2021 Fraser River Chinook Management

NNTC Leadership Meeting

July 22, 2021

Outline

1. Conservation Concerns
2. Outlook/Status for 2021
3. 2021 Management Objectives
4. Review of run timing
5. Fishery Planning

BC Chinook – Conservation Concerns

- Conservation concerns for many (not all) Chinook populations:
  - Regional pattern of reduced stock productivity (i.e. decreased marine survival, younger age at maturity, reduced size at age, and lower fecundity)
  - Coast-wide declines in and below average escapement over last 10-15 years
  - Warm Pacific Ocean “blob”, El Nino and other anomalous ocean conditions since 2014 may be cause of reduced marine survival of Pacific salmon. Effect of these conditions on Fraser Chinook expected to be seen at least through 2024.
  - COSEWIC Status

Fraser Chinook – Outlook

Fraser Spring 4_2, Spring 5_2 and Summer 5_2

Stock Management Unit	Conservation Unit / Sub-Unit	Average Run / Avg. Escapement	LRP / LBB	Management Target	WSP / COSEWIC STATUS	2021 Forecast
SPRING RUN 4_2	Aggregate includes 2 CUs	16,511 (Terminal Run, 1979+)		22,146 Escapement (S_{MSY}-based)	Mixed; Refer to IFMP	**9,138** (3,386 to 17,650) Terminal Run
SPRING RUN 5_2	Aggregate includes 6 CUs	36,985 (Terminal Run, 1979+)		42,165 Escapement (S_{MSY}-based)	Mixed; Refer to IFMP	**17,588** (10,637 to 25,372) Terminal Run
SUMMER RUN 5_2	Aggregate includes 5 CUs	36,732 (Terminal Run, 1979+)		23,567 Escapement (S_{MSY}-based)	Mixed; Refer to IFMP	**14,490** (8,514 to 20,176) Terminal Run

Fraser Chinook – Outlook Summer 4_1

Conservation Unit / Sub-Unit	Average Run / Avg. Escapement	LRP / LBB	Management Target	WSP / COSEWIC Status	2021 Forecast / Outlook
Aggregate SMU	93,242 (Terminal Run, 1977+)		120,322 Escapement (S_{MSY}-based)		**108,611** (61,523 to 161,376) Terminal Run
South Thompson (CK-13)	97,611 (ESC, 5yr Avg.)	23,469		WSP – Green COSEWIC – Not at Risk	**4**
Shuswap River (CK-15)	23,185 (ESC, 5yr Avg.)	2,096	12,500 Escapement	COSEWIC – Not at Risk	**4**
Maria Slough (CK-07)	343 (ESC, 5yr Avg.)	15		COSEWIC - Endangered	**1**

- Expect abundance to be greater than escapement objective at the Lower Shuswap indicator stock.
- The 2020 escapement estimate was above the parental brood escapement in 2016 and above the recent average for all locations, except for Maria Slough where abundance was extremely low.

Fraser Chinook Management Objectives

Fraser Spring 4_2, Spring 5_2 and Summer 5_2

Objective is to manage Canadian fisheries in highly precautionary manner to allow as many fish to pass through to spawning grounds as possible.

In 2019, this approach reduced overall Canadian fishery mortalities on these populations to very low levels < 5% (Spring 4_2) and to low levels of approximately 6-7% (Spring 5_2) and 14% (Summer 5_2).

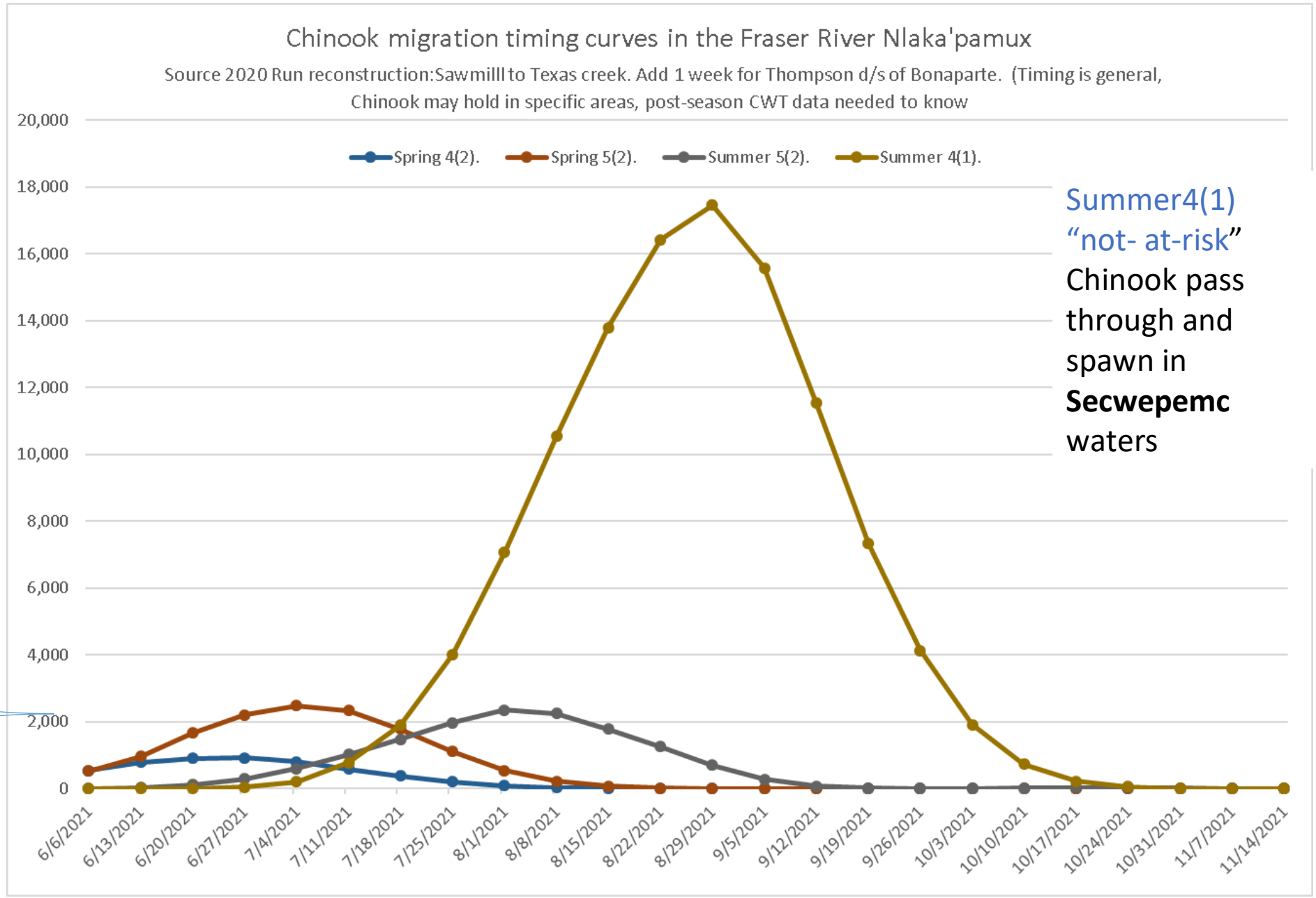
Fishery impacts are expected to include:

- Limited Chinook retention or bycatch retention in FN FSC fisheries
- Mortalities in Fraser River Chinook test fisheries (Albion)
- Incidental mortalities in Sockeye test fisheries
- Release mortalities and incidental mortalities during Chinook-directed fisheries targeting other stocks.

- All mortalities, including bycatch and incidental harvest, are factored into the calculation of exploitation rates on various stocks.
- Department considers a number of fishing plan options and attempts to address a range of objectives including provision of limited opportunities for FSC harvest and minimizing bycatch / incidental catch in commercial and recreational fisheries.

Spring 4(2) " at-risk" Chinook pass through and spawn in **Nlaka'pamux as well as in Secwepemc** waters

Spring and Summer 5(2) " at-risk" Chinook pass through and spawn in **Nlaka'pamux as well as Secwepemc , St'át'imc, and throughout all Nations in the Upper Fraser**



Summer4(1) "not- at-risk" Chinook pass through and spawn in **Secwepemc** waters

Fraser Chinook Albion Run Timing - Tables

- Approximate two week migration delay to the Thompson from Albion.
- A fishery beginning Aug 1 will catch 70% Summer 41s 23% Summer 52s and 5% Spring 52s (grey Bar)
- A fishery beginning Aug 15 will catch 88% Summer 41s and 11% Summer 52s and 1% Spring 52s (green bar)

	Spring 4.2	Spring 5.2	Summer 5.2	Summer 4.1
13-Jun	0.26	0.64	0.09	0.01
20-Jun	0.20	0.60	0.15	0.05
27-Jun	0.13	0.49	0.22	0.16
4-Jul	0.07	0.32	0.27	0.34
11-Jul	0.03	0.15	0.27	0.55
18-Jul	0.01	0.05	0.23	0.70
25-Jul	0.00	0.02	0.17	0.81
1-Aug	0.00	0.01	0.11	0.88
8-Aug	0.00	0.00	0.07	0.93
15-Aug	0.00	0.00	0.04	0.96
22-Aug	0.00	0.00	0.02	0.98
29-Aug	0.00	0.00	0.01	0.99
5-Sep	0.00	0.00	0.00	1.00
12-Sep	0.00	0.00	0.00	1.00
19-Sep	0.00	0.00	0.00	1.00

*Fraser Chinook run reconstruction average timing 1979-2020, from March 15, 2021 version of the reconstruction

2021 Fishing within Nlaka'pamux

Stocks of concern and fishing in mind what does 2021 harvest planning look like? Below are Options for discussion.

1. **Delay- Begin communal fisheries for Chinook, with releases of all sockeye, in mid August through to mid Sept**.
   - Timing- this will focus harvest on not-at risk Summer 4(1) Chinook.
   - Certainty-For certainty for fishers, what days of the week work best?

2. **Reduced Start- Begin reduced day, reduced gear or LPL communal fisheries for Chinook, with releases of all sockeye starting after the first week of August.**
   - Timing- this will have higher impacts on at risk stocks but still focus harvest on not-at risk Summer 4(1) Chinook.
   - Certainty-Less certainty for all fishers, but provide earlier opportunity to fish
   - In-season catch may inform future openings

3. **Alternative- Focus on designated community fisheries for the purpose of fishing for food, instead of full communal fisheries:**
   - Timing- May have some impacts on stocks of concern but overall catch should be reduced as it is not a full fishery at the beginning.
   - Certainty-could give all members more certainty of access to salmon.
   - May not be supported by all members, some of whom will be further restricted in order to support this option.