



2017/2018 Salmon Fishery Planning

Sockeye and Pink Salmon Key Management Issues
for 2017

FN Forum Meeting
March 7-9th, 2017



Outline

1. 2017 Management Issues

- Fraser Sockeye and Pink Forecasts
- Environmental conditions – marine and freshwater
- Run timing considerations within sockeye returns
- Run timing considerations - other species

2. Regional Issues

- Use of Fish Arrangements / Test Fisheries



2017 Fraser Sockeye Forecast Summary

Run timing group	Probability that Return will be at/or Below Specified Run Size				
	10%	25%	50%	75%	90%
Stocks					
Early Stuart	42,000	64,000	99,000	158,000	253,000
Early Summer	95,000	166,000	343,000	792,000	1,971,000
Summer	1,065,000	1,861,000	3,407,000	6,631,000	12,560,000
Late	113,000	247,000	583,000	1,292,000	2,849,000
TOTAL SOCKEYE	1,315,000	2,338,000	4,432,000	8,873,000	17,633,000
TOTAL PINK SALMON	4,447,000	6,177,000	8,693,000	12,353,000	16,682,000



Fraser River Sockeye – forecast overview

Early Stuart – *stock of concern*. **Very low returns expected in 2017**; 2013 effective female spawners (approx. 40K) less than half the cycle average.

Early Summer – *stock of concern to near target*. Larger than average returns: for Seymour, Scotch, Gates; average returns for **North Barriere, Nadina, and Pitt**; **below average returns for: Bowron and Nahatlatch**; and, Chilliwack had largest escapement on record (2012) but below average for 2013) - returns in past have been highly variable.

Summer – *low to abundant*. Average to above average returns expected for **Chilko (but tremendous uncertainty), Harrison, Stellako and Raft**. **Late Stuart** below average returns; effective female spawners were less than 1/2 of cycle average. **Quesnel – well below average returns given effective female spawners (96K) vs. cycle avg. (450K)**.

Lates – *stock of concern to near target*. **Cultus - very low returns (110K smolts vs. 254K cycle avg.) and below avg. returns for Weaver (effective female spawners 15.5K below 20K cycle avg)**. **Average returns for Portage (45K cycle average) and Birkenhead (296K cycle avg.)** Larger than 200K cycle average for Shuswap (effective female spawners were 10X cycle avg.)



Fraser River Sockeye – recent trends

- Total returns of Fraser sockeye have generally been less than the forecast median (p50) over the last 3 cycles with few exceptions (e.g. 2010). Total returns in 2015 and 2016 have been near the p10 level.
- In 2017, below average returns expected for most Fraser sockeye populations based on forecast. Summer runs sockeye populations are expected to comprise the majority of the total Fraser sockeye returns.
- Below average survival for many but not all stocks in 2016. Unclear if below average survivals will persist and influence survival of four year olds returning in 2017.
- Harvest opportunities are uncertain.
- Quantitative forecasts provided in draft IFMP.



