



Looking Forward: 2018 Salmon Fisheries

Preliminary Pre-season Planning Considerations

FN Forum Meeting
Jan. 23-25, 2018



IFMP Process

- Key planning considerations reflect areas where Department expects potential changes to management approaches and decision guidelines for 2018 fishing season
- Letter sent to First Nations and stakeholders in early January 2018 with key planning priorities.
- Consultations with First Nations and stakeholders will occur as part of process to develop the draft salmon IFMP and will include a 30 day public comment period prior to finalizing the 2018/19 salmon IFMPs.



Outline

- Key Planning Considerations:
 1. Chinook management and SRKW
 2. Fraser River sockeye management
 3. Southern BC coho
 4. Interior Fraser Steelhead
- 2018 Salmon Outlook
- IFMP process timelines



1. Chinook Management

- Expect discussion on potential adjustments to management approaches for chinook fisheries to address considerations related to:
 - Conservation of stocks of concern and potential for low returns in 2018 due to low spawner abundance and low productivity associated with unfavourable marine conditions; particularly for Fraser chinook populations.
 - Assessment of conservation and allocation objectives in the 5yr Review of Fraser River chinook (Fraser Spring 4₂, Spring 5₂ and Summer 5₂).
 - Actions to address chinook prey-accessibility for Southern Resident Killer Whales.
- Stock-specific / AABM forecasts and coded wire tag (CWT) based total mortality distributions available in late March / early April.



1. Fraser Chinook Management

Fraser Spring 4₂, Spring 5₂ and Summer 5₂

- Management measures implemented in previous years expected to remain in place pending results of Fraser chinook 5yr review.

Summer 4₁ chinook (South Thompson)

- Spawner abundance over last 4 years averages nearly 120,000; however, 2018 outlook is low.
- Directed fishery opportunities subject to conservation objectives for co-migrating stocks of concern.

Fall 4₁ chinook (Harrison)

- Spawner abundance below lower end of PST escapement goal range (75.1K to 98.5K) in 5 of last 6 years.
- Consideration of additional fishery management actions to increase terminal returns



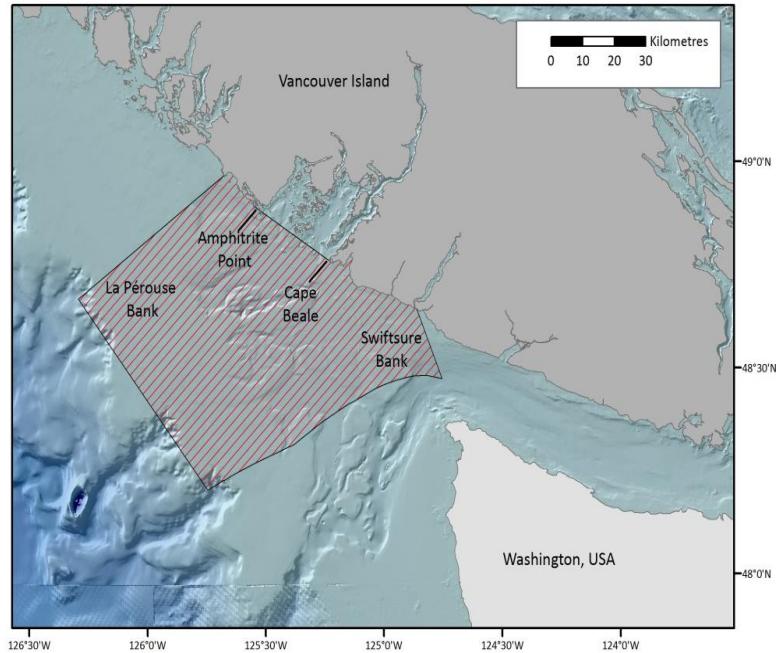
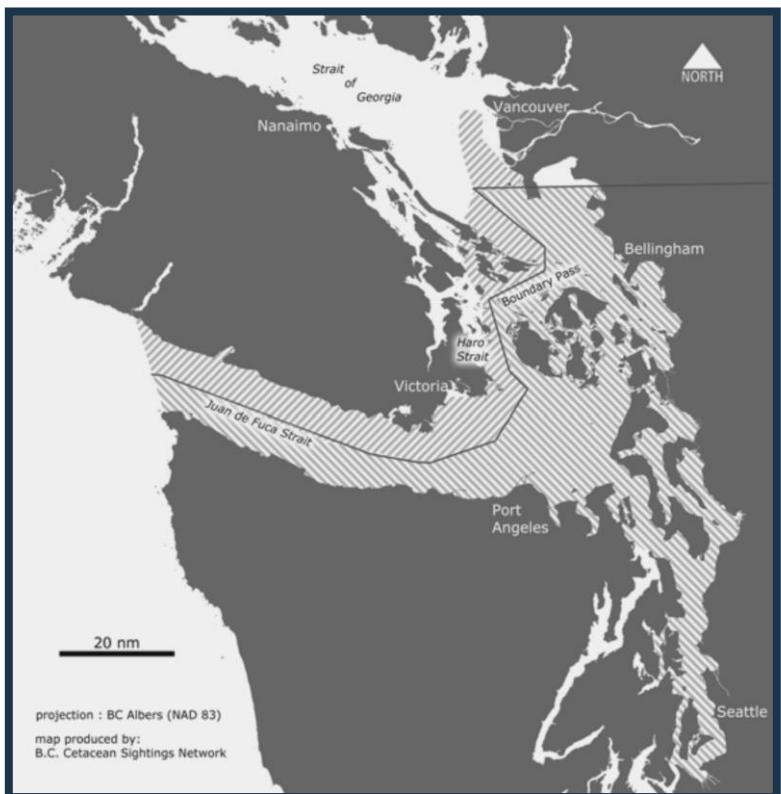
1. Chinook Management – Southern Resident Killer Whales (SRKW)

