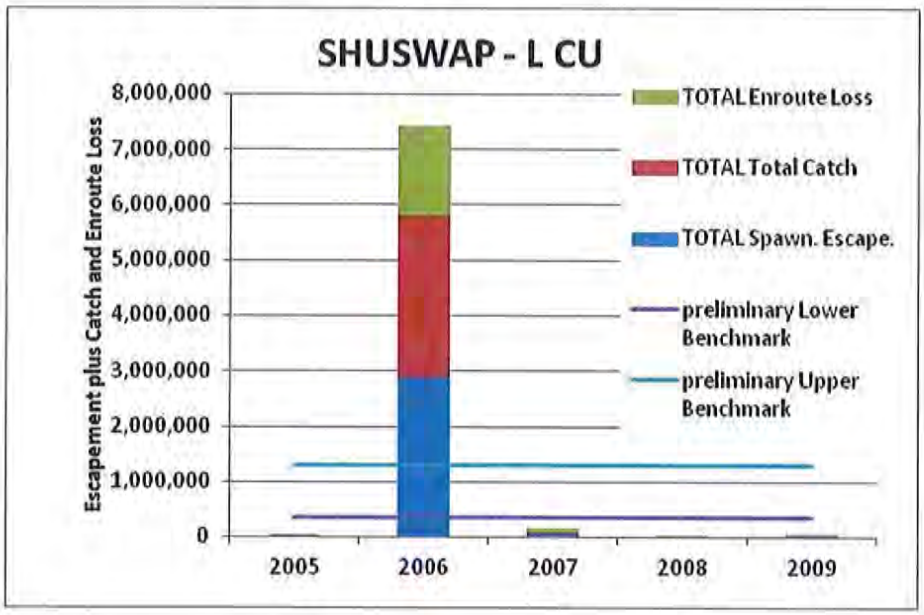
Shuswap Early Summer CU (Scotch, Seymour, Upper Adams, Momich, Eagle)

- Escapements significantly below lower benchmark
- 2006 escapement barely above lower benchmark



Late Shuswap Summer CU

- Most years escapement significantly below lower benchmark
- FRSSI identifies a zero Total Allowable Mortality (TAM) in weak years , yet DFO applies a 20% ER to exploit summer run timing sockeye and other strong Late run timing stocks
- Late Summer Shuswap stocks are cyclical - the rebuilding plan should address stocks or CUs that are weak in off cycle years



SFC Recommendation 2. The MSC certification for Principle 2 – Condition 19 should remain conditional until rebuilding plans are developed for early and late CUs in the red or amber zone in the SFC area(in collaboration with SFC).

IMM Response: Addressed above in previous presentation. See IMM Responses 2 and 3 in Section 4.2.4.

3. Principle 3 - Condition 27

The depressed status of CUs within the SFC area directly impacts SFC communities Food, Social, Ceremonial (FSC) fisheries.

- An abundance of sockeye in each of the stocks that make up the CU is required to make our fishery successful.
- DFO has no means of managing CUs or stocks through marine or in river fisheries to meet escapement objectives or FSC needs.
- DFO has never discussed a research plan with SFC that considers the socioeconomic impact that fisheries may have on FSC requirements

DFOs operation framework is based upon an aggregate management approach. This approach is not conducive to actively manage depressed or less productive stocks or CUs back to a geographic area to meet escapement or FSC requirements.

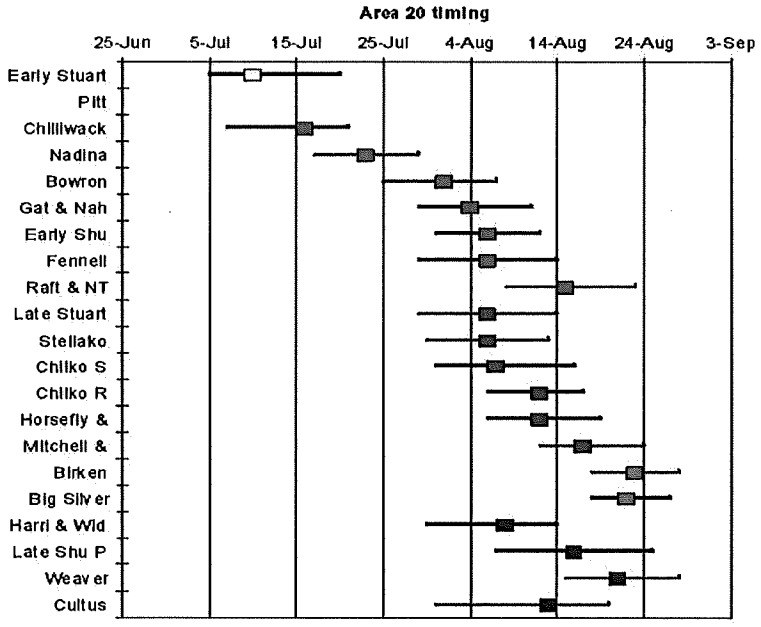
Harvesting strong or more dominant aggregates has potential to seriously impact co migrating depressed or less productive stocks:

In years when summer runs are strong - weak or less productive Early Summer Shuswap CUs and associated stocks face exploitation rates designed for Summer run sockeye.

- The 2012 Scotch Creek run size forecast is one of lowest on record at 300
  - ➢ applying the 60% TAM for early summer leaves only 180 spawners for escapement (approx. 90 females).

- Early Shuswap CU timing, i.e. Scotch Creek, is similar to some of the summer aggregate stocks (see Table 2)

Table 2 – Fraser Sockeye Stock Migration Timing in DFO Area 20:



SFC Recommendation 3: Principle 3 - Condition 27 should not be closed until DFO works with SFC to:

a) Develop a management system that actively manages depleted CUs or stocks to meet rebuilding objectives related to spawning abundance and distribution.

Note: the intent here is to manage an aggregate number of fish back to a geographic area, like the Thompson drainage to CU or stock rebuilding requirements.

b) Develop rebuilding plans for CUs or stocks that incorporate additional fish for FSC requirements.

IMM Response: Addressed above in previous presentation. See IMM Response 4 in Section 4.2.4.

Thank you for this opportunity to comment on the MSC Surveillance Audit. Please review the above concerns and recommendations address them in writing to us. If you have any questions pertaining to this letter or require further clarification, please contact the undersigned at (778) 471 - 8224.

Sincerely,

Pat Matthew, Fisheries Management Coordinator
Secwepemc Fisheries Commission

C.c. Chief Rick Deneault — SNTC Fisheries Portfolio Holder
SFC Steering Committee representatives
Fraser River First Nations (via FRAFS)
Sue Farlinger — DFO-RHQ
Barry Rosenberger — DFO BCI
Les Jantz — DFO BCI
Jordan Point — BC First Nations Fisheries Council