Environmental Considerations

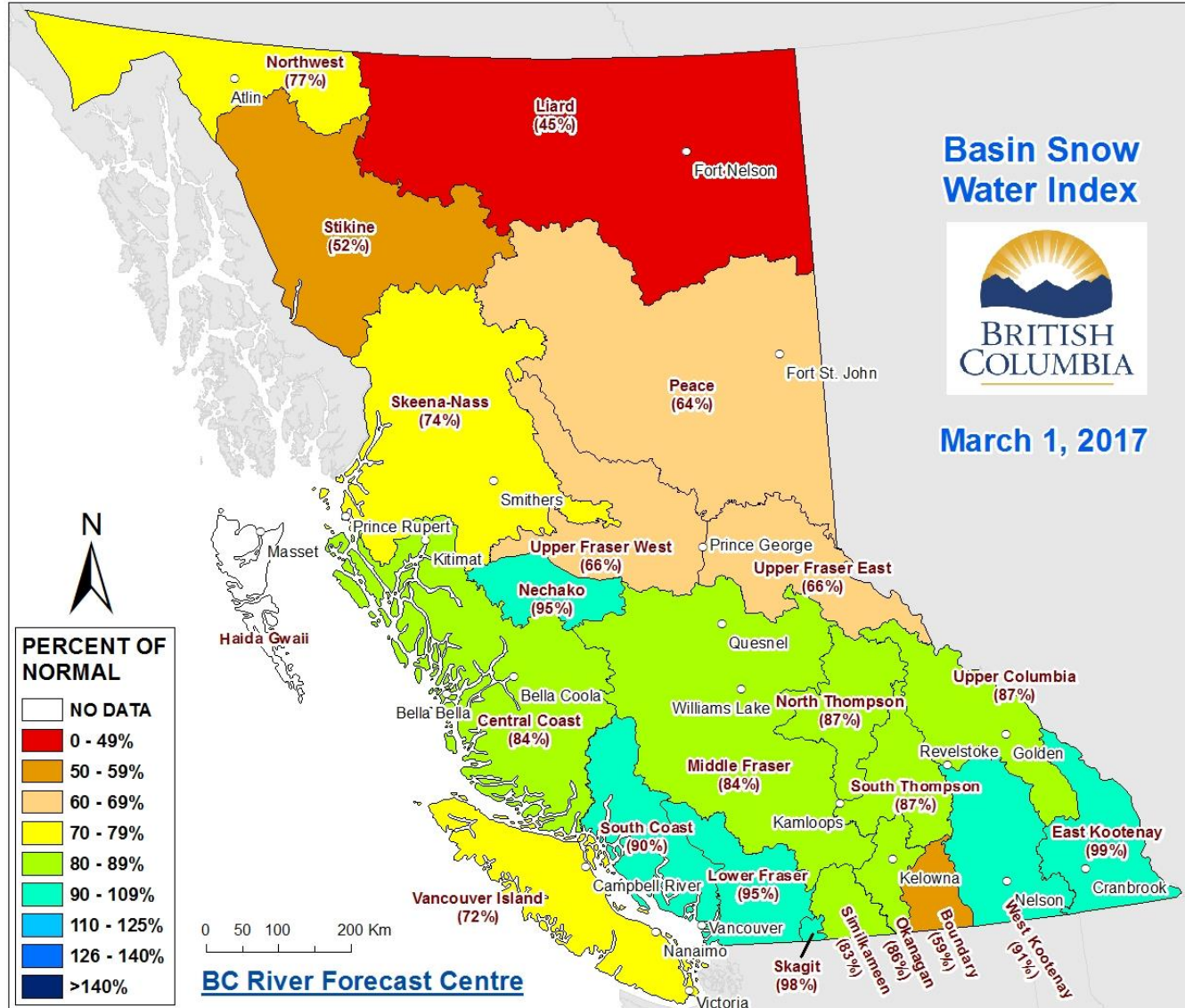


Marine Conditions-General Observations

- Marine survival conditions at ocean entry year:
 - **2012** ocean indicators: sea surface cooler than 2010 and 2011
 - **2013** ocean indicators: sea surface variable but warmer than 2012 on average
 - **2014** ocean indicators: 1st half 2014, BC coast cooler water, but in 2nd half of 2014 record warm temperatures continuing
 - **2015**; (ocean entry year for most Fraser Sockeye returning in 2017) sea surface Gulf Alaska 3°C above normal; “warm blob”
 - **2016** ocean indicators: seas surface variable but warmer than average for 1st half of 2016.



Environment Conditions





State of the Pacific Ocean and Freshwater Environmental Conditions

- Impacts of warm ocean in 2015 and El Nino in 2016 suggest survival unfavourable conditions for salmon.
 - Drought, low discharge and high temps caused widespread losses of migrating salmon adults and rearing juveniles in BC & WA State river and stream networks.
- Environmental conditions and associated uncertainties may require discussion of potential in-season additional adjustments to achieve conservation and management objectives.