- For 2018, DFO considering additional fishery management actions to support increased chinook prey availability in key SRKW foraging areas
 - Potential actions to focus on accessible chinook food supply and reduced physical / acoustic disturbance in foraging areas
- Expect discussion document on potential measures by late January/February
- Further consultation on potential actions as part of meetings to develop salmon IFMPs with additional meetings also being considered



SRKW: Critical Habitat

SRKW CH (existing) - Haro Strait and Boundary Pass and adjoining areas in the Strait of Georgia and the Strait of Juan de Fuca.



SRKW Habitat of Special Importance (proposed additional CH) - This area extends westward from the mouth of Juan de Fuca Strait to include various banks on the continental shelf from the southwestern Vancouver Island coastline to the shelf break (200 m isobath).



Prey availability: priority research & mgmt recovery measures from Action Plan



Photo credit: Christie McMillan, DFO

RM #	Description
6	Take into account both (SRKW & NRKW) the seasonal (acute) as well as the cumulative (chronic) effects of poor returns for Chinook and other important prey species on Resident Killer Whales when managing fisheries.
7	Investigate the benefits of strategic salmon fishery planning approaches and management actions to reduce Resident Killer Whale prey competition in specific feeding areas (e.g. modeling, retention limits, fishery area boundary adjustments or closures), and implement where appropriate.
10	Investigate the benefits of management actions (e.g. protected areas, fishery area boundary adjustments or closures) to protect important foraging and beach rubbing locations such as Robson Bight and other identified areas, and implement where appropriate.



2. Fraser River Sockeye Management

- 2018 is dominant cycle line for Late run (Adams River) sockeye.
- While 2010 and 2014 cycle line returns were robust, Fraser sockeye have been less than the forecast median (p50) over the last 3 cycles with the exception of 2010.
 - See table on next slide
- Quantitative forecasts will be available by February 2018.
- Expect discussion on escapement plan options and measures for stocks of concern, including window closure period and other management constraints.



Fraser Sockeye Returns

Return Year	Forecast Probability Level						Actual Returns
	<10%	10%	25%	50%	75%	90%	
1998		4,391,000	6,040,000	6,822,000	11,218,000	18,801,000	10,870,000
1999		3,067,000	4,267,000	4,843,000	8,248,000	14,587,000	3,640,000
2000		1,487,000	2,449,000	4,304,000	7,752,000	NA	5,200,000
2001		3,869,000	6,797,000	12,864,000	24,660,000	NA	7,190,000
2002		4,859,000	7,694,400	12,915,900	22,308,500	NA	15,130,000
2003		1,908,000	2,742,000	3,141,000	5,502,000	9,744,000	4,890,000
2004		1,858,000	2,615,000	2,980,000	5,139,000	9,107,000	4,180,000
2005		5,149,000	8,734,000	16,160,000	30,085,000	53,191,000	7,020,000
2006		5,683,000	9,530,000	17,357,000	31,902,000	56,546,000	12,980,000
2007		2,242,500	3,602,000	6,247,000	11,257,000	19,706,000	1,510,000
2008		1,258,000	1,854,000	2,899,000	4,480,000	7,057,000	1,740,000
2009		3,556,000	6,039,000	10,578,000	19,451,000	37,617,000	1,590,000
2010		5,360,000	8,351,000	13,989,000	23,541,000	40,924,000	28,250,000
2011		1,700,000	2,693,000	4,627,000	9,074,000	15,086,000	5,110,000
2012		743,000	1,203,000	2,119,000	3,763,000	6,634,000	2,050,000
2013		1,554,000	2,655,000	4,765,000	8,595,000	15,608,000	4,130,000
2014		7,237,000	12,788,000	22,854,000	41,121,000	72,014,000	20,000,000
2015		2,364,000	3,824,000	6,778,000	12,635,000	23,580,000	2,120,000
2016		814,000	1,296,000	2,271,000	4,227,000	8,181,000	853,000
2017		1,315,000	2,338,000	4,432,000	8,873,000	17,663,000	1,487,000*

*final in-season estimate

Record return 
 2018 brood yr 

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3. Southern BC Coho

- Survival rates remain variable and are well below historic highs in most areas; still in *low productivity regime* requiring lower exploitation rates.
- **Interior Fraser Coho** are key constraint on management of Southern BC fisheries; expect continuation of precautionary management approach similar to pre-2014 for southern BC fisheries.
- Work underway to develop status-based management approach for Canadian Management Units (MUs) by end 2018 to support Pacific Salmon Treaty renewal. ([This work will not guide management in 2018](#)).
 - work involves establishing reference points for moving between Low – Medium – High status (for annual fishery planning), and the allowable sustainable exploitation rates at each status level.
 - Consultations on PST reference points and exploitation rates expected in Spring 2018



4. Interior Fraser Steelhead

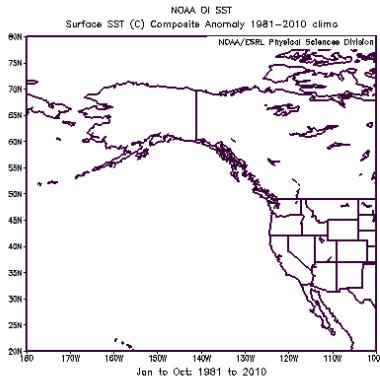
- Significant concern about conservation of Interior Fraser steelhead given poor returns
- DFO and B.C. working on technical tools available to support assessment and management of steelhead impacts in fisheries
 - DFO staff developing model to assess exposure of steelhead in commercial salmon fisheries to support fisheries planning; model intended to permit evaluation of exposure of IFR steelhead for alternative fishing plans
- DFO and Province plan to explore options for potential adjustments to fisheries approaches considered for 2018 season
 - Includes fisheries in marine approach areas, Fraser River and tributaries.
- Broad, comprehensive approach to management of fisheries that impact steelhead directly or via incidental interception required



Pacific Salmon Outlook - 2018

General conditions

- Expectation that returns of many Pacific salmon populations may continue to be influenced by effects of large scale variability in ocean conditions (e.g. El Nino, warm blob) in the North Pacific and freshwater environments.
 - Continued uncertainty about salmon returns that have become increasingly variable and more challenging to reliably forecast.
- Diminished returns for a number key salmon runs in the Pacific region are expected which may require adjustments to management plans to achieve conservation objectives and provide sustainable harvest opportunities.
- A recording of the DFO presentations on the 2018 Pacific Salmon Outlook and State of the Pacific Ocean presentations from December 13th is available.