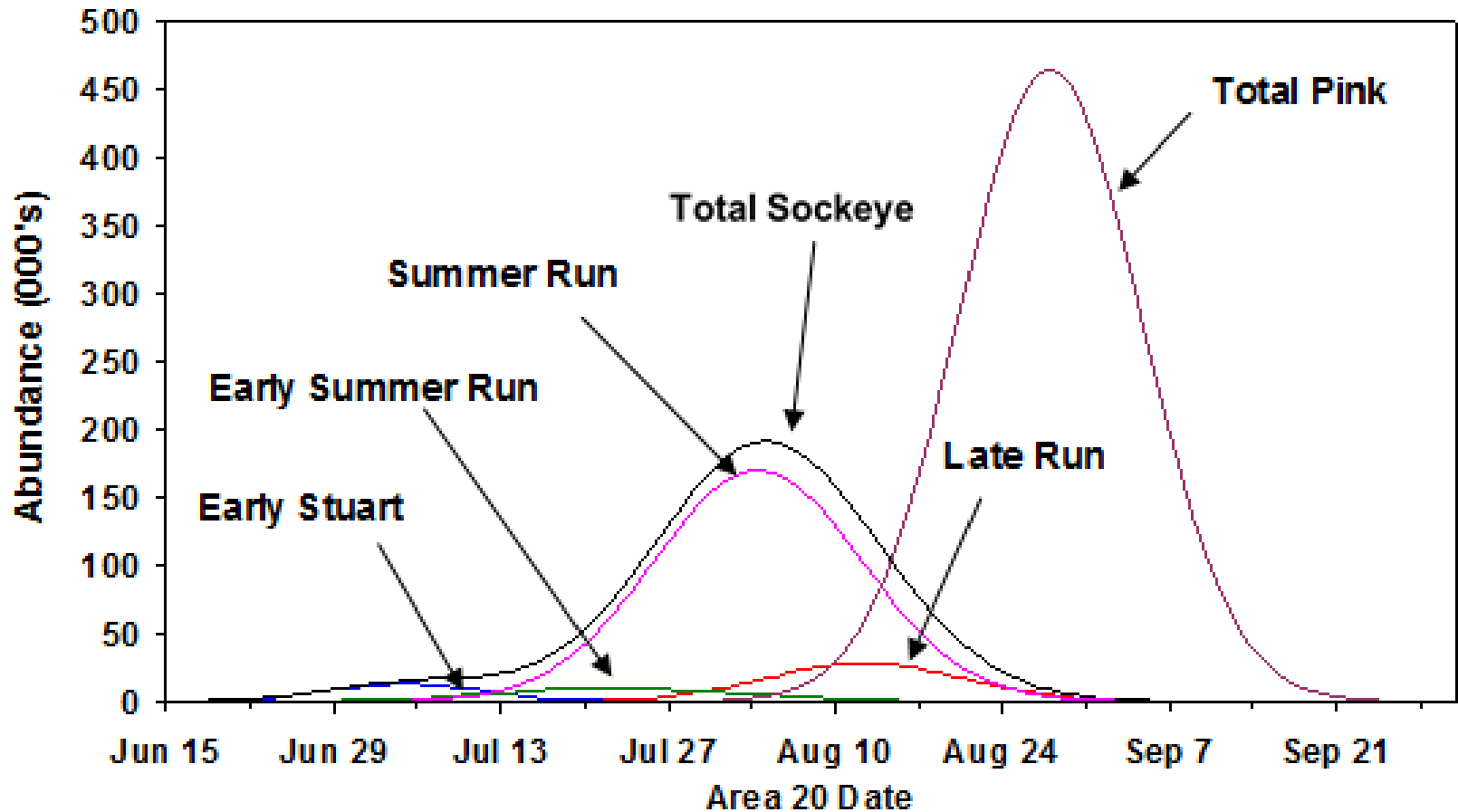
Southern Pink

- **Fraser River pink:** - Pink salmon return to the Fraser River in odd numbered years; below average returns expected due to low fry abundance in Spring 2016 (230 million fry vs. 450 million average). (Average return over 1959-2013 was 13.4 million). Opportunities for directed harvest will be based on in season information and subject to measures to protect stock /species of concern.
- Quantitative forecast of: **XXX to XXX.**
- **Other southern BC pink:** Average to below average returns are expected for other Southern British Columbia populations
 - Areas 11 to 13 and Georgia Strait –Local pink abundances may provide opportunities for directed harvest.
 - Squamish pink salmon –No quantitative assessment information is available.



Run Timing Considerations

2013 Fraser River Sockeye and Pink Migration Timing





Sockeye Run Timing Considerations

- Window closure to protect Sakinaw
- Window closure to protect Early Stuart (3 weeks?)
- Greatest harvest opportunity will be on Summers
- Summer harvest may be constrained by Early Summers and Lates
- Late run sockeye may constrain harvest of Summers and/or Pink salmon
- Cultus considerations



Run Timing Considerations - other Species

- Chinook salmon fisheries:
 - Depends on availability of sockeye TAC, LAER

- Coho constraints
 - Plan to minimize impacts
 - Window closure planned as usual
 - Possible implications for pink fisheries.



Test Fishing – 2017 program considerations

- In 2013, new s. 10 authorities under the *Fisheries Act* to support the Pacific salmon test fishing program.
- National Use of Fish Policy not yet formally approved
- Objective of Use of Fish arrangements is for fish revenues to address programs costs,
- Low sockeye abundance curtailed test fish revenues, in 2014 & 2015; incremental funding was secured
- Fraser sockeye / pink – some modifications in program design under consideration in light of weak anticipated returns.



Fraser Sockeye and Pink Test Fisheries





2017 Test Fishing Plans – Panel Areas

Test Fisheries	Regular Dates	Proposed 2017 Dates
Area 20 GN	June 24-Aug 14	July 11 – Aug. 15
Area 4 b, 5 GN	July 17- July 26	N/A
Area 29 Gulf Troll	N/A	N/A
Fraser River Mission GN	August 10 – Sept. 7	
Area 29 Whonnock GN	June 24-Oct. 4	June 28 – Sept. 30
Area 29 Cottonwood GN	July 10 – Sept. 18	July 12 – Sept. 10
Area 7 Reefnet (10 Obs. Days)	July 22 – Aug. 22	July 20 – Aug 25
Area 20 Seine	July 20 – Sept. 10	July 27 – Sept. 1



2017 Test Fishing Plans Non-Panel Areas

Test Fisheries	Regular Dates	Proposed 2017 Dates
Area 12 GN Naka Crk	July 18 – July 31	N/A
Area 12 GN Round Isl	July 12 – Aug. 15	July 11 – Aug. 13
Area 12 Seine	July 20 – Sept. 10	July 26 – Aug . 31
Area 13 Seine	July 20 – Sept. 3	Aug. 1 – Aug. 15
Qualark		July 1 – Oct 2



Summary

- Low overall forecast for Fraser sockeye and pink salmon
- Environmental conditions may have affected marine survival, may also affect in-season
- Low returns of E Sum and Lates may constrain harvest of Summers
- Late run sockeye and IFR coho may constrain harvest of pink salmon
- Reduced test fishing days to provide information to inform decisions compared with historic but will have key information to inform management decisions – and reduced impacts of test fisheries on E Stu, etc..