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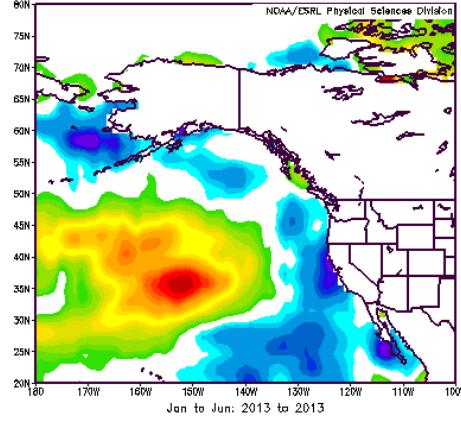
Reference Period from 1981 to 2010



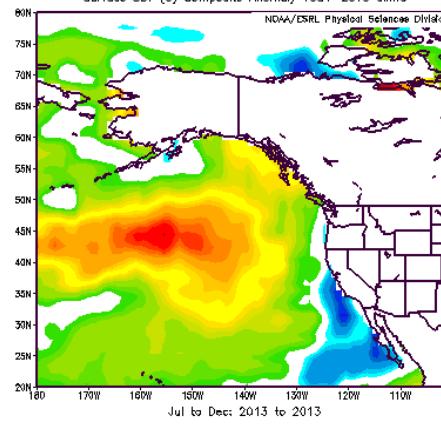
Earth System Research Laboratory
Physical Sciences Division

Sea surface temperature anomalies with illustration of
Fraser sockeye life cycle for 2014 BY (2018 return yr)

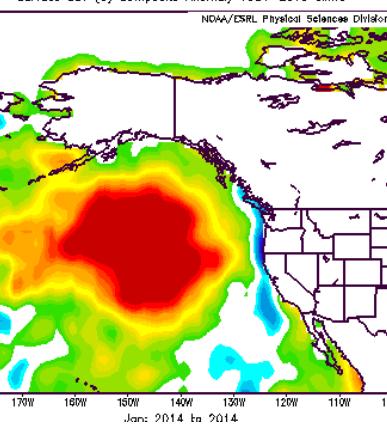
2013 (Jan-June)



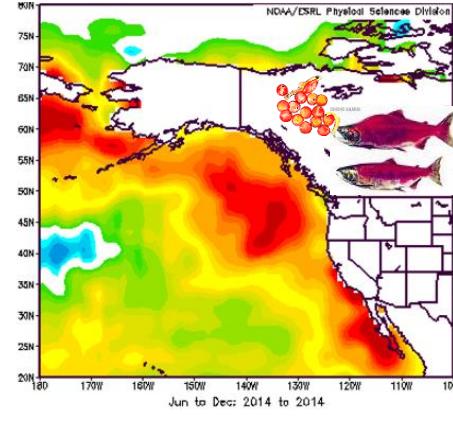
2013 (Jul-Dec)



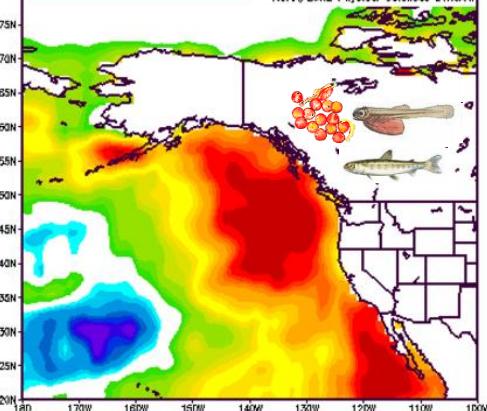
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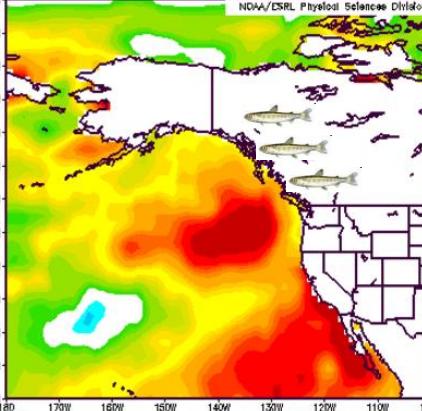
2014 (June-Dec)



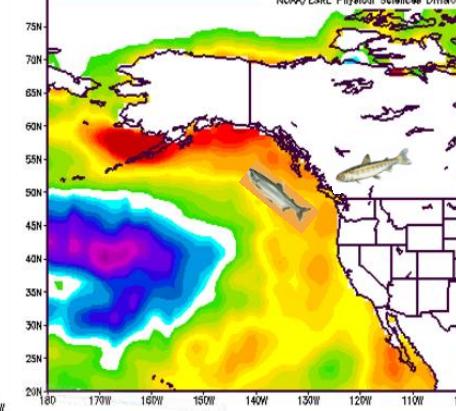
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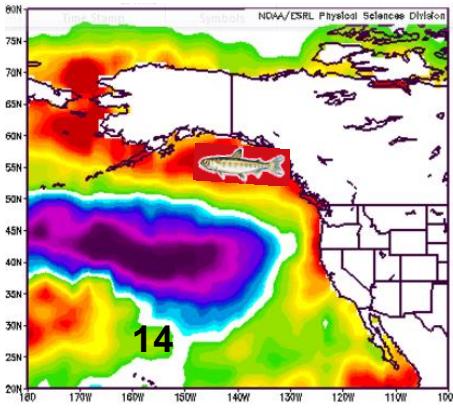
2015 (Jul-Dec)



2016 (Jan-June)



2016 (June-Dec)





Relating Ocean Conditions to Salmon Returns

Ocean entry years of interest for returns in 2018:

- **2014** ocean entry for age 5₁ ocean type chinook
- **2015** ocean entry for age 4₁ ocean type chinook, age 5₂ sockeye, and age 5₂ chinook.
- **2016** ocean entry for age 4₂ sockeye and upper Fraser 4₂ chinook (and most other yearling chinook)
- **2017** ocean entry for age 3 coho and age 2 even-year pink salmon

Very warm conditions during 2014 to 2016 sea entry years are expected to continue to influence returns in 2018; however, there is high uncertainty about impacts on salmon returns / survival rates.



Activity	2017/2018 Proposed Timeline
DFO letter identifying potential changes under consideration for 2018/2019 IFMPs to inform subsequent IFMP planning meetings.	First week of January, 2018
Deadline for written submissions from First Nations and advisory groups on issues identified by the Department. Proposals for demonstration fisheries and any additional discussion items for the 2017/2018 Salmon IFMPs are also requested.	February 5, 2018
Integrated Harvest Planning Committee Meetings to review and discuss potential changes to IFMPs and opportunity for focussed discussion on key IFMP issues. Additional meetings with First Nations organizations and advisory groups are also identified in the attached calendar.	Northern - Prince Rupert (February 7, 2018) Southern IHPC – Vancouver (February 8, 2018) meetings
Release draft IFMPs for public review & comment	Approx. February 23, 2018
IHPC meetings to review draft IFMP	Northern IHPC – Prince Rupert (March 7, 2018); and, Southern IHPC – Vancouver (March 8, 2018)
Deadline to submit comments on draft IFMP (30 day public comment period).	April 6, 2018
Final IHPC Meeting – Opportunity for final discussion on IFMP feedback.	April 25-26, 2018 Vancouver
Target for public release of 2018/19 salmon IFMP	16 June 2018

2018 IFMP Timelines: