



**FINAL**

**Tsawwassen First Nation  
Post-Season Fisheries  
Report, 2017**

*Prepared by:*

**A.C. Blakley<sup>1</sup>, K.K. English<sup>1</sup>, and L. Cassidy<sup>2</sup>**

**LGL Limited<sup>1</sup>**

environmental research associates  
9768 Second Street, Sidney, BC V8L 3Y8

**and**

**Tsawwassen Natural Resource Department<sup>2</sup>**  
1926 Tsawwassen Drive, Tsawwassen, BC V4M 4G2

APRIL 2018



Tsawwassen First Nation  
Post-Season Fisheries Report, 2017

Final Report

*Prepared by:*

A.C. Blakley<sup>1</sup>, K.K. English<sup>1</sup>, and L. Cassidy<sup>2</sup>

LGL Limited<sup>1</sup>  
environmental research associates  
9768 Second Street  
Sidney, BC V8L 3Y8

and

Tsawwassen Natural Resource Department<sup>2</sup>  
1926 Tsawwassen Drive  
Tsawwassen, BC V4M 4G2

APRIL 2018

## ACKNOWLEDGMENTS

It is often forgotten that the final products depend ultimately on the diligence and dedication of the individuals who collect the data in the field. With this in mind, we would like to thank the following Tsawwassen First Nation Natural Resource Department staff for their contributions in conducting the field program: Kyle Flindt (Natural Resource Enforcement Officer), Erin Weckworth, Liana Williams, Jen McCrystal, Albert Arrance, William Harry, and Peter Grann, all of whom worked with diligence and enthusiasm in conducting the interviews, on-water patrols, and processing of data that produced the primary data for the study. As well, we thank Mike Baird for his advice and guidance during the fishing season. We would also like to thank the many Tsawwassen First Nation fishers who provided their catch and effort information to Tsawwassen First Nation Natural Resource Department staff.

From Fisheries and Oceans Canada, we thank Brian Matts, Ken Green, Ann-Marie Huang, Matthew Parslow, Anna Magera, Karen Burnett, Karen Vaudry, and Angela Bate for their assistance with the many tasks required to implement TFN fisheries and prepare this report. From the BC Ministry of Forest, Lands and Natural Resource Operations, we thank Duane Jesson, Kristina Lensky and Chad Nimetz for facilitating communication with provincial government ministries. As well, we thank Nathan Cardinal and Brad Vaillancourt, from Parks Canada, for his involvement and participation with the Joint Technical Committee.



Photo (top to bottom; left to right): Laura Cassidy (TFN), Matthew Parslow (DFO), Anita Blakley (LGL Limited), Karl English (LGL Limited), Duane Jesson (FLNRO, BC), and Mike Baird (TFN); Erin Weckworth (TFN); Kyle Flindt (TFN); Erin Weckworth (TFN).

**TABLE OF CONTENTS**

ACKNOWLEDGMENTS.....	i
TABLE OF CONTENTS.....	ii
LIST OF TABLES.....	iii
LIST OF FIGURES.....	iv
LIST OF APPENDICES .....	iv
ACRONYMS .....	v
1 INTRODUCTION.....	1
1.1 Tsawwassen Final Agreement.....	1
1.2 Joint Fisheries Committee.....	1
1.3 Domestic Fisheries Allocations .....	1
1.4 Tsawwassen Harvest Agreement and Commercial Allocation .....	2
2 FISHERIES MANAGEMENT.....	2
2.1 Fisheries Operational Guidelines .....	2
2.2 Tsawwassen Annual Fishing Plan.....	2
2.3 Harvest Documents.....	3
2.4 Catch Monitoring Procedures .....	3
3 SALMON FSC FISHERIES.....	4
3.1 Allocations.....	4
3.2 Fishery Openings and Target Species .....	5
3.3 Catch and Effort .....	5
3.4 Released Catch.....	6
3.5 Overages and Underages.....	6
3.6 Recommendations .....	7
4 SALMON THA FISHERIES.....	7
4.1 Allocations.....	7
4.2 Fishery Openings and Target Species .....	8
4.3 Released Catch.....	8
4.4 Recommendations .....	8
5 CRAB FISHERIES .....	8
5.1 FSC Openings, Catch, and Effort .....	8
5.2 Commercial Openings, Catch, and Effort.....	9
5.3 Recommendations .....	10

6	OTHER FISHERIES .....	10
6.1	Eulachon.....	10
6.2	Recommendations .....	10
6.3	Intertidal Bivalves.....	11
6.4	Shrimp and Prawns .....	11
6.5	Rockfish, Lingcod, Halibut, Dogfish, and Sole (Groundfish).....	11
6.6	Marine Aquatic Plants.....	11
7	MULTI-YEAR SUMMARY .....	12
7.1	FSC Salmon Harvest and Allocations.....	12
7.2	FSC Crab Harvest.....	13
8	REFERENCES.....	14
	TABLES.....	15
	FIGURES.....	33
	APPENDICES .....	38

## LIST OF TABLES

Table 3.1	Tsawwassen FSC salmon fishery allocations (in pieces), 2017. ....	16
Table 3.2.	Tsawwassen FSC and THA salmon fishery openings by date, gear type, and target species, 2017.....	17
Table 3.3.	Summary of Tsawwassen FSC salmon catch and effort, 2017.....	18
Table 3.4.	Summary of Tsawwassen FSC salmon catch and effort (vessel-hours) for interviews only and comparison of catch-per-effort estimates for fishers interviewed while fishing (interviewed) and those reporting after the fishery (non-interviewed). ....	19
Table 3.5.	Tsawwassen bycatch from the FSC salmon fisheries, 2017.....	20
Table 3.6.	Tsawwassen FSC releases of sturgeon (bycatch) by date and location, 2017.....	21
Table 3.7.	Tsawwassen FSC salmon overages and underages based on 2017 allocation. ....	22
Table 4.1.	Tsawwassen catch summary for THA salmon fisheries, 2017. ....	23
Table 5.1.	Tsawwassen FSC crab fishery openings by target species, date, and gear type, 2017. ....	24
Table 5.2.	Tsawwassen FSC Dungeness and Red rock crab catch and effort by licence, 2017. ....	25
Table 5.3.	Tsawwassen FSC Dungeness and Red rock crab catch and effort by month, 2017.....	26
Table 5.4.	Summary of crab patrol surveys conducted in 2017. ....	27
Table 6.1.	Tsawwassen FSC Eulachon fishery openings by target species, date, and gear type, 2017. ....	28
Table 6.2.	Tsawwassen First Nation catch summary for ceremonial Eulachon fisheries, 2017.....	29

Table 6.3.	Tsawwassen FSC groundfish fishery openings by target species, date, and gear type, 2017. ....	30
Table 6.4.	Tsawwassen First Nation catch summary for FSC groundfish fisheries, 2017.....	30
Table 7.1.	Comparison of annual FSC salmon catch and allocation from 2009 to 2017.....	31
Table 7.2.	Comparison of annual FSC Dungeness and Red rock crab catch from 2009 to 2017. ....	32

### LIST OF FIGURES

Figure 1.1.	Tsawwassen Fishing Area and Tsawwassen Intertidal Bivalve Fishing Area. ....	34
Figure 1.2.	Identification of Gulf Islands National Park Reserve of Canada. ....	35
Figure 1.3.	Tsawwassen Fishing Area (enlarged map with location names). ....	36
Figure 1.4.	Map of Commercial Crab Management Areas. ....	37

### LIST OF APPENDICES

Appendix A.	Tsawwassen Fishing Plans 2017.....	39
Appendix B.	Examples of Harvest Documents.....	54
Appendix C.	Dataforms.....	83
Appendix D.	2017 Fraser River Sockeye In-season Status.....	91

**ACRONYMS**

*The following acronyms are used in the TFN Annual Fishery reports:*

BC	British Columbia
CCTAC	Canadian Commercial Total Allowable Catch
CPE	catch-per-effort
CTAC	Canadian Total Allowable Catch
CWT	coded wire tag
DFO	Fisheries and Oceans Canada
EO	Economic Opportunity
FLNRO	Forests, Land and Natural Resource Operations
FOG	Fisheries Operational Guidelines
FSC	Food, Social, and Ceremonial
HD	Harvest Document(s)
IFMP	Integrated Fisheries Management Plan
JFC	Joint Fisheries Committee
JTC	Joint Technical Committee
LAER	Low Abundance Exploitation Rate
LP	limited participation
TAC	Total Allowable Catch
TAFP	Tsawwassen Annual Fishing Plan
TCC	Terminal Commercial Catch
TFA	Tsawwassen Final Agreement
TFN	Tsawwassen First Nation
THA	Tsawwassen Harvest Agreement
TNRD	Tsawwassen Natural Resource Department
TOTC	Treaty Obligation Tracking Centre



## 1 INTRODUCTION

### 1.1 Tsawwassen Final Agreement

Tsawwassen First Nation has the right to harvest for domestic purposes:

- a) Fish and aquatic plants in the Tsawwassen Fishing Area; and
- b) Intertidal bivalves in the Tsawwassen Intertidal Bivalve Fishing Area,

as outlined in the Tsawwassen Final Agreement (TFA; TFA 2007; Chapter 9). Starting on the Treaty Effective Date (3 April 2009), all Tsawwassen fisheries must be conducted in a manner that is consistent with the Tsawwassen Final Agreement, Tsawwassen Harvest Agreement (THA; THA 2009), Harvest Documents (HDs), Tsawwassen Fisheries Operational Guidelines (FOG; FOG 2013) document, Tsawwassen law, and applicable federal and provincial government laws. As indicated in the TFA, Tsawwassen fisheries must be conducted within the Tsawwassen Fishing Area or Tsawwassen Intertidal Bivalve Fishing Area (see Figure 1.1 and Figure 1.3) unless otherwise permitted in HDs or licences issued by Fisheries and Oceans Canada (DFO). Figure 1.2 identifies the boundaries of the Gulf Islands National Park Reserve territory of which some of the territory lies within Tsawwassen's Intertidal Bivalve Fishing Area (Figure 1.1).

### 1.2 Joint Fisheries Committee

On the Treaty Effective Date, a Joint Fisheries Committee (JFC) was formed to facilitate the planning and management of the Tsawwassen First Nation (TFN) fishing rights consistent with the content of the TFA (Chapter 9). The JFC consists of one representative from Canada, the Province, and Tsawwassen First Nation; although, additional individuals may participate in meetings to assist the designated representatives. The JFC will meet a minimum of twice yearly: first, to review the Tsawwassen Annual Fishing Plan (TAFP) and, second, to conduct a post-season review of TFN's fisheries. The JFC will also discuss other relevant matters associated with the implementation of the TFA Fisheries Chapter. For a more detailed list of functions and responsibilities of the JFC, refer to the TFA (Chapter 9) or section 8 and Appendix C of the FOG document.

A further extension of the JFC is the Joint Technical Committee (JTC) which is formed and directed by the JFC. The JTC is responsible for technical fisheries issues as set out by the JFC. The JTC operates on a consensus basis, thus, if a matter cannot be resolved it is deferred to the JFC. For more detailed list of functions and responsibilities for the JTC, refer to the FOG document.

Tsawwassen First Nation has produced comprehensive post-season fisheries reports summarizing the details of the 2009–2016 Food, Social, and Ceremonial (FSC) and THA fisheries (Blakley et al. 2010–2017). The JTC and JFC have reviewed these reports and they are now publicly circulated.

### 1.3 Domestic Fisheries Allocations

Tsawwassen Domestic Allocations for Fish and Aquatic Plants are calculated using formulas described in the TFA (Appendix J-2). Information used to calculate the Tsawwassen FSC allocation for Sockeye salmon (*Oncorhynchus nerka*) is based on the Canadian Total Allowable Catch (CTAC). For example:

$$\text{TFN FSC Sockeye salmon allocation} = 1\% \times \text{CTAC for CTAC} < 500,000$$

Data collected throughout the fishing season may cause changes to the CTAC; thereby modifying the TFN allocation for Sockeye salmon. Any changes that may affect the FSC allocations are to be

communicated to all parties involved through the JFC. Modifications to FSC allocations may occur pre-, in-, and final in-season for an individual species.

#### 1.4 Tsawwassen Harvest Agreement and Commercial Allocation

The Tsawwassen Harvest Agreement came into effect on 3 April 2009 for the purposes of increasing the commercial fishing capacity of the TFN (TFA 2007; Chapter 9). Tsawwassen commercial allocation for salmon is described in Clause 11 of the THA. Each year, DFO will issue HDs for the Tsawwassen commercial allocation of Sockeye, Chum (*O. keta*), and Pink salmon (*O. gorbuscha*; odd years only). Tsawwassen's commercial allocations vary with the size of the Canadian Commercial Total Allowable Catch (CCTAC) for Sockeye and Pink salmon and the Terminal Commercial Catch (TCC) for Chum salmon.

In addition, the THA allows for the commercial harvesting of crab in Management Areas I and J (see Figure 1.4). Tsawwassen First Nation may not relinquish more than five commercial crab licences on an annual basis. Crab fishers must comply with the regulations and requirements set out in the THA and any licence issued by DFO.

## 2 FISHERIES MANAGEMENT

### 2.1 Fisheries Operational Guidelines

As indicated in the TFA, "the Tsawwassen Fisheries Operational Guidelines set out the operational principles, procedures, and guidelines to assist the Parties (TFN, Canada, and British Columbia) in implementing the Fisheries chapter of the TFA." The FOG document (FOG 2013) describes current fisheries management goals and procedures for harvestable fish stocks that reside or migrate through the Tsawwassen Fishing Area. The goals and procedures outlined in the FOG document are essential for ensuring the TFA is being implemented properly. In addition, it should be acknowledged that these goals and procedures will evolve over time, and it will be the role of the JFC to review the FOG document as needed on an annual basis to incorporate any new information (e.g., updates on escapement targets, new fisheries management policies, stock trends) that may apply to TFN fisheries management. The 2009 FOG document was revised, and revisions were approved on 24 September 2013. The 2013 FOG document is accessible via the Treaty Obligation Tracking Centre (TOTC) website.<sup>1</sup>

### 2.2 Tsawwassen Annual Fishing Plan

Every year, TFN develops a Tsawwassen Annual Fishing Plan that may be submitted for comment and feedback to the JTC before it is submitted to the JFC where it is reviewed to assist in the planning for Tsawwassen's fisheries and the issuance of HD. In 2017, the effective date of the TAFP was 1 April 2017 and carries through to 31 March 2018. Tsawwassen's Annual Fishing Plan provides the JTC and the JFC with proposed harvest plans and harvest expectations for each species (i.e., salmon, crab, bivalves, groundfish, and aquatic plants) based on pre-season forecasts. The TAFP also notifies the JTC and JFC of TFN's harvest levels, preferred harvest times, and fishing areas and methods for each species or species-group. Conservation measures for each species are also highlighted in the TAFP. Due to timing of the pre-season run size forecasts Eulachon (*Thaleichthys pacificus*), Chinook salmon (*O. tshawytscha*), Steelhead (*O. mykiss*) and Sturgeon (*Acipenser transmontanus*), and Marine Aquatic plants were prepared in a separate document. Refer to Appendix A for the 2017 TAFPs.

---

<sup>1</sup> <http://wss.marr.gov.bc.ca/PWA/TOTC/default.aspx> (access and login required).

### 2.3 Harvest Documents

Fisheries and Oceans Canada is responsible for issuing HD for all TFN fisheries for salmon, groundfish, intertidal bivalves, crab, and other marine fish species. The Parks Canada Agency is responsible for issuing HD for TFN bivalve fisheries occurring within national park intertidal areas. The BC Ministry of Agriculture is responsible for issuing HD for aquatic plants and the BC Ministry of Forest, Lands and Natural Resource Operations is responsible for issuing HD for, provincially managed species, where applicable. Tsawwassen HD will be consistent with what is outlined in the TFA and FOG document. Tsawwassen First Nation is obligated to inform TFN fishers prior to a fishery opening of their fishing rights and any provisions outlined in the HD. Appendix B provides examples of HD issued to TFN in 2017 for the various species and fisheries (i.e., Chinook salmon FSC, Crab FSC, Eulachon Ceremonial, Chum salmon THA, Groundfish FSC, and Aquatic plants FSC). For further clarification of HD, refer to the TFA and FOG documents.

### 2.4 Catch Monitoring Procedures

As outlined in Appendix D of the FOG document: “the overall goal of the catch monitoring program is to ensure accurate information is gathered to aid all Parties in the management of the fishery and implementation of the TFA.”

In order to accurately estimate FSC salmon harvest for TFN, the following data must be collected:

1. Tsawwassen First Nation FSC salmon fishers are required to report their harvest and fishing effort information after a day’s fishing to the Tsawwassen Natural Resource Department (TNRD). Reporting of catch and effort can be provided via phone or on-site interview conducted by a staff member of the TNRD staff (interviewers). Interviews will record catch (kept and released), effort (hours fished), and gear type (number and type of nets used) information on the “TFN Salmon Fisheries Interview Dataform” (see Appendix C). An attempt is made to contact active fishers via the phone after a FSC opening period (one or more consecutive days of fishing) to confirm complete catch and effort data.
2. Each TFN harvester will be required to maintain a daily fishing log using the “TFN Salmon Fisheries Log Dataform” (see Appendix C). It is mandatory for TFN fishers to submit salmon fishing logs after each FSC fishery, preferably at the landing site, to allow verification of the hailed catch. However, validation can also occur on-the-water or at a fishers’ residence. In previous years, catch calendars were also available to record the days when fishing occurred for each species of salmon; however, since 2013 catch calendars have not been produced due to budget constraints.
3. Tsawwassen Natural Resource Department staff will conduct random inspections of TFN FSC fishing vessels, during a fishery, to validate salmon catch. Counting a vessel’s catch or validation will either occur during an on-water interview or at landing site. The JTC proposed validation coverage be 20% or more for each fishery.
4. Within 24 hours of the close of a fishery, TNRD will provide a preliminary report to DFO that includes the number of vessels participating, the type of gear used, fishing effort (in hours), and the catch by species. Preliminary catch reports will be finalized within 48 hours of the close of a fishery.

To accurately estimate the crab and non-salmon FSC harvest for TFN, the following data must be collected:

1. Similar to the FSC salmon data collection requirements, TFN fishers are required to report any retention of FSC crab or non-salmon species. Catch and fishing effort can be reported directly to TNRD or by on-site interview conducted by a TNRD staff member. Interviewers will record catch and effort information for crab fishing on the “TFN Crab Fishing Interview Dataform” and other non-salmon species on the “TFN Other Fisheries Interview Dataform” (see Appendix C).
2. Tsawwassen First Nation fishers will be required to maintain daily fishing logs for crab fishing efforts using the “TFN Crab Fisheries Log Dataform” and all fishing efforts directed at other fish species should be recorded on the “TFN Other Fisheries Log Dataform” (see Appendix C). Tsawwassen Natural Resource Department staff will compare the logs to the on-water interviews for an accurate account of total catch and effort.
3. Food, Social, and Ceremonial fishing targeting crab and other non-salmon species will be validated like the salmon fisheries. To achieve the 20% validation coverage goal, validation will occur after a completed fishing trip, either at the landing site, on-the-water, or at the TNRD office when crabs are dropped off for distribution. Validation ensures accuracy of the information recorded on the daily fishing logs.
4. Within 72 hours of the end of each month, TNRD staff will provide a catch and effort report for FSC crab and other non-salmon species (i.e. groundfish). Tsawwassen Natural Resource Department staff will follow-up with any fishers that did not comply with the reporting requirements.
5. Tsawwassen First Nation fishers are required to identify and record harvested plants by group in the Tsawwassen First Nation Aquatic Plant Harvest Log (see Appendix C). Tsawwassen Natural Resource Department staff will submit the aggregate harvesting values to the Joint Fisheries Committee and to the Ministry of Forest, Lands, and Natural Resource Operations (FLNRO) at the conclusion of the Harvest Period defined in this Harvest document.

See Appendix D of the FOG document for further detailed information on TFN catch monitoring procedures.

### 3 SALMON FSC FISHERIES

#### 3.1 Allocations

Table 3.1 summarizes TFN’s FSC salmon fishery allocations for 2017 based on pre-, in-, and final in-season estimates. Tsawwassen First Nation’s FSC salmon allocations for Chinook, Sockeye, Pink, Coho (*O. kisutch*), and Chum salmon were 625, 9,400, 2,500, 500, and 2,576, respectively. The Chinook, Pink, Coho, and Chum salmon remained constant throughout the 2017 fishing season.

The allocation for Sockeye salmon is determined using an abundance-based formula that is driven by the CTAC. As indicated in the FOG document, when the CTAC is greater than or equal to 3 million Sockeye salmon, TFN’s FSC allocation is fixed at 15,226 Sockeye salmon. In 2017, the pre-season FSC Sockeye salmon allocation was determined to be 9,400 as set out in the TFA (Appendix J-2) and the FOG document (section 9.3.1; Table 9.1). However, in-season, the CTAC estimate changed considerably, and subsequently, no directed Sockeye salmon fisheries were permitted (as no TAC available); only incidental harvest of Sockeye salmon was allowed (Appendix D).

For a comparison of TFN's 2017 salmon harvest to final in-season allocations, refer to section 3.5 (Overages and Underages).

### 3.2 Fishery Openings and Target Species

Table 3.2 summarizes TFN's FSC and THA (commercial) salmon fishery openings for 2017, listed by week-ending date. The FSC directed Chinook salmon fisheries began the week ending 30 April and continued through to the week ending 3 September (Table 3.2). Of the 21 directed FSC openings for Chinook salmon there were seven FSC directed Chinook openings (HD-432, 435, 443, 445, 448, 450, and 452) which included incidental harvest of Sockeye salmon. In addition, there were six directed FSC Chinook salmon openings that included incidental catch of Sockeye and Pink salmon (from week endings 13 August and 3 September) with the last opening (3 September) also including incidental harvest of hatchery-marked Coho salmon. In 2017, there were no directed FSC fisheries for Sockeye salmon. Food, Social, and Ceremonial fisheries directed at Chum salmon with incidental harvest of Chinook and Coho salmon began 8 October and ended 15 October.

Table 3.2 also includes a list of the THA salmon fishery openings. Further details on the THA salmon openings will be discussed in section 4.2.

### 3.3 Catch and Effort

Catch and effort for each salmon species was estimated from on-water and shore-based interviews by simply summing the catch and effort for all interviews. All fishers were contacted via phone after a FSC opening to confirm complete catch and effort data. This also allowed technicians to log catch and effort from fishers that were not encountered on the water. In addition, records were kept to indicate those interviews for which the catch was verified by the interviewer.

The total reported FSC harvest and effort of each salmon species is shown in Table 3.3. There were no directed FSC Sockeye salmon fisheries in 2017. The incidental FSC harvest of Sockeye salmon was estimated at 233; of this catch 68% (158) was harvested by the week ending 20-Aug. Total FSC Chinook salmon harvest was reported at 693 with the peak (219 Chinook salmon) occurring during the week ending 20 August. The total Chum salmon harvest in the FSC fisheries was 2,606 and occurred just over a week (8–15 October). The last FSC Chum salmon opening recorded majority (53%) of the total harvest (1,390; Table 3.3).

There were no directed TFN FSC fishery openings for Coho salmon or Steelhead. However, 87 wild (unmarked) Coho salmon were kept because they were caught incidentally during the FSC Chum salmon fisheries (Table 3.3). Under the 2017 Tsawwassen FSC salmon HDs, both "hatchery-marked" and wild (un-marked) Coho salmon were allowed to be retained. Thirty-Five Pink salmon were incidentally caught during the directed Chinook salmon FSC fisheries (HD-460, 465, and 470). Four Steelhead were caught incidentally, but none were kept for food fish during any of the TFN FSC fishery openings (Table 3.3).

Table 3.3 shows fishing effort (defined as the number of hours that nets were in the water fishing) by week. Total fishing effort for the FSC salmon fishery openings was reported as 956 hours. The highest fishing effort (186 hours) was recorded the week ending 15 October during the last FSC Chum salmon opening (HD-488).

Table 3.4 summarizes Tsawwassen's FSC salmon catch and effort for interviews only. To further clarify, Table 3.4 has been categorized by "interview" data versus "validated" interview data. "Validated" interview data includes those interviews where every fish was individually "counted" either on the water or at the landing site. In some cases, this included watching a fisher remove the fish from the

entire set. Similarly, “interview” data includes those interviews conducted on the water; however, it was not possible to count every fish (some partially counted) because the fisher’s net was currently fishing or the catch had been processed and stored in the hull. An interview would be classified as a “hail” if it was not conducted on the water or landing site (i.e., via phone) and the fish were not observed at all. The JTC proposed that at least 20% of the salmon catch be “validated” or “counted” through interview process. Overall, the “validated” interviews represented 42% of the total fishing effort for salmon (Table 3.4). The percentages of validated interviews were broken down by species: the 20% goal was achieved for Chinook, Sockeye, Pink, Coho, and Chum salmon, 70%, 54%, 51%, 26% and 32%, respectively (Table 3.4). There was no recorded harvest of Steelhead so no validation percentage could be calculated.

Table 3.4 also compares the catch-per-effort (CPE) by species for interview data versus non-interviewed data. The average CPUE for Chinook salmon was higher for the interview data (1.17 Chinook/h) than the non-interviewed data (0.34 Chinook/h). Similarly, the average Sockeye salmon CPUE from interviewed fishers (0.32 Sockeye/h) was higher than that for non-interviewed fishers (0.18 Sockeye/h). The survey results for FSC Chum salmon fisheries were also similar to those of Sockeye and Chinook salmon. The average Chum salmon CPUE for the interviewed fishers during the October Chum salmon fisheries (11.86 Chum/h, n = 827) was higher than that for non-interviewed fishers (5.60 Chum/h). The most likely reason for the higher catch rates (Chinook, Sockeye and Chum salmon) for the interview data is that surveyors are more likely to encounter the best fishers because they tend to fish more than the other fishers.

Sample sizes for Pink and Coho salmon and Steelhead CPUE were too small to make any meaningful comparisons between the interview and non-interview data.

### 3.4 Released Catch

Table 3.5 summarizes the fish released from nets during the Tsawwassen FSC salmon fisheries in 2017. Total release catch for sturgeon, Steelhead, flounder, Pink, Coho, Sockeye, Chinook, and Chum salmon were 55, 4, 58, 31, 3, 1, 0 and 5, respectively. Over 67% (37) of the sturgeon releases were caught between the week endings 30 Apr–25 June during the directed Chinook salmon FSC fisheries.

Table 3.6 further details Tsawwassen FSC releases of sturgeon by fishing location. There was a total of 55 sturgeon released from April to October, with the highest number (18) of sturgeon caught during the week ending 07 May in the Canoe Pass to Deas Island location (T3; Statistical Area 29-14).

### 3.5 Overages and Underages

It is expected that the number of salmon harvested in TFN fisheries will not precisely match the TFN allocations for each species each year. Therefore, the TFA (TFA 2007; Appendix J) outlines the calculation process if there is a difference between what was caught and what was allocated (termed “overages” and “underages”), by species.

An overage occurs when Tsawwassen harvest exceeds the defined Tsawwassen allocation whereas; an underage occurs when Tsawwassen harvests less than the defined Tsawwassen allocation. Underages can occur because another group harvested more, or because there was uncertainty in the management process for that species (e.g., late season increases in the Total Allowable Catch (TAC) or uncertainty regarding the amount of fishing time required to harvest the allocation). The amount of the overage or underage will be documented in a multi-year accounting process summarized in a table in this post-season report.

Table 3.7 summarizes the Tsawwassen FSC salmon catch, allocation, balance (overages and underages), and carry forward amounts for each salmon species. Tsawwassen harvested less than the defined allocation by 2,465 and 413 for Pink and Coho salmon, respectively. No carry forward is proposed for these Pink and Coho salmon since Tsawwassen fishing efforts were less than that required to harvest the TFN allocation for these species.

In-season information indicated that the implementation of the Low Abundance Exploitation Rate (LAER) management approach was necessary for all Sockeye salmon run timing groups. Since there was no TAC available for Sockeye all directed FSC Sockeye salmon fisheries were halted and only incidental catch of Sockeye was permitted during the FSC Chinook salmon fisheries. No carry forward is proposed.

For FSC Chinook and Chum salmon, TFN harvested 68 and 30 more fish than their respective defined allocations (Table 3.7). No carry forward is anticipated with Chinook or Chum salmon due to the decrease availability of Sockeye salmon in 2017. In addition, this is the first year that TFN has been able to catch their full Chinook allocation since 2009.

### 3.6 Recommendations

The following are recommendations for the 2018 FSC fishing season:

- Prior to the weekly planning calls for Fraser salmon fisheries, TFN and DFO representatives should continue to meet, via phone or otherwise to discuss:
  - Potential conservation issues;
  - Remaining allocation balances of all salmon species;
  - Potential projected TFN fishing effort;
  - Catch monitoring and enforcement strategies that will aid in formulating options for TFN fisheries with the ultimate goal of reaching the salmon allocations as set out in the TFN Final Agreement.
- Continue to improve the completeness of catch reporting by filing reports to DFO within 24 to 48 hours, as outlined in the HD and the TFN FOG.
- Continue to improve the landing validation program. Technicians should differentiate on their datasheets and the database if a harvest was counted, estimated, hailed, or not observed. Maintain the 20% sampling goal for all salmon fisheries. In 2017, all salmon FSC fisheries recorded over a 20% validation rate.
- Continue to improve coded wire tag (CWT) sampling protocol for Chinook and Coho salmon. No adipose-clipped Chinook or Coho salmon were recorded as harvested in 2017.
- Fisheries and Oceans Canada should provide TFN with weekly updates to the TFN FSC allocations for Sockeye salmon at least two days before a potential TFN fishery where FSC Sockeye salmon could be harvested (i.e., by 6 PM on Wednesday for TFN fisheries that typically start at 6 PM on Friday).

## 4 SALMON THA FISHERIES

### 4.1 Allocations

In 2017, Tsawwassen First Nation was authorized to sell 7,694 Chum salmon during the commercial THA fisheries (Table 4.1). Like the FSC fisheries, the THA fisheries are subject to conservation needs and to

agreed-upon monitoring, enforcement, and management regimes. There were no THA HDs issued to TFN for Sockeye or Pink salmon, in 2017.

#### 4.2 Fishery Openings and Target Species

Tsawwassen First Nation was involved in two-twelve hour THA fisheries under two separate licences (HD-492 and 496) during the week ending 29 October (Table 3.2). These fisheries were directed at Chum salmon; however, incidental harvest of hatchery-marked Coho salmon were also permitted. All efforts and attempts were made to return all non-target species, including “wild” Coho salmon, Steelhead, and sturgeon, to the water alive and unharmed. The main gear type for the Chum salmon THA fisheries were drift nets.

Total Chum salmon harvested during the THA fisheries was 4,815 (Table 4.1). Tsawwassen First Nation harvested less than the defined allocation by 2,879 Chum salmon. The remaining uncaught allocation was not transferred upstream. Refer to section 4.4. for recommendations going forward.

Approximately 90% (4,405) of the total harvest was sold to packers and the remaining 10% (410) of the Chum salmon were taken home (kept) by the individual TFN fishers (Table 4.1).

Catch from all of these THA fisheries were estimated using a Mandatory Landing Program in which fishers’ catch were enumerated at landing sites throughout the fishing area.

#### 4.3 Released Catch

Table 4.1 summarizes the number of fish reported as released from the THA fisheries. There was only one species recorded as released: 16 Sturgeon (Table 4.1). All efforts and attempts were made to return all non-target species to the water alive and unharmed.

#### 4.4 Recommendations

The following are recommendations for the 2018 THA fisheries:

- Prior to the start of the THA fisheries, DFO and TNRD staff should stress the importance of fishers recording all of the bycatch and released catch.
- Recommended that DFO allow uncaught EO allocation to be harvested as FSC.

### 5 CRAB FISHERIES

#### 5.1 FSC Openings, Catch, and Effort

There were four HDs issued for TFN FSC crab harvest which spanned the time period from 1 January to 31 December 2017, targeting Dungeness (*Metacarcinus magister*)<sup>2</sup>, Graceful (*M. gracilis*)<sup>3</sup>, and Red rock crab (*Cancer productus*) species (Table 5.1). However, TFN fishers only kept Dungeness crab, which were all harvested using traps. No crabs were harvested by TFN members using hand picking, dip net, or ring net methods in 2017.

---

<sup>2</sup> *Metacarcinus magister*, formally *Cancer magister*, is accepted as the current taxonomic name for Dungeness Crab (Davie 2015b; Schram and Ng 2012).

<sup>3</sup> *Metacarcinus gracilis*, formally *Cancer gracilis*, is accepted as the current taxonomic name for Graceful Crab (Davie 2015a).



Table 5.2 summarizes the FSC crab catch and effort by licence. Overall, there were a total of 45,131 Dungeness crab kept, 32,615 Dungeness crab released, 63 Red rock crabs released and 1 Graceful crab was released under the four HDs. Approximately 45% (20,187) of the total Dungeness crab were harvested under the HD-405 licence from April to June. However, HD-440 (June to September) recorded the highest amount of fishing effort 54,513 trap-days. In contrast, fishers active during the October to December period (HD-455) harvested 5,100 Dungeness crab and reported 36,515 trap-days of fishing effort.

For another perspective, Table 5.3 breaks down the total Dungeness, Red rock and Graceful crab harvest, releases and effort by month rather than licence. The month of July recorded the highest Dungeness crab harvest (9,253), whereas February had the lowest recorded harvest (732). March, May, June August and September were the months where Red rock crabs (63) were harvested and subsequently released. Inclement weather probably played a factor for the low harvest in October through December. Soft-shell crab would account for a high portion of the releases in April–June. Most of the releases in other months were crabs smaller than the minimum size limit or females.

The crab sampling plan outlines a sampling validation goal of 20% similar to salmon. In addition to comparing the Dungeness crab harvest by month, Table 5.3 summarizes the validation rate by month and fishery. An overall, validation rate of 26% was achieved for Dungeness crab.

Table 5.4 summarizes by month, the number of crab surveys conducted from January to December 2017. On average, the TFN Fisheries Department staff completed 192 vehicular surveys from January to December. Generally, TNRD staff conducted 1–3 crab patrols per day depending on the timing. The vehicular surveys involved driving along the Tsawwassen shoreline and confirming, by using binoculars, if crabbers were fishing. In addition, during the peak months of crab fishing (from February–November) 32 on-water crab surveys were conducted.

In 2010, TFN Fisheries Department constructed a live tank which can hold crab until they are distributed to TFN members. In 2017, the live tank continued to be operational allowing for distribution of crab throughout the year. The live tank enabled TFN to hold more crab for longer, well in advance of larger events, such as Aboriginal Day or Elder Gatherings. Effective May 2013, the TFN Crab Distribution Policy was approved. This policy is intended to provide a framework for the distribution of FSC crab to eligible TFN members.

## 5.2 Commercial Openings, Catch, and Effort

In 2017, there were commercial crab openings in the Fraser River areas (Statistical Areas 28 and 29). The first opening occurred in Area I from 15 June to 30 November and the second opening occurred in Area J from 15 July to 30 November (Figure 1.4). The commercial crab openings ran concurrently with the FSC crab fisheries openings, which potentially limits the FSC TFN crab harvest because of the proximity of the commercial harvest and additional impact to the crab stocks. There are TFN FSC crab fishers who also commercially harvest crab. As a condition of the commercial licence, these fishers are required to submit their commercial harvest logs to the DFO Shellfish Data Unit at the Pacific Biological Station in Nanaimo on a monthly basis.

### 5.3 Recommendations

The following are recommendations for the 2018 FSC crab fishing season:

- Stress the importance to the FSC crab operators about limiting crab fishing to daylight hours only.
- Stress the importance to the FSC crab operators about marking crab traps. This may deter theft of traps since unmarked traps are deemed to be illegal gear and may be removed by people who find them.
- Stress the importance to the FSC crab operators of limiting their crab fishing efforts during the soft-shell period from April to mid-June (May to mid-July in Boundary Bay).
- Continue to document the distribution of the crabs for TFN members or other First Nation communities. Fisher distribution forms should be filled in monthly along with the logs and returned to the TNRD office.
- Continue to improve the completeness and timeliness of catch reporting to DFO.
- Continue to conduct on-water and vehicular surveys at regular interval during the FSC crab fishery to verify catch and effort reports.
- Continue to target 20% sampling validation goal similar to salmon as outlined in the crab sampling plan.
- An enforcement committee has been established to facilitate efforts to improve compliance with harvesting requirements for FSC crab fisheries as set out in the HD for these fisheries. The TFN Enforcement Committee should continue to meet regularly in 2018 and forward any pertinent issues to the JTC.
- The TFN Natural Resource Committee would like to review any final study outcomes from projects that occur in the TFA (i.e., Burns et al. [2017] and Area I commercial soft-shell study).

## 6 OTHER FISHERIES

### 6.1 Eulachon

The Integrated Fisheries Management Plan (IFMP) for Eulachon indicates: “Due to stock strength and conservation concerns, only very limited Fraser River FSC fisheries for Eulachon will be considered on a case by case basis by Lower Fraser DFO area office for 2017.” The 2017 pre-season Eulachon allocation target for Tsawwassen First Nation was approximately 485 lb. Five Eulachon ceremonial HDs were issued (week endings: 2 April, 9 April, 16 April, 23 April) and all were 6 hours or less in duration (Table 6.1). Table 6.2 indicates a total of 185 lb of Eulachon were harvested during the five ceremonial openings in April. The total combined fishing effort spanning the 5 Eulachon openings was just under 13 hours. Ten chubs, 1 juvenile Chinook salmonid, 35 suckers, 14 flounder, 251 Bullhead sculpins (*Leptocottus armatus*), 62 herring were also caught and released as bycatch during the Eulachon fisheries (Table 6.2).

### 6.2 Recommendations

The following are recommendations for the 2018 FSC Eulachon fishing season:

- Due to the lack of stock assessment information for Eulachon, TFN is interested in either initiating or participating in an on-going study for Eulachon.

- TFN staff would like to stress the importance of the Eulachon fishery as the current allocation does not meet TFN's FSC needs.
- TFN would like to secure funding to participate in the 2018 Eulachon Assessment Survey.

### 6.3 Intertidal Bivalves

Intertidal bivalves may be harvested for FSC purposes in the Intertidal Bivalve Fishing Area by any designated TFN fishermen at the times and locations defined in the Tsawwassen HD. Additionally, where the Tsawwassen Intertidal Bivalve Fishing Area overlaps with a National Park Reserve, TFN fishermen are subject to terms and conditions developed following consultation with Parks Canada. While the JTC is continuing to work on an Intertidal Bivalve HD, no HD was requested in 2017 by TFN; therefore, no harvest of bivalves took place. Tsawwassen First Nation is continuing their consultations with the Hul'qumi'num Treaty Group and other First Nations to discuss terms and conditions governing the harvest of intertidal bivalves where the Tsawwassen Intertidal Bivalve Fishing Area overlaps the traditional territories for other First Nations.

### 6.4 Shrimp and Prawns

Shrimp and prawns may be harvested for FSC purposes by TFN fishermen as outlined in a Tsawwassen HD. There was no recorded harvest of shrimp or prawns by TFN fishers in 2017 because no HD was requested.

### 6.5 Rockfish, Lingcod, Halibut, Dogfish, and Sole (Groundfish)

Rockfish, lingcod, halibut, dogfish, and sole may be harvested for FSC purposes by TFN fishermen as defined in a Tsawwassen HD. There were four HDs issued for groundfish in 2017 (HD-403, HD-404, and HD-436 and HD-484) starting 1 January 2017 using longline gear and starting the 1 April 2017 the rod and reel gear type was added (Table 6.2). The groundfish fishery was limited to the harvest of halibut and an incidental harvest of sablefish, dogfish, lingcod, flatfish, and rockfish.

Table 6.2 indicates that no effort or catch were recorded under any of the HDs. Tsawwassen First Nation fishers did not participate in groundfish fishery due to fisher availability.

### 6.6 Marine Aquatic Plants

The harvest of aquatic plants (including attached and detached kelps and seaweeds) within the Province of British Columbia is managed by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development and housed in the Aquaculture program. The authority for aquatic plant licencing decisions was transferred from Seafood Safety and Quality Unit of the BC Ministry of Agriculture in July 2017. An Aquatic Marine Plant HD was issued to TFN in 2017 (Tsawwassen-02) for the period 1 April 2017 to 31 March 2018. Harvest of marine aquatic plants was limited to the Tsawwassen Fishing Area. For the full list of aquatic marine plants harvestable for domestic purposes, see the Aquatic Marine Plant HD (Appendix B). As outlined in the Aquatic Marine Plant HD, TFN harvesters are required to identify harvested plants by group and record harvest on the TFN Aquatic Plant harvest log (Appendix C). Tsawwassen First Nation fishers did not participate in this fishery (zero effort and harvest were recorded).

## 7 MULTI-YEAR SUMMARY

### 7.1 FSC Salmon Harvest and Allocations

Table 7.1 summarizes the FSC salmon harvest, maximum allocations, and the final allocation balances for each year since 2009. Tsawwassen First Nation's allocation as outlined in the TFA differs from the maximum allocation as defined in Table 7.1 as the maximum TFN harvest for a particular salmon species in a given year including overages or underages.

Over this eight-year period, the total FSC harvest for Chinook salmon ranged from 86 to 995 (2016 and 2009, respectively). Tsawwassen First Nation's FSC Chinook salmon "maximum" allocation remained constant at 625, except in 2009 when DFO approved a "special circumstances" and increased the allocation to 900 fish. There were 95 Chinook salmon harvested above the permitted allocation for 2009. However, this was balanced off by the substantial underage in 2010, with no carry forward permitted in 2010 and 2011. Fisheries and Oceans Canada approved a portion of the total TFN Chinook salmon allocation not harvested in 2012 (125) as an underage to be carried forward due to DFO management uncertainty (Blakley et al. 2013; section 3.5). The majority of the carry-over was used in 2013 with a balance of 21 Chinook salmon to be included in the 2014 "maximum allocation" (Blakley et al. 2014; Table 7.1). Of the 646 Chinook salmon allocated to Tsawwassen in 2014, only 392 were harvested. As well in 2014, TFN harvested 919 more Chum salmon than their defined allocation (2,576; Table 7.1). After detailed JTC and JFC discussions related to the issue of the TFN 2014 Chinook and Chum salmon fishery outcomes, DFO agreed with the proposal made by TFN to zero out the 2014 post-season TFN balances for both Chinook and Chum salmon (Blakley et al. 2015; section 3.5). In 2015, the only post-season balance that carried forward is the Chum salmon overage of 78 fish (Blakley et al. 2016; Table 7.1). The approved 2015 overage of 78 Chum salmon was paid back in 2016 with 81 less fish harvested from TFN's full allocation of 2,576.

For FSC Chinook salmon, TFN harvested 539 less fish than their defined allocation of 625 in 2016 (Table 3.7, Table 7.1). Tsawwassen First Nation sent a letter to DFO on 6 January and requested a Chinook salmon underage of 539 for 2016. Fisheries and Oceans Canada sent a response letter to TFN on 22 March (Blakley et al. 2017). Fisheries and Oceans Canada disagreed with TFN's underage request. Further discussion occurred at the 29 May 2017 JFC meeting held via conference call. JFC members concluded the requested Chinook salmon underage not be applied to future Chinook salmon allocations. JFC also discussed using selective gear (i.e., 8-inch gill net) to target Chinook salmon during times when there are co-migrating Sockeye salmon stocks.

In-season information indicated that the implementation of the Low Abundance Exploitation Rate (LAER) management approach was necessary for all Sockeye salmon run timing groups in 2017. Since there was no TAC available for Sockeye all directed FSC Sockeye salmon fisheries were halted and only incidental catch of Sockeye was permitted during the FSC Chinook salmon fisheries. No carry forward is proposed.

For FSC Chinook and Chum salmon, TFN harvested 68 and 30 more fish than their respective defined allocations (Table 3.7, Table 7.1) in 2017. No carry forward is anticipated with Chinook or Chum salmon due to the decrease availability of Sockeye salmon in 2017. In addition, this is the first year that TFN has been able to catch their full Chinook allocation since 2009.

Since 2009, the total FSC harvest for Sockeye salmon ranged from 233 to 15,226 (2017 and 2010, respectively; Table 7.1). The Sockeye salmon FSC allocation varies depending on run size, averaging 7,110 over the last nine years. Other salmon in the FSC fisheries harvested from 2009 to 2017 ranged from 2 to 84 (Pink salmon), 3 to 220 (Coho salmon), and 1,320 to 3,495 (Chum salmon). The allocations

for Pink, Coho, and Chum salmon remained constant over the eight-year period, except on even year returns of Fraser Pink salmon when the run size is typically too small to warrant any directed harvest of these stocks.

## **7.2 FSC Crab Harvest**

The total average FSC Dungeness crab harvest over the nine-year period (2009–2017) was 39,517 and ranged from 20,327 in 2011 to 79,059 in 2016 (Table 7.2). The increase in crab catch over the years is due an increase in the number of active crab fishers from 6 to 22. The number of Dungeness crab released due to size, sex, or soft-shell has increased since 2009, averaging approximately 26,500 crabs per year. In addition, Red rock and Graceful crabs have also been caught during FSC fisheries, but have subsequently been released; except in 2010, when two Red rock crabs were recorded as kept.

## 8 REFERENCES

- Blakley, A.C., K.K. English, and L. Cassidy. 2010. Tsawwassen First Nation Post-Season Fisheries Report, 2009. Prepared by LGL Limited, Sidney, BC, and Tsawwassen Fisheries Department, Tsawwassen, BC.
- Blakley, A.C., K.K. English, and L. Cassidy. 2011. Tsawwassen First Nation Post-Season Fisheries Report, 2010. Prepared by LGL Limited, Sidney, BC, and Tsawwassen Fisheries Department, Tsawwassen, BC.
- Blakley, A.C., K.K. English, and L. Cassidy. 2012. Tsawwassen First Nation Post-Season Fisheries Report, 2011. Prepared by LGL Limited, Sidney, BC, and Tsawwassen Fisheries Department, Tsawwassen, BC.
- Blakley, A.C., K.K. English, and L. Cassidy. 2013. Tsawwassen First Nation Post-Season Fisheries Report, 2012. Prepared by LGL Limited, Sidney, BC, and Tsawwassen Fisheries Department, Tsawwassen, BC.
- Blakley, A.C., K.K. English, and L. Cassidy. 2014. Tsawwassen First Nation Post-Season Fisheries Report, 2013. Prepared by LGL Limited, Sidney, BC, and Tsawwassen Fisheries Department, Tsawwassen, BC.
- Blakley, A.C., K.K. English, and L. Cassidy. 2015. Tsawwassen First Nation Post-Season Fisheries Report, 2014. Prepared by LGL Limited, Sidney, BC, and Tsawwassen Fisheries Department, Tsawwassen, BC.
- Blakley, A.C., K.K. English, and L. Cassidy. 2016. Tsawwassen First Nation Post-Season Fisheries Report, 2015. Prepared by LGL Limited, Sidney, BC, and Tsawwassen Fisheries Department, Tsawwassen, BC.
- Blakley, A.C., K.K. English, and L. Cassidy. 2017. Tsawwassen First Nation Post-Season Fisheries Report, 2016. Prepared by LGL Limited, Sidney, BC, and Tsawwassen Fisheries Department, Tsawwassen, BC.
- Burns, C.W., E. Plate, and R. Bocking. 2017. Dungeness Crab Abundance and Movement Study in Roberts Bank Terminal 2 Project Area. Prepared by LGL Limited, Sidney, BC, for Tsawwassen First Nation, Tsawwassen, BC. 88 p.
- Davie, P. 2015a. World Register of Marine Species: *Cancer gracilis* Dana, 1852. Available: <http://www.marinespecies.org/aphia.php?p=taxdetails&id=452220> (accessed 31 July 2015).
- Davie, P. 2015b. World Register of Marine Species: *Cancer magister* Dana, 1852. Available: <http://www.marinespecies.org/aphia.php?p=taxdetails&id=452271> (accessed 31 July 2015).
- FOG. 2009. Tsawwassen Fisheries Operational Guidelines approved by Canada, British Columbia and the Tsawwassen First Nation on the Effective Date (3 April 2009). 57 p. plus appendices.
- FOG. 2013. Tsawwassen Fisheries Operational Guidelines approved by Canada, British Columbia and the Tsawwassen First Nation on the Effective Date (3 April 2009; updated 24 September 2013). 57 p. plus appendices.
- Schram, F.R., and P.K.L. Ng. 2012. What is Cancer? *Journal of Crustacean Biology* 32(4):665–672.
- TFA. 2007. Tsawwassen First Nation Final Agreement signed by Canada, British Columbia and the Tsawwassen First Nation in December 2007. 214 p. plus appendices.
- THA. 2009. Tsawwassen First Nation Harvest Agreement signed by Canada, British Columbia and the Tsawwassen First Nation in December 2009. 12 p.

**TABLES**





Table 3.1 Tsawwassen FSC salmon fishery allocations (in pieces), 2017.

Season	Chinook	Sockeye <sup>a,b,c</sup>	Pink	Coho	Chum
Pre-season	625	9,400	2,500	500	2,576
In-season	625	No TAC	2,500	500	2,576
Final in-season	625	No TAC	2,500	500	2,576

<sup>a</sup> See Appendix D for Fraser River Status Reports.

<sup>b</sup> The final in-season based on update e-mail from DFO and PSC sent 31 August 2017.

<sup>c</sup> No directed Sockeye fisheries permitted (no TAC available); only incidental harvest of Sockeye salmon permitted for harvest directed on other species.

Table 3.2. Tsawwassen FSC and THA salmon fishery openings by date, gear type, and target species, 2017.

Weekend date	Licence #	Fishery type	Target species	Opening	Closing	Gear type(s)
				Date and time	Date and time	
30-Apr-17	LFA-17-HD-410	FSC - Communal	Chinook salmon	29-Apr 08:00	30-Apr 20:00	Drift net, set net
07-May-17	LFA-17-HD-416	FSC - Communal	Chinook salmon	06-May 08:00	07-May 20:00	Drift net, set net
14-May-17	LFA-17-HD-417	FSC - Communal	Chinook salmon	13-May 08:00	14-May 20:00	Drift net, set net
21-May-17	LFA-17-HD-419	FSC - Communal	Chinook salmon	20-May 08:00	21-May 20:00	Drift net, set net
28-May-17	LFA-17-HD-421	FSC - Communal	Chinook salmon	27-May 08:00	28-May 20:00	Drift net, set net
04-Jun-17	LFA-17-HD-423	FSC - Communal	Chinook salmon	03-Jun 08:00	04-Jun 20:00	Drift net, set net
11-Jun-17	LFA-17-HD-425	FSC - Communal	Chinook salmon	10-Jun 08:00	11-Jun 20:00	Drift net, set net
25-Jun-17	LFA-17-HD-427	FSC - Communal	Chinook salmon	19-Jun 08:00	21-Jun 08:00	Drift net, set net
25-Jun-17	LFA-17-HD-432	FSC - Communal	Chinook salmon with incidental harvest of Sockeye salmon	24-Jun 09:00	25-Jun 21:00	Drift net, set net
02-Jul-17	LFA-17-HD-435	FSC - Communal	Chinook salmon with incidental harvest of Sockeye salmon	26-Jun 16:00	27-Jun 16:00	Drift net, set net
09-Jul-17	LFA-17-HD-443	FSC - Communal	Chinook salmon with incidental harvest of Sockeye salmon	08-Jul 08:00	08-Jul 20:00	Drift net, set net
		FSC - Communal	Chinook salmon with incidental harvest of Sockeye salmon	09-Jul 08:00	09-Jul 20:00	Drift net, set net
16-Jul-17	LFA-17-HD-445	FSC - Communal	Chinook salmon with incidental harvest of Sockeye salmon	15-Jul 06:00	15-Jul 22:00	Drift net, set net
		FSC - Communal	Chinook salmon with incidental harvest of Sockeye salmon	16-Jul 06:00	16-Jul 22:00	Drift net, set net
23-Jul-17	LFA-17-HD-448	FSC - Communal	Chinook salmon with incidental harvest of Sockeye salmon	22-Jul 06:00	22-Jul 22:00	Drift net, set net
		FSC - Communal	Chinook salmon with incidental harvest of Sockeye salmon	23-Jul 06:00	23-Jul 22:00	Drift net, set net
30-Jul-17	LFA-17-HD-450	FSC - Communal	Chinook salmon with incidental harvest of Sockeye salmon	29-Jul 06:00	29-Jul 22:00	Drift net, set net
		FSC - Communal	Chinook salmon with incidental harvest of Sockeye salmon	30-Jul 06:00	30-Jul 22:00	Drift net, set net
06-Aug-17	LFA-17-HD-452	FSC - Communal	Chinook salmon with incidental harvest of Sockeye salmon	05-Aug 06:00	05-Aug 22:00	Drift net, set net
		FSC - Communal	Chinook salmon with incidental harvest of Sockeye salmon	06-Aug 06:00	06-Aug 22:00	Drift net, set net
13-Aug-17	LFA-17-HD-457	FSC - Communal	Chinook salmon with incidental harvest of Sockeye and Pink salmon	12-Aug 08:00	13-Aug 20:00	Drift net, set net
20-Aug-17	LFA-17-HD-460	FSC - Communal	Chinook salmon with incidental harvest of Sockeye and Pink salmon	19-Aug 08:00	21-Aug 08:00	Drift net, set net
27-Aug-17	LFA-17-HD-460	FSC - Communal	Chinook salmon with incidental harvest of Sockeye and Pink salmon	19-Aug 08:00	21-Aug 08:00	Drift net, set net
27-Aug-17	LFA-17-HD-465	FSC - Communal	Chinook salmon with incidental harvest of Sockeye and Pink salmon	26-Aug 08:00	28-Aug 08:00	Drift net, set net
03-Sep-17	LFA-17-HD-465	FSC - Communal	Chinook salmon with incidental harvest of Sockeye and Pink salmon	26-Aug 08:00	28-Aug 08:00	Drift net, set net
03-Sep-17	LFA-17-HD-470	FSC - Communal	Chinook salmon with incidental harvest of Sockeye, Pink, and hatchery-marked Coho salmon	02-Sep 10:00	03-Sep 22:00	Drift net, set net
08-Oct-17	LFA-17-HD-483	FSC - Communal	Chum salmon with incidental harvest of Chinook, Coho, and Pink salmon	07-Oct 07:00	08-Oct 19:00	Drift net, set net
15-Oct-17	LFA-17-HD-488	FSC - Communal	Chum salmon with incidental harvest of Chinook, Coho, and Pink salmon	14-Oct 07:00	15-Oct 19:00	Drift net, set net
29-Oct-17	LFA-17-HD-492	Tsawwassen Harvest Agreement	Chum salmon with incidental harvest of hatchery-marked Coho Salmon	23-Oct 06:00	23-Oct 18:00	Drift net, set net
29-Oct-17	LFA-17-HD-496	Tsawwassen Harvest Agreement	Chum salmon with incidental harvest of hatchery-marked Coho Salmon	26-Oct 08:00	26-Oct 20:00	Drift net, set net

Table 3.3. Summary of Tsawwassen FSC salmon catch and effort, 2017.

Weekend date <sup>a</sup>	Licence #	Vessel (h)	Tsawwassen catch (kept)						
			Adipose-clipped				Adipose-clipped		
			Chinook	Chinook	Sockeye	Pink	Coho	Coho	Chum
30-Apr-17	LFA-17-HD-410	2.5	0	0	0	0	0	0	0
07-May-17	LFA-17-HD-416	9.5	0	0	0	0	0	0	0
14-May-17	LFA-17-HD-417	0.0	No TFN participation						
21-May-17	LFA-17-HD-419	12.1	1	0	0	0	0	0	0
28-May-17	LFA-17-HD-421	1.0	1	0	0	0	0	0	0
04-Jun-17	LFA-17-HD-423	2.8	0	0	0	0	0	0	0
11-Jun-17	LFA-17-HD-425	7.3	3	0	0	0	0	0	0
25-Jun-17	LFA-17-HD-427	31.5	7	0	0	0	0	0	0
25-Jun-17	LFA-17-HD-432	4.0	2	0	0	0	0	0	0
02-Jul-17	LFA-17-HD-435	10.0	3	0	0	0	0	0	0
09-Jul-17	LFA-17-HD-443	4.5	1	0	0	0	0	0	0
16-Jul-17	LFA-17-HD-445	0.0	No TFN participation						
23-Jul-17	LFA-17-HD-448	5.3	0	0	0	0	0	0	0
30-Jul-17	LFA-17-HD-450	7.0	1	0	1	0	0	0	0
06-Aug-17	LFA-17-HD-452	22.8	7	0	6	0	0	0	0
13-Aug-17	LFA-17-HD-457	51.7	15	0	19	0	0	0	0
20-Aug-17	LFA-17-HD-460	147.1	219	0	132	6	0	0	1
27-Aug-17	LFA-17-HD-460	27.5	32	0	26	0	0	0	0
27-Aug-17	LFA-17-HD-465	180.8	206	0	21	2	0	0	0
03-Sep-17	LFA-17-HD-465	27.0	12	0	0	0	0	0	0
03-Sep-17	LFA-17-HD-470	83.0	170	0	28	27	0	0	7
08-Oct-17	LFA-17-HD-483	132.9	9	0	0	0	46	0	1,208
15-Oct-17	LFA-17-HD-488	185.7	4	0	0	0	41	0	1,390
<b>Totals</b>		<b>955.7</b>	<b>693</b>	<b>0</b>	<b>233</b>	<b>35</b>	<b>87</b>	<b>0</b>	<b>2,606</b>
Maximum allocation <sup>a</sup>			625		No TAC	2,500	500		2,576
<b>Remaining</b>			<b>-68</b>			<b>2,465</b>	<b>413</b>		<b>-30</b>

<sup>a</sup> Currently there is no Sockeye salmon TAC available (incidental catch only). Based on e-mail sent from DFO 31 Aug, the Low Abundance Exploitation Rate (LAER) management approach has been implemented.

Table 3.4. Summary of Tsawwassen FSC salmon catch and effort (vessel-hours) for interviews only and comparison of catch-per-effort estimates for fishers interviewed while fishing (interviewed) and those reporting after the fishery (non-interviewed).

Weekend date <sup>a</sup>	Licence #	Vessel (h)	Tsawwassen catch (kept)							
			Adipose-clipped					Adipose-clipped		
			Chinook	Chinook	Sockeye	Pink	Coho	Coho	Chum	Steelhead
30-Apr-17	LFA-17-HD-410	2.0	0	0	0	0	0	0	0	0
07-May-17	LFA-17-HD-416	5.8	0	0	0	0	0	0	0	0
14-May-17	LFA-17-HD-417		No TFN participation							
21-May-17	LFA-17-HD-419	3.6	1	0	0	0	0	0	0	0
28-May-17	LFA-17-HD-421	1.0	1	0	0	0	0	0	0	0
04-Jun-17	LFA-17-HD-423	0.8	0	0	0	0	0	0	0	0
11-Jun-17	LFA-17-HD-425	1.8	2	0	0	0	0	0	0	0
25-Jun-17	LFA-17-HD-427	2.0	2	0	0	0	0	0	0	0
25-Jun-17	LFA-17-HD-432	3.5	2	0	0	0	0	0	0	0
02-Jul-17	LFA-17-HD-435	0.0	0	0	0	0	0	0	0	0
09-Jul-17	LFA-17-HD-443	3.5	1	0	0	0	0	0	0	0
16-Jul-17	LFA-17-HD-445		No TFN participation							
23-Jul-17	LFA-17-HD-448	1.5	0	0	0	0	0	0	0	0
30-Jul-17	LFA-17-HD-450	1.0	0	0	0	0	0	0	0	0
06-Aug-17	LFA-17-HD-452	8.5	2	0	1	0	0	0	0	0
13-Aug-17	LFA-17-HD-457	9.5	5	0	5	0	0	0	0	0
20-Aug-17	LFA-17-HD-460	65.8	140	0	61	3	0	0	1	0
27-Aug-17	LFA-17-HD-460	27.5	32	0	26	0	0	0	0	0
27-Aug-17	LFA-17-HD-465	149.5	168	0	20	0	0	0	0	0
03-Sep-17	LFA-17-HD-465	27.0	12	0	0	0	0	0	0	0
03-Sep-17	LFA-17-HD-470	55.8	147	0	28	16	0	0	5	0
08-Oct-17	LFA-17-HD-483	26.4	1	0	0	0	13	0	398	0
15-Oct-17	LFA-17-HD-488	42.8	0	0	0	0	10	0	423	0
Total (interviews)		439	516	0	141	19	23	0	827	0
Total (non-interviews)		517	177	0	92	16	64	0	1,779	0
Grand total		956	693	0	233	35	87	0	2,606	0
Total catch interviewed		46%	74%	0%	61%	54%	26%	0%	32%	N/A
Total catch counted <sup>b</sup>		401	485	0	126	18	23	0	827	0
% of catch counted <sup>b</sup>		42%	70%	0%	54%	51%	26%	0%	32%	N/A
<b>Catch-per-effort (CPE) for all interview data</b>										
Interview data only			1.17	0.00	0.32	0.04	0.05	0.00	11.86	0.00
Non-interview data only			0.34	0.00	0.18	0.03	0.12	0.00	5.60	0.00
<b>Catch-per-effort (CPE) for validated interview data</b>										
Validated data only			1.21	0.00	0.31	0.04	0.06	0.00	11.95	0.00

<sup>a</sup> Chum salmon CPE calculated using October fisheries only.

<sup>b</sup> Interviews where every fish was counted.

Table 3.5. Tsawwassen bycatch from the FSC salmon fisheries, 2017.

Weekend date	Licence #	Vessel (h)	Released <sup>a</sup>							
			Sturgeon	Steelhead	Flounder	Pink	Coho	Sockeye	Chinook	Chum
30-Apr-17	LFA-17-HD-410	2.5	4	0	0	0	0	0	0	0
07-May-17	LFA-17-HD-416	9.5	18	1	50	0	0	0	0	0
14-May-17	LFA-17-HD-417	0.0	No TFN participation							
21-May-17	LFA-17-HD-419	12.1	5	1	8	0	0	0	0	0
28-May-17	LFA-17-HD-421	1.0	1	0	0	0	0	0	0	0
04-Jun-17	LFA-17-HD-423	2.8	0	0	0	0	0	0	0	0
11-Jun-17	LFA-17-HD-425	7.3	7	0	0	0	0	0	0	0
25-Jun-17	LFA-17-HD-427	31.5	1	0	0	0	0	0	0	0
25-Jun-17	LFA-17-HD-432	4.0	1	0	0	0	0	0	0	0
02-Jul-17	LFA-17-HD-435	10.0	0	0	0	0	0	0	0	0
09-Jul-17	LFA-17-HD-443	4.5	0	0	0	0	0	0	0	0
16-Jul-17	LFA-17-HD-445	0.0	No TFN participation							
23-Jul-17	LFA-17-HD-448	5.3	0	0	0	0	0	0	0	0
30-Jul-17	LFA-17-HD-450	7.0	0	0	0	0	0	0	0	0
06-Aug-17	LFA-17-HD-452	22.8	2	0	0	0	0	0	0	0
13-Aug-17	LFA-17-HD-457	51.7	8	2	0	0	0	0	0	0
20-Aug-17	LFA-17-HD-460	147.1	0	0	0	0	0	0	0	1
27-Aug-17	LFA-17-HD-460	27.5	0	0	0	0	0	0	0	0
27-Aug-17	LFA-17-HD-465	180.8	4	0	0	0	0	0	0	0
03-Sep-17	LFA-17-HD-465	27.0	0	0	0	0	0	0	0	0
03-Sep-17	LFA-17-HD-470	83.0	0	0	0	31	0	0	0	4
08-Oct-17	LFA-17-HD-483	132.9	0	0	0	0	3	1	0	0
15-Oct-17	LFA-17-HD-488	185.7	4	0	0	0	0	0	0	0
<b>Totals</b>		<b>955.7</b>	<b>55</b>	<b>4</b>	<b>58</b>	<b>31</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>5</b>

<sup>a</sup> All fish were released alive.

Table 3.6. Tsawwassen FSC releases of sturgeon (bycatch) by date and location, 2017.

Weekend date	Locations <sup>a</sup>					Totals
	T1	T2	T3	T4	T5	
30-Apr-17	-	-	4	-	-	4
07-May-17	-	-	18	-	-	18
14-May-17	-	-	-	-	-	0
21-May-17	-	5	-	-	-	5
28-May-17	-	-	1	-	-	1
04-Jun-17	-	-	-	-	-	0
11-Jun-17	-	-	1	-	6	7
25-Jun-17	-	-	2	-	-	2
02-Jul-17	-	-	-	-	-	0
09-Jul-17	-	-	-	-	-	0
16-Jul-17	-	-	-	-	-	0
23-Jul-17	-	-	-	-	-	0
30-Jul-17	-	-	-	-	-	0
06-Aug-17	-	-	-	1	1	2
13-Aug-17	-	-	5	2	1	8
20-Aug-17	-	-	1	3	-	4
27-Aug-17	-	-	-	-	-	0
03-Sep-17	-	-	-	-	-	0
08-Oct-17	-	-	-	-	-	0
15-Oct-17	-	-	-	3	1	4
<b>Totals<sup>b</sup></b>	<b>0</b>	<b>5</b>	<b>32</b>	<b>9</b>	<b>9</b>	<b>55</b>

<sup>a</sup> T1 = Roberts Bank (29-6, 29-7), T2 = Sandheads (29-9, 29-10), T3 = Canoe Pass to Deas (29-14), T4 = Steveston-Pattullo (29-13), T5 = Pattullo-Port Mann (29-17), T6 = North Arm (29-12).

<sup>b</sup> All sturgeon were released alive.

Table 3.7. Tsawwassen FSC salmon overages and underages based on 2017 allocation.

	Chinook <sup>a</sup>	Sockeye <sup>b</sup>	Pink <sup>b</sup>	Coho <sup>c</sup>	Chum <sup>a</sup>
Annual allocations	625	No TAC	2,500	500	2,576
Previous carry forward	-	-	-	-	-
<b>Total allocation:</b>	625	0	2,500	500	2,576
Total catch	693	233	35	87	2,606
Fish provided to TFN	-	-	-	-	-
<b>Total catch:</b>	693	233	35	87	2,606
<b>Balance:</b>	-68	0	0	0	-30
<b>Carry forward:</b>	-	-	-	-	-

<sup>a</sup> No carry forward anticipated with Chinook and Chum salmon due to the decrease availability of Sockeye salmon in 2017. This is the first year since 2009 that TFN has been able to catch their full Chinook allocation.

<sup>b</sup> Sockeye salmon allocation in this table reflects the inseason CTAC estimate prior to the last Sockeye salmon fishery. On 31 August, e-mail sent from DFO indicated that the LAER management approach has been implemented. No direct Sockeye salmon fisheries permitted (no TAC available). Only incidental harvest of Sockeye salmon allowed for harvest directed on other species; therefore, no carry forward recorded.

<sup>c</sup> Underage not carried forward due to limited Tsawwassen harvesting effort.

Table 4.1. Tsawwassen catch summary for THA salmon fisheries, 2017.

Weekend date	Licence #	Effort (h)	Kept			Sold			Total retained						Released									
			Chinook	Adipose-clipped Chinook	Sockeye	Pink	Adipose-clipped Coho <sup>a</sup>	Chum	Sockeye	Chinook	Chum	Adipose-clipped Coho	Sockeye	Chinook	Adipose-clipped Coho <sup>a</sup>	Chum	Pink	Sturgeon	Steelhead	Chinook	Sockeye	Pink	Coho	Chum
29-Oct-17	LFA-17-HD-492	135.4	0	0	0	0	8	398	0	0	2,239	26	0	0	34	2,637	0	3	0	0	0	0	0	0
29-Oct-17	LFA-17-HD-496	122.0	0	0	0	0	10	12	0	0	2,166	19	0	0	29	2,178	0	13	0	0	0	0	0	0
<b>Totals</b>		<b>257.4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>410</b>	<b>0</b>	<b>0</b>	<b>4,405</b>	<b>45</b>	<b>0</b>	<b>0</b>	<b>63</b>	<b>4,815</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total TFN in-season allocation</b>																<b>7,694</b>								
<b>Total TFN harvest</b>																<b>4,815</b>								
<b>Remaining after TFN harvest</b>																<b>2,879</b>								
<b>Allocation transferred upstream</b>																<b>0</b>								
<b>Remaining after transfer</b>																<b>0</b>								

<sup>a</sup> Fifty of the Coho salmon recorded as retained were identified as "unknown".



Table 5.1. Tsawwassen FSC crab fishery openings by target species, date, and gear type, 2017.

Licence #	Fishery type	Target species <sup>a</sup>	Opening	Closing	Gear type(s)
			Date and time	Date and time	
LFA-17-HD-402	FSC - Communal	Crab	01-Jan 00:01	31-Mar 23:59	Handpicking, dip net, ring net, traps
LFA-17-HD-405	FSC - Communal	Crab	01-Apr 00:01	30-Jun 23:59	Handpicking, dip net, ring net, traps
LFA-17-HD-440	FSC - Communal	Crab	01-Jul 00:01	30-Sep 23:59	Handpicking, dip net, ring net, traps
LFA-17-HD-479	FSC - Communal	Crab	01-Oct 00:01	31-Dec 23:59	Handpicking, dip net, ring net, traps

<sup>a</sup> Crab species include Dungeness, Graceful, and Red rock crabs.

Table 5.2. Tsawwassen FSC Dungeness and Red rock crab catch and effort by licence, 2017.

Licence #	Date	Dungeness crab		Red rock crab		Graceful crab		Effort	
		Kept	Released	Kept	Released	Kept	Released	(h)	Trap-days
LFA-17-HD-402	01 Jan - 31 Mar	3,531	4,657	0	2	0	1	21,980	38,350
LFA-17-HD-405	01 Apr - 30 Jun	20,187	14,986	0	13	0	0	28,437	52,039
LFA-17-HD-440	01 Jul - 30 Sep	16,313	9,471	0	48	0	0	29,040	54,513
LFA-17-HD-479	01 Oct - 31 Dec	5,100	3,501	0	0	0	0	18,688	36,515
<b>Totals</b>		<b>45,131</b>	<b>32,615</b>	<b>0</b>	<b>63</b>	<b>0</b>	<b>1</b>	<b>98,145</b>	<b>181,417</b>

Table 5.3. Tsawwassen FSC Dungeness and Red rock crab catch and effort by month, 2017.

Licence #	Month	Dungeness crab		Red rock crab		Graceful crab		Effort (h)	Trap-days	Validated Dungeness crab	
		Kept	Released	Kept	Released	Kept	Released			Kept <sup>a</sup>	% counted
LFA-17-HD-402	January	1,389	1,771	0	0	0	0	8,252	11,697	500	36
	February	732	1,064	0	0	0	0	3,144	5,496	56	8
	March	1,410	1,822	0	2	0	1	10,584	21,157	441	31
LFA-17-HD-405	April	3,294	3,315	0	0	0	0	6,840	14,250	1,026	31
	May	8,294	7,434	0	12	0	0	12,026	20,915	2,286	28
	June	8,599	4,237	0	1	0	0	9,571	16,873	2,259	26
LFA-17-HD-440	July	9,253	4,735	0	0	0	0	9,720	17,325	2,194	24
	August	3,643	2,483	0	18	0	0	10,008	18,334	837	23
	September	3,417	2,253	0	30	0	0	9,312	18,854	710	21
LFA-17-HD-479	October	1,197	994	0	0	0	0	3,744	7,075	0	0
	November	1,825	1,291	0	0	0	0	7,848	15,772	992	54
	December	2,078	1,216	0	0	0	0	7,096	13,668	520	25
<b>Totals</b>		<b>45,131</b>	<b>32,615</b>	<b>0</b>	<b>63</b>	<b>0</b>	<b>1</b>	<b>98,145</b>	<b>181,417</b>	<b>11,821</b>	<b>26</b>

<sup>a</sup> The total number of validated crab kept were counted 100%.

Table 5.4. Summary of crab patrol surveys conducted in 2017.

Month	Survey type (# of days/month)	
	Vehicular	On-water (boat)
January	18	0
February	19	1
March	11	0
April	16	6
May	30	6
June	13	7
July	12	5
August	6	2
September	16	3
October	14	0
November	23	2
December	14	0
<b>Totals</b>	<b>192</b>	<b>32</b>

Table 6.1. Tsawwassen FSC Eulachon fishery openings by target species, date, and gear type, 2017.

Weekend date	Licence #	Fishery type	Target species	Daily opening	Daily closing	Gear type(s)
				Date and time	Date and time	
02-Apr-17	LFA-17-HD-LP-400	FSC - Communal	Eulachon	01-Apr 16:00	01-Apr 21:00	Drift net
		FSC - Communal	Eulachon	02-Apr 16:00	02-Apr 21:00	Drift net
09-Apr-17	LFA-17-HD-LP 403	FSC - Communal	Eulachon	08-Apr 13:00	08-Apr 19:00	Drift net
		FSC - Communal	Eulachon	09-Apr 13:00	09-Apr 19:00	Drift net
16-Apr-17	LFA-17-HD-LP-405	FSC - Communal	Eulachon	15-Apr 16:00	15-Apr 22:00	Drift net
		FSC - Communal	Eulachon	16-Apr 16:00	16-Apr 22:00	Drift net
23-Apr-17	LFA-17-HD-LP-408	FSC - Communal	Eulachon	19-Apr 16:00	19-Apr 20:00	Drift net
23-Apr-17	LFA-17-HD-LP-409	FSC - Communal	Eulachon	22-Apr 06:00	22-Apr 12:00	Drift net

Table 6.2. Tsawwassen First Nation catch summary for ceremonial Eulachon fisheries, 2017.

Weekend date	Licence #	Effort (h)	Released <sup>b</sup>						
			Pounds <sup>a</sup>	Sturgeon	Chubs	Suckers	Flounder	Eulachon	Other <sup>c</sup>
02-Apr-17	LFA-17-HD-LP-400	1.98	2.0	0	0	0	3	0	138
09-Apr-17	LFA-17-HD-LP 403	3.88	76.0	0	0	27	10	0	51
16-Apr-17	LFA-17-HD-LP-405	4.00	45.0	0	10	7	1	0	125
23-Apr-17	LFA-17-HD-LP-408	3.00	62.0	0	0	1	0	0	0
23-Apr-17	LFA-17-HD-LP-409	0.00	0.0	0	0	0	0	0	0
Totals		12.86	185.0	0	10	35	14	0	314

<sup>a</sup> Catch monitors weighed Eulachon on board vessel (13 pieces = 1 pound).

<sup>b</sup> All released fish species reported in pieces.

<sup>c</sup> "Other" fished released for HD-LP-400 = 136 Bullhead sculpins and 2 herring; "Other" fish released for HD-LP-403 = 30 Bullhead sculpins, 20 herring, and 1 Chinook salmon; HD-LP-405 = 85 Bullhead sculpins and 40 herring.

Table 6.3. Tsawwassen FSC groundfish fishery openings by target species, date, and gear type, 2017.

Licence #	Fishery type	Target species <sup>a</sup>	Opening	Closing	Gear type(s)
			Date and time	Date and time	
LFA-17-HD-403	FSC - Communal	Halibut	01-Jan 00:01	31-Mar 23:59	Longline
LFA-17-HD-404	FSC - Communal	Halibut	01-Apr 00:01	30-Jun 23:59	Longline, rod and reel
LFA-17-HD-436	FSC - Communal	Halibut	01-Jul 00:01	30-Sep 23:59	Longline, rod and reel
LFA-17-HD-484	FSC - Communal	Halibut	01-Oct 00:01	31-Dec 23:59	Longline, rod and reel

<sup>a</sup> Includes incidental catches of sablefish, dogfish, lingcod, flatfish, and rockfish.

Table 6.4. Tsawwassen First Nation catch summary for FSC groundfish fisheries, 2017.

Licence #	Vessel (h)	Count of vessels	Tsawwassen catch (kept)							Released			
			Halibut	Dogfish	Lingcod	Flounder	Sturgeon	Sablefish	Shark	Sturgeon	Dogfish	Shark	Skate
LFA-17-HD-403 <sup>a</sup>	0.0	0	0	0	0	0	0	0	0	0	0	0	0
LFA-17-HD-404 <sup>a</sup>	0.0	0	0	0	0	0	0	0	0	0	0	0	0
LFA-17-HD-436 <sup>a</sup>	0.0	0	0	0	0	0	0	0	0	0	0	0	0
LFA-17-HD-484 <sup>a</sup>	0.0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

<sup>a</sup> No effort or catch was recorded for the month of Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, or Dec.

Table 7.1. Comparison of annual FSC salmon catch and allocation from 2009 to 2017.

Year <sup>a</sup>		Chinook <sup>c,d,f</sup>	Sockeye	Pink	Coho	Chum
<b>2009</b>	Total catch	995	1,132	72	57	1,320
	Maximum allocation <sup>b</sup>	900	1,132	2,500	500	2,576
	Final allocation balance	-95	0	0	0	0
<b>2010</b>	Total catch	338	15,226	2	3	2,019
	Maximum allocation	530	15,226	N/A	500	2,576
	Final allocation balance	0	0	0	0	0
<b>2011</b>	Total catch	583	9,995	84	43	2,414
	Maximum allocation	625	10,894	2,500	500	2,576
	Final allocation balance	0	0	0	0	0
<b>2012</b>	Total catch	440	6,649	2	22	2,577
	Maximum allocation	625	7,047	N/A	500	2,576
	Final allocation balance <sup>e</sup>	125	0	0	0	-1
<b>2013</b>	Total catch	729	5,120	74	220	2,574
	Maximum allocation	750	5,120	2,500	500	2,576
	Final allocation balance	21	0	0	0	0
<b>2014</b>	Total catch	392	14,878	3	159	3,495
	Maximum allocation	646	15,226	N/A	500	2,576
	Final allocation balance <sup>g</sup>	0	0	0	0	0
<b>2015</b>	Total catch	598	2,851	20	11	2,654
	Maximum allocation	625	2,920	2,500	500	2,576
	Final allocation balance <sup>h</sup>	0	0	0	0	-78
<b>2016</b>	Total catch	86	2,978	0	64	2,495
	Maximum allocation <sup>i</sup>	625	6,427	N/A	500	2,498
	Final allocation balance <sup>j</sup>	0	0	0	0	0
<b>2017</b>	Total catch	693	233	35	87	2,606
	Maximum allocation	625	No TAC	2,500	500	2,576
	Final allocation balance <sup>k</sup>	-68	0	0	0	-30

<sup>a</sup> Majority of underages not carried forward due to limited Tsawwassen harvesting effort.

<sup>b</sup> Maximum allocation is defined as the maximum TFN harvest for a particular salmon species in a given year including underages and overages.

<sup>c</sup> DFO approved a "special circumstance" increase in the TFN Chinook salmon allocation to 900 fish for 2009.

<sup>d</sup> Twenty percent of total allocation carried forward due to management uncertainty.

<sup>e</sup> In 2013, maximum allocation includes 125 carryover from 2012.

<sup>f</sup> In 2014, maximum allocation includes 21 carryover from 2012.

<sup>g</sup> The remaining Chinook salmon allocation from 2012 (21) plus 233 balance from 2014 was used to offset the 2014 Chum salmon overage of 919 and set the final balance for Chinook and Chum salmon to zero.

<sup>h</sup> Seventy-eight Chum salmon overage.

<sup>i</sup> Sockeye salmon allocation in this table reflects the inseason CTAC estimate prior to the last Sockeye salmon fishery. On 10 Aug, a revised allocation of 1,079 was calculated based on updated CTAC estimates; however, TFN had already exceeded this catch allocation so fishing was halted and subsequently there is no carry forward.

<sup>j</sup> The 2015 overage of 78 Chum salmon was paid back in 2016 with 81 less Chum harvested from TFN's full allocation of 2,576.

<sup>k</sup> No carry forward anticipated with Chinook and Chum salmon due to the decrease availability of Sockeye salmon in 2017. This is the first year since 2009 that TFN has been able to catch their full Chinook allocation.



Table 7.2. Comparison of annual FSC Dungeness and Red rock crab catch from 2009 to 2017.

Year	Dungeness crab		Red rock crab		Graceful crab	
	Kept	Released	Kept	Released	Kept	Released
<b>2009</b>	24,712	13,760	0	0	0	0
<b>2010</b>	21,558	11,775	2	23	0	0
<b>2011</b>	20,327	12,170	0	8	0	0
<b>2012</b>	24,441	14,350	0	2	0	0
<b>2013</b>	42,439	25,531	0	4	0	0
<b>2014</b>	41,563	19,829	0	5	0	0
<b>2015</b>	56,423	45,721	0	35	0	0
<b>2016</b>	79,059	62,540	0	26	0	0
<b>2017</b>	45,131	32,615	0	63	0	1



**FIGURES**



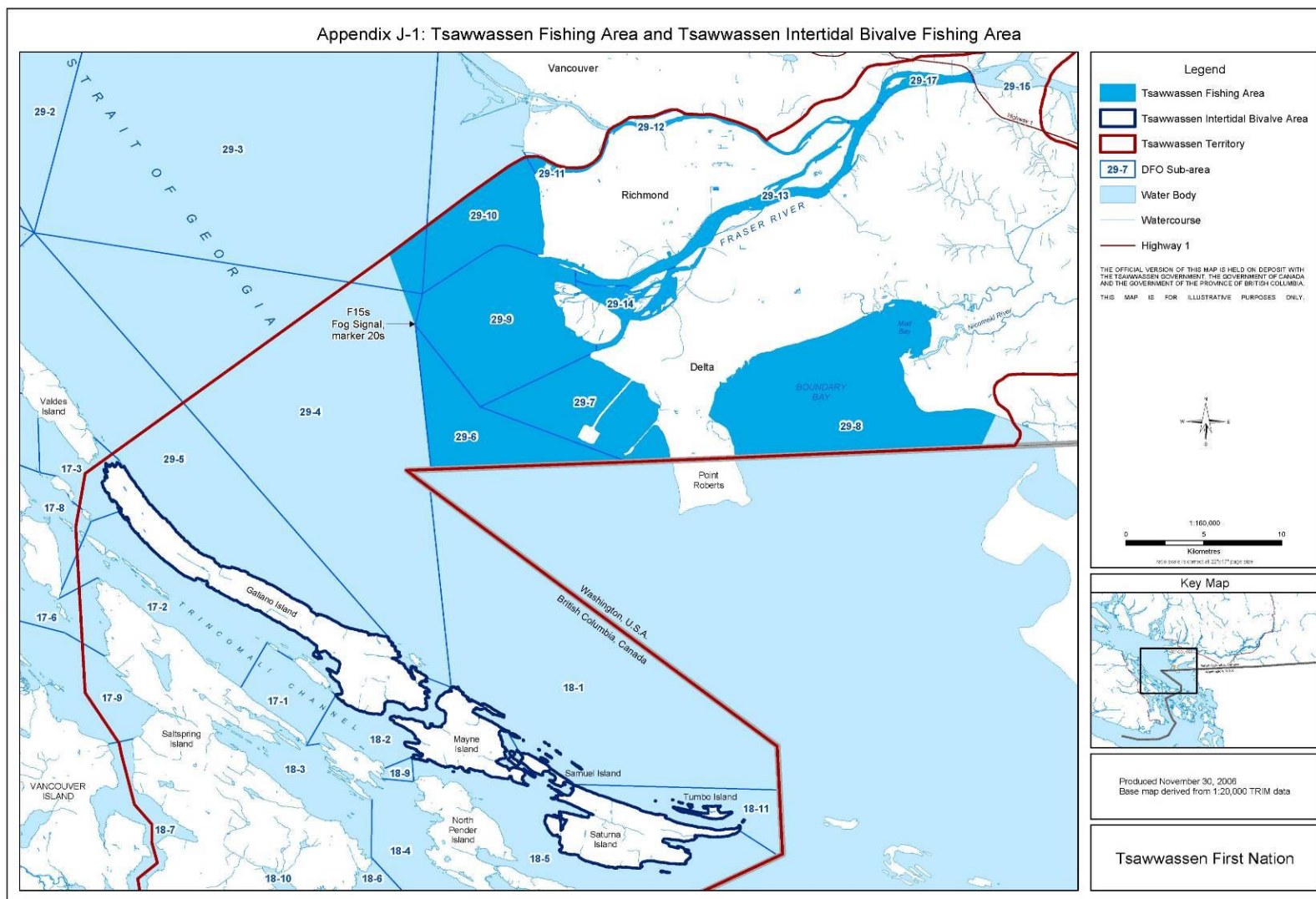


Figure 1.1. Tsawwassen Fishing Area and Tsawwassen Intertidal Bivalve Fishing Area.

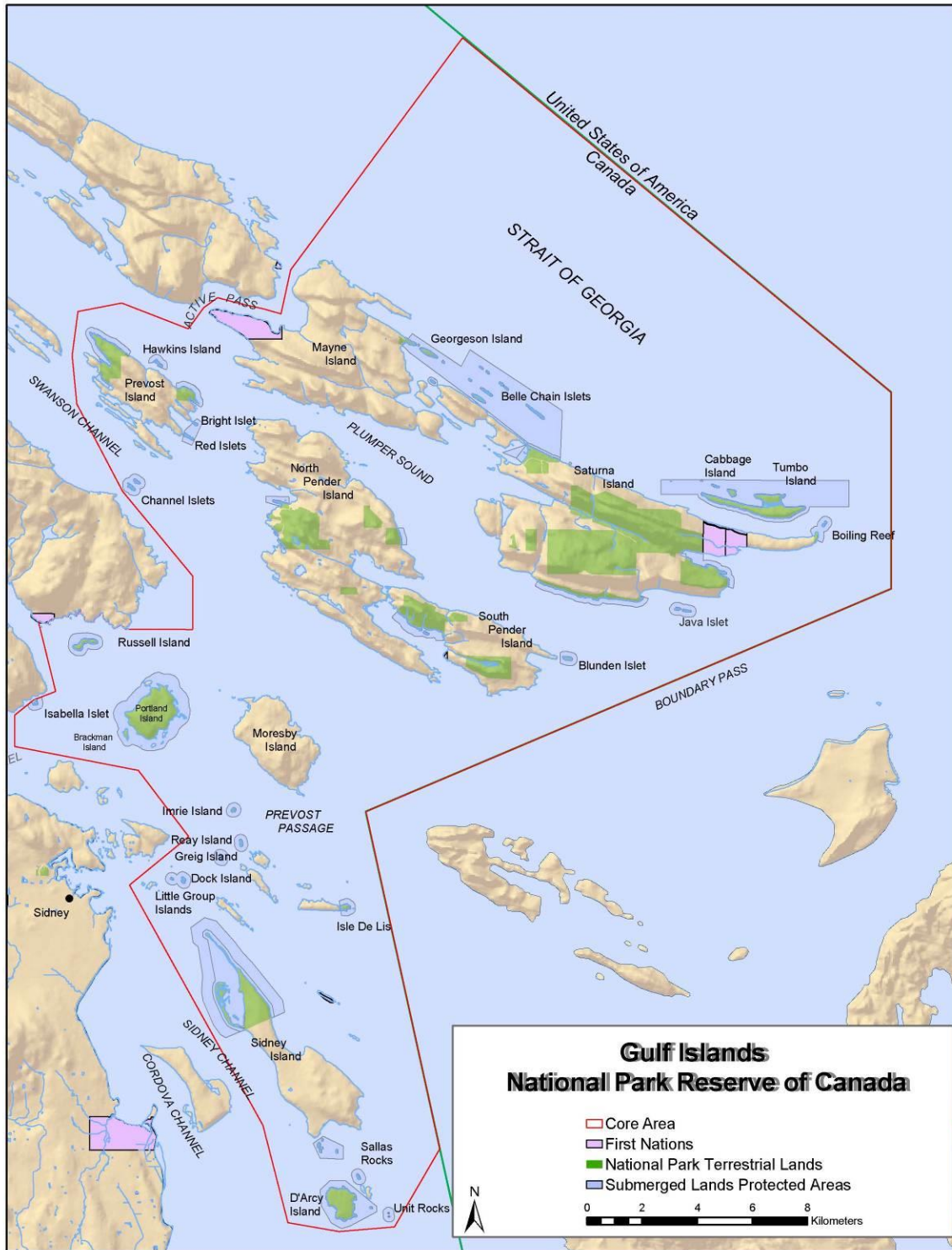


Figure 1.2. Identification of Gulf Islands National Park Reserve of Canada.

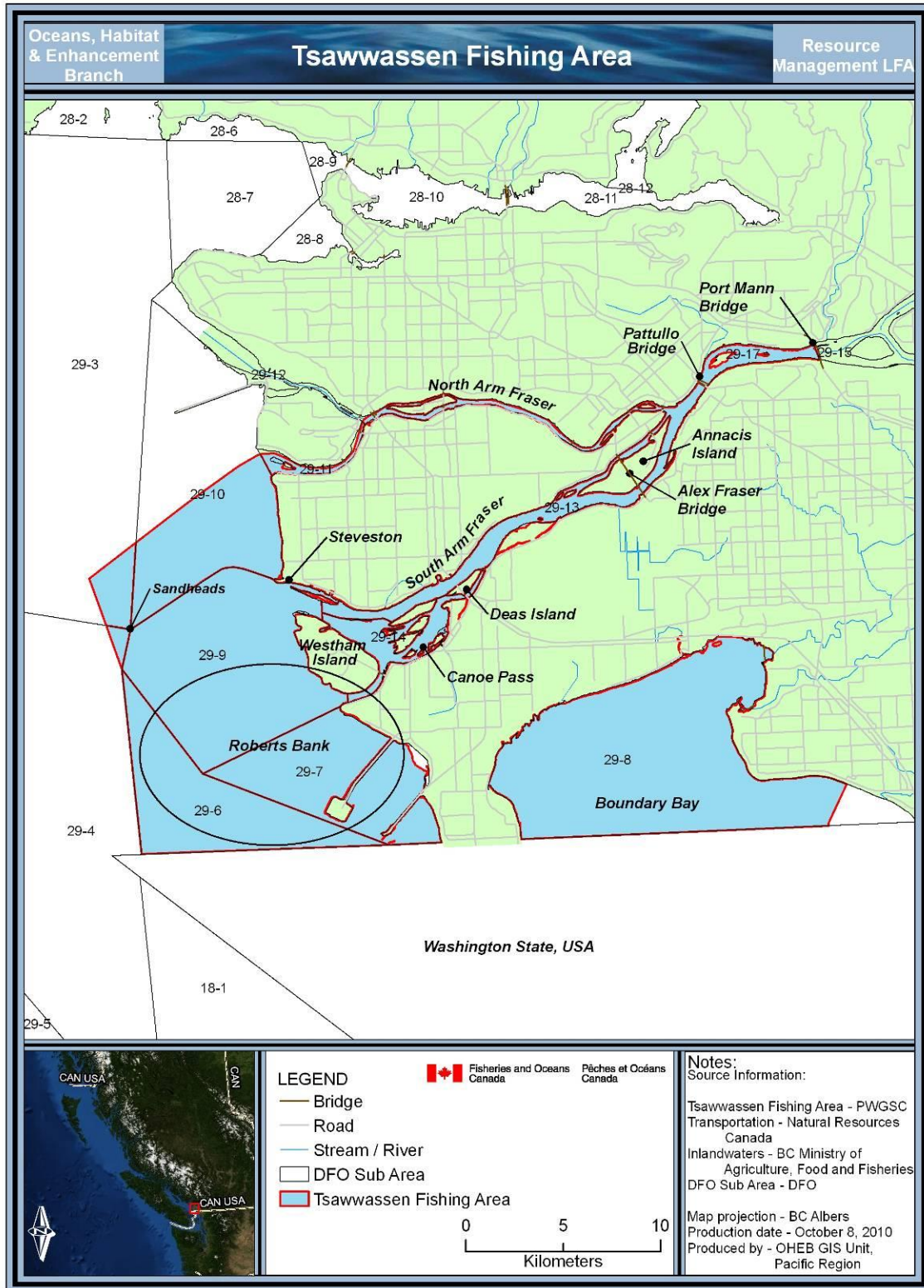


Figure 1.3. Tsawwassen Fishing Area (enlarged map with location names).

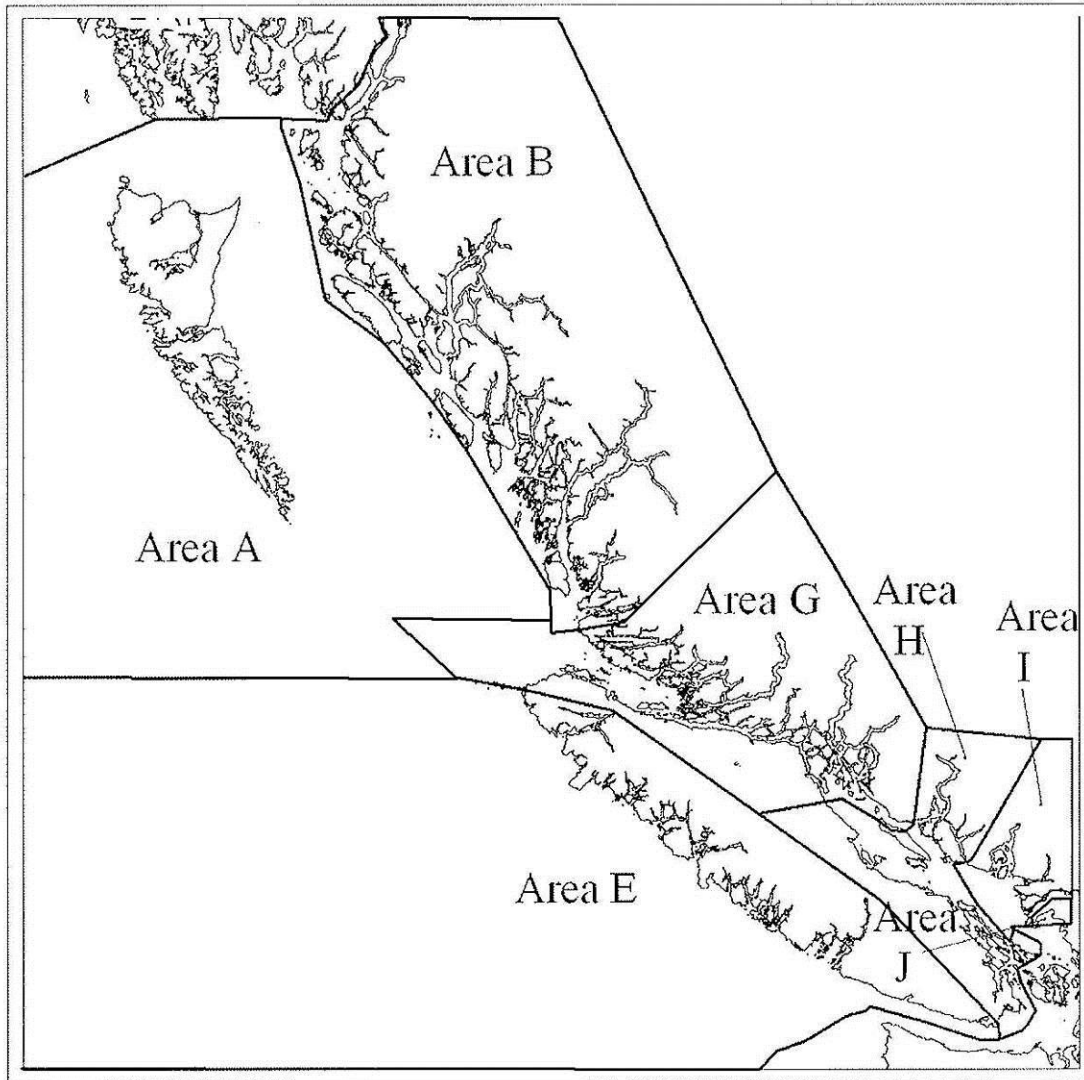


Figure 1.4. Map of Commercial Crab Management Areas.



**APPENDICES**



**APPENDIX A**  
**Tsawwassen Fishing Plans 2017**





## Fisheries Department FINAL

### TSAWWASSEN ANNUAL FISHING PLAN EULACHON AND CHINOOK – FINAL July 2017

This fishing plan has been prepared by Tsawwassen First Nation (TFN) for submission to the Joint Fisheries Committee to assist in the planning for Tsawwassen fisheries to be conducted after the Effective Date (between 1 April 2017 and 31 March 2018). A list of TFN's designated fishers and their designation numbers is provided to Fisheries and Oceans, Canada annually.

The following sections provide the proposed harvest plans and harvest expectations for each salmon species, based on pre-season run size forecasts, to ensure that the Department of Fisheries and Oceans (DFO) is aware of potential TFN's harvest levels and preferred harvest times, areas, and methods for each species or species group. However, the Tsawwassen Annual Fishing Plan (TAFP) is subject to identified and documented conservation concerns.

#### **General**

Tsawwassen fisheries will be conducted in a manner consistent with the Tsawwassen First Nation Final Agreement, Tsawwassen First Nation Harvest Agreement, Harvest Documents, Tsawwassen Fisheries Operational Guidelines (FOG) document, Tsawwassen Law, Federal Laws and British Columbia Law. As indicated in the Tsawwassen Final Agreement, Tsawwassen fisheries will be conducted within the Tsawwassen Fishing Area (TFA) or Tsawwassen Intertidal Bivalve Fishing Area, unless otherwise permitted in Harvest Documents or licences issued by DFO. The specific catch monitoring requirements and plans for each species are defined in the Tsawwassen FOG document. The following species-specific plans summarize the conservation issues and provide details on Tsawwassen proposed fishing times, gear and size restrictions for each species. Where conservation concerns have been identified licence conditions will identify those species that should be released alive and unharmed.

#### **Eulachon**

**Conservation:** The Draft IFMP for Eulachon indicates that: "Due to stock strength and conservation concerns, only very limited Fraser River FSC fisheries for Eulachon will be considered on a case by case basis by Lower Fraser DFO area office for 2017".

**Fishery:** An increased allocation of FSC harvest of Eulachon is proposed for 2017 in comparison to 2016. Eulachon may be harvested for FSC purposes by specifically designated TFN fishers at the times and locations in a Tsawwassen Harvest Document. The Fraser River Eulachon IFMP for 1 January 2017 to 31 December 2017 limits the length of fishing time to 20 minute soak times to a maximum of 10 hours per day (8 am to 6 pm) for up to four days per week (Wed., Thurs., Sun., and Mon.) with 2-6 fishers participating, however, TFN will default to Harvest Document in case conditions change.

**Timing:** From March 15, 2017 through mid-May 2017, TFN's proposed Eulachon fishing should be permitted for time periods equivalent to that permitted for other First Nation's fishing in the TFA and the weekly timing for these fisheries will be determined in consultations with DFO.

In addition, TFN proposes Eulachon fisheries for ceremonial purposes from March 1<sup>st</sup> 2018 through March 31<sup>st</sup> of 2018, or similar timing equivalent to that permitted for other First Nation's fishing in the TFA. The TFN 2018 Eulachon fishery will be covered by Fraser River Eulachon IFMP for 2018.

**Gear:** Each fisher may fish using one drift net up to a maximum soak time of 20 minutes. Drift nets shall be no more than 100 m in length and shall have a mesh size of no less than 25 mm and no greater than 50 mm.

**Size:** There are currently no size restrictions for FSC harvests of Eulachon.

**Expectation:** The expected harvest level for TFN in 2017 is approximately 485lbs. TFN is willing to assist other Lower Fraser First Nations with their FSC Eulachon harvest as well as sharing if possible.

### **Chinook Salmon**

**Conservation:** In 2010, the Nicola Tribal Association identified some serious conservation concerns for "early-timed" Chinook salmon and requested that all Fraser First Nations "hold off on any fishing" for these stocks. Most "early-timed" Chinook salmon stocks are Spring 4<sub>2</sub> and Spring 5<sub>2</sub> fish. These concerns are still relevant in 2017. In the 2017 Preliminary Salmon Outlook, Spring 4<sub>2</sub>, Spring 5<sub>2</sub>, and Summer 5<sub>2</sub> Chinook salmon stocks have been classified as stocks of low abundance. The Preliminary 2017 Salmon Outlook has shifted the Summer 4<sub>1</sub> Chinook salmon stock from a Category 2 (low abundance) to a Category 3 (near target abundance). The 2017-18 draft South Coast Salmon IFMP includes the management measures implemented in to conserve Fraser Spring 4<sub>2</sub> Chinook salmon returns. These management actions also provide some additional protection for the Fraser Spring 5<sub>2</sub> and Summer 5<sub>2</sub> Chinook salmon as their migration timing overlaps significantly. Fisheries and Oceans decided to start the season in Zone 1, given the continued poor outlook for the Fraser Spring and Summer 5<sub>2</sub> chinook aggregates. By mid-June, in-season assessment of these stocks will guide the decision to remain in Zone 1, or to move to a different zone for the remainder of the season.

**TFN Fishery:** Chinook salmon may be harvested for FSC purposes by any designated TFN fisher at the times and locations defined in a Tsawwassen Harvest Document. TFN fishers and the TFN Fisheries Department will endeavor to minimize the encounter rate and harvest for non-target species (i.e. species without directed fishing effort during the Chinook salmon fishing periods).

**Timing:** From April 1<sup>st</sup> through June 15<sup>th</sup> of 2017, TFN will put forward requests for limited ceremonial fisheries for planned community events (e.g. the TFN first fish ceremony, graduation ceremony, funerals, weddings, Longhouse ceremonies, and the TFN Anniversary of the Treaty Effective Date, etc.) during this period.

TFN is concerned with DFO's plans to permit Chinook salmon harvests in marine recreational fisheries off southern Vancouver Island prior to June 15<sup>th</sup>. There is evidence that these fisheries have captured some early-timed Fraser Chinook salmon stocks.

TFN will conduct weekly 36-hour fisheries starting on Friday and ending on Sunday starting 1 April until 15 June until a maximum of 40 Chinook salmon are retained. Each weekend fishery will have approximately 4 vessels participating, but may have greater participation. TFN will re-evaluate conditions of the fishery (i.e. vessel # and timing of fishery) as Chinook allocation (40) nears completion.

If DFO manages the Chinook salmon fishery under zone 1, then starting 16 June until 20 July, TFN will continue conducting weekly 36-hour fisheries with full TFN vessel participation and a maximum harvest of 60 Chinook. These weekly fisheries will start on Friday at a time that will be determined in weekly consultations with DFO on the Wednesday prior. Minimum encounter with Early Stuart Sockeye is expected due the change in drift net mesh size starting 27 June (minimum mesh size of 20cm/8.0 inches, a maximum length of 50 fathoms, and a maximum depth of 60 meshes).

However, if DFO manages the Chinook salmon fishery under a Zone 2 management regime (based on their decision mid-June), TFN's proposed Chinook salmon fishing plan is a minimum of 36 hours per week from June 16<sup>th</sup> to July 1<sup>st</sup> and a minimum of 48 hours per week from July 2<sup>nd</sup> to late July. These weekly fisheries will start on Friday at a time that will be determined in weekly consultations with DFO on the Wednesday prior.

From late July through to the end of August 2017, TFN's proposed Chinook salmon fishing plan is a minimum 48 hours per week or time equivalent to that permitted for other First Nation's fishing in the TFA. These weekly fisheries will start on Friday at a time that will be determined in weekly consultations with DFO on the Wednesday prior. If the Chinook salmon allocation has not been met by 31 August 2017, TFN will request further selective harvest opportunities for Chinook salmon into September (IFR Coho salmon window closure – 5 Sept to 6 Oct). TFN understands that these additional Chinook salmon harvest opportunities will be dependent upon the Coho salmon exploitation rate.

From March 1<sup>st</sup> 2018 through March 31<sup>st</sup> of 2018, TFN's proposed Chinook salmon fisheries for ceremonial purposes is a minimum of 12 hours per week or time equivalent to that permitted for other First Nation's fishing in the TFA; and these weekly fisheries will start on Friday or Saturday at a time that will be determined in weekly consultations with DFO on the Wednesday prior.

**Gear:** Approved selective fishing methods may be used during any fishing period, if identified on the harvest documents.

Drift nets with a minimum mesh size of 15 cm/5.9 inches (maximum 3:1 hang ration), a maximum length of 50 fathoms, and a maximum depth of 60 meshes may be used, except during period when larger mesh size is required to minimize the catch of Early Stuart or Late-run Sockeye salmon stocks (see below). Drift Nets with a minimum mesh size of 20cm/8.0 inches, a maximum length of 50 fathoms, and a maximum depth of 60 meshes may be used during the period when Early Stuart Sockeye salmon are migrating

through the TFN fishing areas (27 June – noon on 27 July 2017) or during other periods when there are conservation concerns for Fraser Sockeye stocks.

**Size:** No Chinook salmon with less than 30cm/12 inches in nose-fork length will be harvested, other than as bycatch after all efforts have been made to release salmon unharmed have been taken.

**Expectation:** The expected harvest level for 2017 is 625 Chinook salmon.

### **Sturgeon and Steelhead**

**Conservation:** Conservation concerns have been identified for Fraser River White Sturgeon and Steelhead in the TFA.

**TFN Fishery:** All live White Sturgeon and wild Steelhead caught in TFN FSC fisheries will be immediately released. No TFN fisheries will target White Sturgeon or Steelhead (wild or hatchery-marked) in 2017. In the event that a White Sturgeon or Wild Steelhead caught in a TFN fishery is dead or a mortal wound is obvious, that fish may be retained by a TFN fisher for FSC purposes, as per the generally agreed upon practice for other Fraser River First Nation FSC fisheries. TFN is currently awaiting approval (from the Province and DFO) on the retention of hatchery marked Steelhead in TFN FSC fisheries that target other species (bycatch). However, no bycatch of Steelhead or Sturgeon would be retained in TFN commercial fisheries. Approval may not be in place until 2018.

**Timing:** NA

**Gear:** NA

**Size:** NA

### **Marine Aquatic Plants**

**Conservation:** No conservation concerns have been identified for marine aquatic plants in the TFA.

**TFN Fishery:** Tsawwassen members may harvest marine aquatic plants for FSC purposes (from the 9 classified groups) in the TFA as outlined in the harvest document.

Tsawwassen First Nation will submit an aquatic plant commercial harvesting application before the submission deadline (1 October, 2017) for the 2018 commercial harvest season to the Ministry of Forests, Lands and Natural Resource Operations (FLNRO).

**Timing:** From 1 April 2017 through 31 March 2018, 24 hours per day, every day.

**Gear:** TFN members propose to use hand picking methods, using a sharp cutting instrument, to harvest marine aquatic plants for FSC purposes.

**Expectation:** In 2016, BC Minister issued the Harvest Document without a harvest limit at this time. The Province of BC will revisit the necessity of a harvest limit at some point in the future, should the need arise. The same exception will hold for 2017.

**Note:** *Sockeye salmon, Pink salmon, Chum salmon, Coho salmon, crab, intertidal bivalves, shrimp and prawns, groundfish, sturgeon and steelhead, and marine aquatic plants will be updated at a later date.*



## **TSAWWASSEN ANNUAL FISHING PLAN (EXCLUDING EULACHON AND CHINOOK) – FINAL JULY 2017**

This fishing plan has been prepared by Tsawwassen First Nation (TFN) for submission to the Joint Fisheries Committee to assist in the planning for Tsawwassen fisheries to be conducted after the Effective Date (between 1 April 2017 and 31 March 2018). A list of TFN's designated fishers and their designation numbers is provided to Fisheries and Oceans Canada (DFO) annually.

The following sections provide the proposed harvest plans and harvest expectations for each salmon species, based on pre-season run size forecasts, to ensure that the DFO is aware of potential TFN's harvest levels and preferred harvest times, areas, and methods for each species or species group. However, the Tsawwassen Annual Fishing Plan (TAFP) is subject to identified and documented conservation concerns. ***This document does not include sections related to Eulachon, Chinook salmon, marine plants, Steelhead, and Sturgeon because they were previously finalized in a separate document.***

### **General**

Tsawwassen fisheries will be conducted in a manner consistent with the Tsawwassen First Nation Final Agreement, Tsawwassen First Nation Harvest Agreement (THA), Harvest Documents (HD), Tsawwassen Fisheries Operational Guidelines (FOG) document, Tsawwassen Law, Federal Laws, and British Columbia Law. As indicated in the Tsawwassen Final Agreement, Tsawwassen fisheries will be conducted within the Tsawwassen Fishing Area (TFA) or Tsawwassen Intertidal Bivalve Fishing Area, unless otherwise permitted in HD or licences issued by DFO. The specific catch monitoring requirements and plans for each species are defined in the Tsawwassen FOG document. The following species specific plans summarize the conservation issues and provide details on Tsawwassen proposed fishing times, gear and size restrictions for each species. It should be noted, that all fish species identified in the conditions of licence for non-retention will be released unless, after all efforts and attempts have been made to return them to the water alive and unharmed, they are dead.

### **Sockeye Salmon**

Conservation<sup>1</sup>: Conservation concerns are anticipated for several of the components of the 2017 Sockeye salmon return to the Fraser River: the Early Stuart stock, some Early Summer stocks, some the Late-run stocks (e.g. Cultus Lake stock). The final IFMP indicates that there will be an Early Stuart and early-timed Early Summer Sockeye salmon closure in Area 29 from June 27<sup>th</sup> until noon on July 27<sup>th</sup>. The window closure will depend on inseason assessments. In some years when there has been concern regarding the return strength of the early timed component of the Early Summer run, a one week extension to the Early Stuart closure window has been implemented to protect these stocks. Depending on in-season information, this approach or other actions may be considered to support meeting management objectives for this stock group. If however, the in-season information indicates above average run size warranting directed fisheries on the Early Stuart stock then TFN intends to fish.

---

<sup>1</sup> The run timing for the various Fraser Sockeye salmon stock timing groups are not final (based on final IFMP).

From late July 2017 through mid-August 2017, most of the Sockeye salmon migrating through the TFN salmon fishing area are expected to be originating from the Summer-run stocks. After mid-August 2017, the Late-run stocks (including Cultus Lake) could begin to enter the Fraser River in significant numbers depending on the extent to which these fish delay in the lower Georgia Strait. The midpoint pre-season forecasts for the total return of Fraser Sockeye salmon in 2017 is 4,433,000 million (99,000 Early Stuart, 343,000 Early Summers, 3,408,000 Summers, and 583,000 Lates). These estimates represent the 50% probability level for each timing group (i.e. there is a 50% probability that the run could be lower than these estimates).

**TFN Fishery:** Sockeye salmon may be harvested for FSC purposes by any designated TFN fishers at the times and locations defined in a Tsawwassen HD. Once the first in-season Canadian Commercial Total Allowable Catch has been determined for Fraser Sockeye salmon, TFN will be issued licences by DFO for the Tsawwassen commercial allocation for Fraser River Sockeye salmon, as defined in the TFN Harvest Agreement. TFN will work with DFO to determine the timing, location and other details related to TFN commercial harvest opportunities. TFN fishers and the TFN Fisheries Department will endeavor to minimize the encounter rate and harvest for non-target species (i.e. species without directed fishing effort during the Sockeye salmon fishing periods). A portion of the TFN FSC Sockeye salmon allocation may be retained to be taken as bycatch in TFN FSC fisheries conducted in August to harvest the TFN allocation for Chinook salmon.

**Timing:** If any inter-First Nation FSC sharing arrangement fisheries are permitted to target Early Stuart Sockeye salmon, TFN expects that its members will be provided an opportunity to harvest some Sockeye salmon during the period when Early Stuart Sockeye salmon are migrating through the TFA. These fisheries would typically start on Friday. The duration and timing of these fisheries will be determined in weekly consultations with DFO, typically on the Wednesday prior.

From 20 July through 7 August 2017 the TFN's proposed Sockeye salmon fishing is 48 hours per week, subject to conservation; and these weekly fisheries will start on Friday at a time that will be determined in weekly consultations with DFO on the Wednesday prior.

From 8 August through 4 September 2017 the TFN's proposed Sockeye salmon fishing is 24 hours per week (subject to conservation), if required to achieve the TFN Sockeye salmon allocation. These weekly fisheries will start on Friday or Saturday at a time that will be determined in weekly consultations with DFO on the Wednesday prior. Note the end dates for Sockeye salmon fisheries depend on the timing of IFR Coho window closures currently scheduled for 5 Sep. to 6 Oct. 2017.

**Gear:** Approved selective fishing methods may be used during any fishing period, if identified on the HD.

Drift nets with a minimum mesh size of 10 cm/4 inches, a maximum length of 50 fathoms, and a maximum depth of 60 meshes may be used.

**Size:** No Sockeye salmon less than 30 cm/12 inches in nose-fork length will be harvested, other than by catch after all efforts have been made to release salmon unharmed have been taken.

Expectation<sup>2</sup>: Based escapement plan options outlined in the final IFMP and the pre-season (50% probability) run size forecast, the (Canadian Total Allowable Catch) CTAC is estimated to be below 3 million Sockeye salmon. Therefore, the expected harvest level for the 2017 TFN FSC Sockeye salmon fisheries will be 13,708 based on a projected Fraser Sockeye TAC of 2,624,000. TFN's commercial allocation for Sockeye salmon is 0.78% of the Canadian Commercial Total Allowable Catch (CCTAC) of Fraser River Sockeye salmon. The harvest level for the 2017 TFN commercial Sockeye salmon fisheries will be determined as soon as the CCTAC has been defined for Fraser River Sockeye salmon. Both the TFN FSC and commercial allocations may change during the fishing season with changes in the returning abundance of Fraser River Sockeye salmon.

### **Pink Salmon**

Conservation: Conservation concerns related to some Late-Summer Fraser Sockeye salmon stocks, Fraser Steelhead, lower Fraser Coho salmon and Interior Fraser Coho salmon could affect the timing and fishing methods permitted for commercial fisheries that target Fraser Pink salmon stocks. No conservation concerns have been raised for the 2017 Pink salmon stocks but the forecast for 2017 is highly uncertain due to changes in the assessment methods for estimating adult returns in recent years. The escapement strategy for Fraser Pink salmon continues to be based on an interim escapement goal of 6M Fraser River Pink salmon.

TFN Fishery: Pink salmon may be harvested for FSC purposes by designated TFN fishers at the times and locations defined in a Tsawwassen HD for fisheries that target Fraser Sockeye salmon. Once the first in-season Canadian Commercial Total Allowable Catch has been determined for Fraser Pink salmon, TFN will be issued licences by DFO for the Tsawwassen commercial allocation for Fraser River Pink salmon, as defined in the TFN Harvest Agreement. TFN will work with DFO to determine the timing, location, and other details, related to TFN commercial harvest opportunities. TFN fishers and the TFN Natural Resource Department staff will endeavor to minimize the encounter rate and harvest for non-target species (i.e. Steelhead, Sturgeon, Lower Fraser Coho salmon, and Interior Fraser Coho salmon).

Timing: TFN harvests of Pink Salmon for FSC purposes will occur during Sockeye salmon FSC fisheries as defined above. TFN commercial harvest of Fraser Pink Salmon will occur between 1 August to 30 September depending on the run timing, harvesting methods, and conservation concerns for other species. The precise timing for these fisheries will be determined in weekly consultations with DFO during this period.

Gear: As defined above for Sockeye salmon, drift nets with a minimum mesh size of 10 cm/4 inches, a maximum length of 50 fathoms, and a maximum depth of 60 meshes may be used.

It is anticipated that beach seines or other approved selective fishing methods will be required to harvest the Tsawwassen commercial allocation for Fraser Pink salmon during the IFR Coho window closure to minimize the impact on non-target species.

---

<sup>2</sup> CTAC and TFN's FSC allocation is based on pre-season estimates (final salmon IFMP) and will continue to change in-season.

- Size:** No Pink salmon less than 30 cm/12 inches in nose-fork length will be harvested other than as bycatch when a mortal wound is obvious.
- Expectation:** Based on the pre-season (50% probability) run size forecast, the expected FSC harvest for 2017 is up to 2,500 Pink salmon as incidental catch in the TFN Sockeye salmon fisheries. TFN's commercial allocation for Pink salmon is 0.78% of the CCTAC of Fraser River Pink salmon. The harvest level for the 2017 TFN commercial Pink salmon fisheries will be determined as soon as the CCTAC has been defined for Fraser River Pink salmon. The TFN commercial allocations may change during the fishing season with changes in the returning abundance of Fraser River Pink salmon.

### **Chum Salmon**

- Conservation:** The expected abundance of Fraser River Chum is expected to be abundant in 2017 (final IFMP). However, conservation concerns related to Fraser Steelhead, Lower Fraser Coho salmon, and Interior Fraser Coho salmon could affect the timing and fishing methods permitted for commercial fisheries that target Fraser Chum salmon stocks. The IFMP defines the decision guidelines for fisheries that target Fraser River Chum salmon stocks. TFN recommends that no commercial fisheries be permitted to harvest Fraser Chum salmon until a TAC has been determined. The first in-season estimate of the return and terminal TAC for Fraser Chum salmon should be available on 15 October 2017.
- TFN Fishery:** Chum salmon may be harvested for FSC purposes by any designated TFN fishers at the times and locations defined in a Tsawwassen HD. Once the first in-season Canadian Commercial Total Allowable Catch has been determined for Fraser Chum salmon, TFN will be issued a HD by DFO for the Tsawwassen commercial allocation for Fraser River Chum salmon, as defined in the TFN Harvest Agreement. TFN will work with DFO to determine the timing, location and other details related to TFN commercial harvest opportunities. TFN fishers and the TFN Natural Resource Department will endeavor to minimize the encounter rate and harvest for non-target species (e.g. Steelhead, Sturgeon, Lower Fraser Coho salmon, Interior Fraser Coho salmon).
- Timing:<sup>3</sup>** From 7 October through 30 November 2017, based on the proposed IFR Coho salmon window closure (5 September – 6 October), TFN's proposed Chum salmon fishery is 24 hours for the first week and 48 hours per week thereafter, and these weekly fisheries will start on Friday or Saturday at a time that will be determined in weekly consultations with DFO on the Wednesday prior.
- If TFN has a commercial Chum salmon allocation in 2017, TFN proposes to use their standard Chum salmon drift nets during similar time periods when Area E and other Fraser First Nations are permitted to conduct commercial fisheries that target Fraser Chum salmon (should they sign Economic Access Agreements with the Department) and to conduct an experimental selective fishery to harvest the portion of their commercial Chum salmon allocation that was not harvested using their standard Chum salmon drift nets. The timing for these commercial fisheries is expected to be in mid-October to mid-November. All fishery time frames are estimates and final dates will be determined according to in-season migration timing information.

---

<sup>3</sup> Timing dates for FSC Chum salmon fisheries based on final salmon IFMP.

- Gear:** Previously approved selective fishing methods may be used during any fishing period, if identified in the HD.
- Drift nets with a minimum mesh size of 15.8 cm/6 ¼ inches, a maximum length of 50 fathoms, and a maximum depth of 60 meshes may be used during the period of approximately 7 October through 30 November 2017. Revival boxes will be present on vessels greater than thirty feet – representing about 19% of TFN’s fleet.
- Size:** No Chum salmon less than 30 cm/12 inches in nose-fork length will be harvested other than as by catch when a mortal wound is obvious.
- Expectation:** TFN Chum salmon allocation for FSC fisheries would be 2,576 Chum salmon assuming Terminal Surplus is greater than 100,000 in 2017.
- TFN’s commercial allocation for Chum salmon is 3.27% of the Terminal Commercial Catch (TCC) of Fraser River Chum salmon. The LFFA has submitted a Commercial Salmon Allocation Framework (CSAF) proposal requesting that the 12.9% of the TCC for Fraser Chum be allocated to Lower Fraser First Nations, including TFN, prior to the fishing season so each First Nation can make the necessary plans for their fisheries. If this is approved by DFO, TFN’s share of the TCC for Fraser Chum could increase. The TCC will be determined in-season (mid-October). The TFN commercial allocations may change during the fishing season with changes in the returning abundance of Fraser River Chum salmon.

### **Coho Salmon**

- Conservation:** Conservation concerns have been identified for Interior Fraser Coho salmon and Lower Fraser Coho salmon. The preliminary outlook for 2017 is for continued low abundance due to low parental escapement and the current generally unfavorable marine conditions. Sustained improvement in marine conditions will be required to improve outlook and rebuild abundance. A formal forecast will be presented in spring 2017. All Fraser Coho stocks are in Outlook Category 1 (Stock of Concern) for 2017. Therefore, regardless of the exploitation rate selected for the 2017 fishing season, First Nations fisheries both off the mouth of, and in, the Fraser River will likely continue be affected to some degree during IFR Coho window closures currently scheduled for 5 September to 6 October 2017.
- TFN Fishery:** Coho salmon may be harvested for FSC purposes, consistent with relevant provisions laid out in the IFMP, by any designated TFN fishers at the times and locations defined in a Tsawwassen HD. TFN fishers and the TFN Fisheries Department will endeavor to minimize the encounter rate and harvest for non-target species (e.g. Sturgeon and Steelhead).
- Timing:<sup>4</sup>** From approximately 7 October through 30 November 2017, TFN may harvest Coho salmon captured in their Chum salmon FSC fisheries up to a pre-determined maximum of 500 pieces. The Department will work with TFN to provide access to Coho salmon in times and areas with minimal impact on stocks of concern, and consistent with the overall 2017 IFR Coho salmon management approach.

---

<sup>4</sup> Timing dates for harvesting FSC Coho salmon are based on final salmon IFMP.

**Gear:** Approved selective fishing methods may be used during any fishing period, if identified in the harvest documents.

Drift nets with a minimum mesh size of 15.8 cm/6 ¼ inches, a maximum length of 50 fathoms, and a maximum depth of 60 meshes may be used during the period of 7 October through 30 November 2017.

**Size:** No Coho salmon less than 30 cm/12 inches in nose-fork length will be harvested other than as by-catch when a mortal wound is obvious.

**Expectation:** As outlined in Appendix J-2 of the TFA, TFN's Coho salmon allocation for FSC fisheries will be **500 Coho salmon** (hatchery- marked or unmarked) in 2017 and will be harvested:

- a. Incidentally in FSC fisheries that target other species; or
- b. Using selective harvesting techniques to capture specific Coho salmon stocks.

If other Fraser River First Nations are permitted to harvest unmarked Coho salmon in non-selective fisheries within the Fraser River, TFN expects the DFO will permit TFN members to harvest a portion of the TFN Coho salmon allocation in non-selective fisheries.

## **Crab**

**Conservation:** The following conservation issues have been identified by DFO:

- There is a concern that undersized, female and soft-shell crab are being removed through either illegal harvests or incidental mortality due to intensive fishing. Due to increased injury and mortality, the capture and handling of undersized, female, and soft-shell crab is a conservation concern.
- Illegal crab trap gear continues to be a conservation concern. Crab traps having undersized, missing, or closed escape rings contribute to higher undersized, female, and soft-shell mortalities. If lost, these traps can continue to fish until they structurally deteriorate or become buried in the substrate.<sup>5</sup>
- All harvesters (Commercial, First Nation, and Recreational) have the same minimum size limit for conservation purposes.
- Commercial and recreational harvesters must release all females regardless of size. Starting in April 2017, following discussions and agreement between Tsawwassen First Nation and DFO, Tsawwassen First Nation crab harvesters will be required to release all female crabs. Mandatory release of female crabs will be included as a condition in the harvest document.
- Crab harvesting during "soft shell" periods is not authorized for commercial harvesters for conservation reasons. Crabs with soft shells are susceptible to significant mortality during the fishing and handling process required for release of female and undersized crabs. At this time First Nation harvesting for domestic

---

<sup>5</sup> Integrated Fisheries Management Plan, Crab by trap 2017

purposes is allowed during the commercial closed period for soft shell (December to mid-June in Areas 28 and 29, and December to mid-July in Boundary Bay).

- It is recommended that TFN crab harvesters reduce fishing effort during the soft-shell period to reduce mortalities of undersized crabs. In Areas 28 and 29, the soft-shell or moulting period is from April to mid-June (May to mid-July in Boundary Bay).

**TFN Fishery:** Crab may be harvested for FSC purposes by any designated TFN fisher at the times and locations defined in a Tsawwassen Harvest Document. TFN fishers and the TFN Fisheries Department will endeavor to minimize the encounter rate and harvest for non-target species. TFN has communal commercial access to crab, however the commercial fishery is subject to separate licence conditions and is not discussed in this document.

**Timing:** From 1 April 2017 through 31 March 2018, 24 hours per day, every day.

**Location:** The fishing area listed in the harvest document is as follows: The waters of the Strait of Georgia bounded by a line commencing at 49° 11' 3.1524" N latitude and 123° 12' 26.08868" W longitude then to 49° 7' 48.216" N latitude and 123°19' 50.4228" W longitude then to 49° 5' 15.6948" N latitude and 123° 18' 36.8958" W longitude then to 49° 0' 8.0028" N latitude and 123° 18' 5.1156" W longitude then to 49°0' 7.5564" N latitude and 123° 5' 27.528" W longitude and the waters of Boundary Bay bounded by a line commencing at 49° 0' 7.5198" N latitude and 123° 2' 6.5898" W longitude then to 49° 0' 7.5414" N latitude and 122° 49' 10.8552" W longitude then to 49° 1' 15.2256" N latitude and 122° 48' 20.7858" W longitude. Portions of DFO Management Subareas 29-6, 29-7, 29-8, 29-9, 29-10.

As noted in the Tsawwassen FOG document, crab buoys are not permitted in the portion of the TFA defined as the "Navigational No Float Zone". TFN fishers are permitted to fish for crab in this zone, but any buoys associated with crab traps must remain outside this zone.

**Gear:** Each TFN vessel may use up to a maximum of 50 traps to harvest crab for FSC purposes. The following requirements apply to all traps used to catch crabs:

- Biodegradable escapement mechanisms are required on each trap in the form of a rot cord (untreated cotton twine no greater than No. 120), rot panel or rot panel alternative. These mechanisms are designed to minimize the effects of ghost fishing by traps.

All crab traps must be fitted with at least two escape holes (at least 105 mm in diameter) that are not more than 100 mm below the top of the frame.

- Unique plastic trap tags will be applied to each TFN each crab trap used in the FSC fishery to facilitate the identification of TFN traps and enforcement of fisheries regulations. Each harvester will also receive 10 extra tags in case they lose some of the 50 tags that can be fished per vessel. The trap tags will be replaced on an annual basis.
- The plastic trap tags that will be used in 2017 will actually read "2016" on the tags. This is because of delays in distributing the tags and to prevent wastage.

- If a harvester loses 10 or more plastic trap tags, the harvester should contact the AFO to obtain a replacement set of trap tags (marked specifically as replacement tags). The regular tags must be removed from the traps, returned to the AFO, and replaced with the new replacement set.
- Starting in April 2017, TFN will provide DFO with a list of the plastic trap tag numbers that have been distributed to which harvesters, as well as the vessels designated to fish crab. The list will be updated as needed, for example when additional harvesters request crab tags, when new vessels enter the fishery, when harvesters receive replacement tags, or when new tags are issued each year. Updated lists will be sent to DFO as they are updated or on a monthly basis.
- Traps set individually will attach a floating buoy legibly marked with Tsawwassen First Nation, participant's name and the identification number for the vessel used. Multiple traps set in a string will have a floating buoy legibly marked with Tsawwassen First Nation, participant's name and the identification number for the vessel used attached to both ends of each string. The floats must be large enough so that they will not go underwater with tide or current changes.

**Size:** The minimum size for Dungeness crab is 16.5 cm/6.5 inches and for Red Rock Crab are 11.5 cm/4.5 inches, both measured in a straight line across the widest part of the carapace, or shell. All crab less than the minimum size limit shall be immediately released to the area of capture.

### **Intertidal Bivalves**

**Conservation:** No conservation concerns have been identified for intertidal bivalves in the Tsawwassen Intertidal Bivalve Fishing Area.

**TFN Fishery:** TFN currently does not have a harvest document for bivalves, but is working with Federal and Provincial government agencies, the Canadian Shellfish Sanitation Program (CSSP) and South Coast First Nations to establish harvesting locations within the Tsawwassen Intertidal Bivalve Harvest Area (Southern Gulf Islands). Once locations have been determined and South Coast First Nations have been contacted, intertidal bivalves may be harvested for FSC purposes by any designated TFN fishers at the times and locations defined in a Tsawwassen Harvest Document.

**Timing:** To be determined.

**Location:** As described in the Tsawwassen FOG document:

- Where the Tsawwassen Intertidal Bivalve Fishing Area overlaps with a National Park Reserve or a National Marine Conservation Area, terms and conditions governing harvest will be developed following consultations with Parks Canada.

### **Sanitary and Biotxin Closures:**

- Collection of bivalves from areas in closed status for sanitary contamination under the Management of Contaminated Fisheries Regulations is not authorized. All clam harvesters are advised to check for both bivalve shellfish biotoxin (PSP/Redtide, ASP, DSP) sanitary (emergency, annual, seasonal) contamination



closures, prior to any harvest or consumption. Information on in-season closures due to biotoxins and on annual sanitary (human and animal waste) contamination closures is available at local DFO offices, by calling the toll-free information line at 1-866-431-3474, or on the Internet at [www.pac.dfo-mpo.gc.ca/psp](http://www.pac.dfo-mpo.gc.ca/psp).

**Gear:** TFN members propose to use typical hand pick harvesting techniques (shoves, rakes, and buckets) to harvest intertidal bivalves for FSC purposes.

**Size:** There are currently no size restrictions for FSC harvests of intertidal bivalves.

### **Shrimp and Prawns**

**Conservation:** No conservation concerns have been identified for shrimp and prawns in the TFA.

**TFN Fishery:** TFN currently does not hold a harvest document for Shrimp and Prawns. Upon request by TFN, shrimp and prawns may be harvested for FSC purposes by any designated TFN fishers at the times and locations defined in a Tsawwassen Harvest Document. TFN fishers and the TFN Fisheries Department will endeavor to minimize the encounter rate and harvest for non-target species.

**Timing:** From a date that is established in a Tsawwassen Harvest Document through 31 March 2018, 24 hours per day, everyday.

**Location:** As noted in the Tsawwassen FOG document, buoys are not permitted in the portion of the TFA defined as the “Navigational No Float Zone”. As indicated for crab, when a harvest document for shrimp and prawns is issued, TFN fishers will be permitted to fish for shrimp and prawns in this zone, but buoys for their shrimp and prawn traps must remain outside this zone.

**Gear:** TFN fishers propose to use standard shrimp and prawn traps to harvest shrimp and prawns for FSC purposes. Number of traps will be determined.

**Size:** There are currently no size restrictions for FSC shrimp and prawn harvests.

### **Rockfish, Lingcod, Halibut, Dogfish, and Sole**

**Conservation:** Monitoring and research programs have indicated that inshore Rockfish stocks (Yelloweye, Quillback, Copper, China and Tiger) and Lingcod in the Strait of Georgia are at low levels of abundance. The management objective for inshore rockfish species (which include Yelloweye, Quillback, Copper, China and Tiger) is to continue conservation strategies that will ensure stock rebuilding over time. However, at this time, FSC fishing for Rockfish and Lingcod will continue to be permitted. There are currently no conservation concerns for Halibut, Dogfish or Sole in the TFN fishing area.”

**TFN Fishery:** Rockfish, lingcod, halibut, dogfish, sablefish and flatfish may be harvested for FSC purposes by any designated TFN fishers at the times and locations defined in a Tsawwassen Harvest Document. TFN fishers and the Tsawwassen Natural Resource Department will endeavor to minimize the encounter rate and harvest for non-target species.

**Timing:** From 1 April 2017 through 31 March 2018, 24 hours per day, every day.

- Gear:** TFN members will use long line gear and rod and reel to harvest Rockfish, Lingcod, Halibut, Dogfish, and Sole for FSC purposes.
- Size:** There are currently no size restrictions for FSC harvests of Rockfish, Lingcod, Halibut, Dogfish, and Sole.
- Expectation:** Fisheries and Oceans Canada has been asked to provide information on the status of groundfish species found in the TFA and any closures for groundfish species in the TFA.

**APPENDIX B**  
**Examples of Harvest Documents**





Licence Number: XHD 20 2017

File Number: LFA-17-HD 435/TSAWWASSEN

Valid From: 26-Jun-2017

Expiry Date: 27-Jun-2017

This licence and/or permit is issued under the authority of SECTION 4 OF THE ABORIGINAL COMMUNAL FISHING LICENCES REGULATIONS.

This licence and/or permit authorizes the person(s) listed below, subject to the following terms and conditions, to collect the species and quantity of fish identified below for: Food, Social, and Ceremonial purposes. Non-compliance with any condition of this licence and/or permit may result in the cancellation of this licence and/or permit.

---

**Licence/Permit Activity Description:**

HARVEST DOCUMENT FOR TSAWWASSEN FIRST NATION FOR SALMON

Whereas a final agreement with Tsawwassen First Nation is now in effect;

And whereas the final agreement describes a fishing right and provides for the issuance of harvest documents for the fishing right.

And whereas, under the final agreement, a harvest document may be, among other things, a licence or other document, or amendment thereto, issued by the Minister under Federal Law or Provincial Law in respect of the fishing right;

Now therefore, this harvest document is issued under the authority of section 7 of the Fisheries Act and section 4 of the Aboriginal Communal Fishing Licences Regulations.

This harvest document is issued to Tsawwassen First Nation in accordance with the final agreement and confers, subject to the Fisheries Act and regulations thereunder, the authority to fish for the following purposes: Food, Social and Ceremonial.

---

**Period of Activity:**

Subject to amendments to the conditions of this harvest document and subject to close times as may be varied by the Director General, Pacific Region, DFO in accordance with the Fishery (General) Regulations, species of fish set out in this harvest document may be harvested under this licence. Subject to closures and other terms and conditions of this licence, the authority to fish under this licence will expire on June 27, 2017 or earlier if DFO, after consultation with Tsawwassen First Nation has determined there is a conservation concern.

---

**Licence Holder:**

FIN: 108234

TSAWWASSEN FIRST NATION

---

**Allowable Fishing Times:**

Fishing periods defined for a species supersede all periods defined in this section.

**Start:** Monday, June 26, 2017 at 16:00

**End:** Tuesday, June 27, 2017 at 16:00

---

**Species, Quantity of Fish, Area(s) and Gear:**

**Species:** CHINOOK SALMON (*Oncorhynchus tshawytscha*)

**Allowable** Start: Monday, June 26, 2017 at 16:00

**Fishing** End: Tuesday, June 27, 2017 at 16:00

**Times:**

**Gear:** Gillnet, Drift

Gillnet, Set, Anchored

**Licence Area:** TSAWWASSEN TREATY FISHING AREA



---

**Additional Information:**

Additional Information: Drift Nets on condition that:

- i. Nets do not exceed a maximum of 50 fathoms or 300 feet in length and a maximum depth of 60 meshes with a minimum mesh size of eight(8) inches with a maximum 3:1 hang ratio.
- ii. Each Participant fishes only one net,
- iii. Only one net is fished from any vessel,
- iv. Each net is attended at all times by the Participant who is fishing the net.
- v. No vessel fishing under the authority of this harvest document has on board, in a hung condition, any net that does not meet the conditions in (i) above, and
- vi. Spare nets on board a vessel actively fishing are kept in a stowed condition.

Set Nets on condition that:

- i. Nets do not exceed a maximum of 10 fathoms or 60 feet and a maximum depth of 60 meshes with a minimum mesh size of eight(8) inches with a maximum 3:1 hang ratio,
- ii. All Set Nets are identified by a floating buoy prominently displaying the Participant's designation number, and the Participant's designation number is the only number displayed on the buoy, and.
- iii. All Set Nets fished from poles have buoys attached to the end of the net farthest from the beach by means of a tag line of sufficient length to allow the buoys to be on the surface of the water and clearly visible for inspection at all times.

AREA: Fishing is permitted in the following area: Those waters of the main arm of the Fraser River westerly of the power lines immediately downstream of the Port Mann Bridge, the waters of the North Arm of the Fraser River from the junction of the main arm downstream to the Arthur Laing Bridge, the waters of the Middle arm of the Fraser River, the waters of the Strait of Georgia bounded by a line commencing at 49° 11' 3.1524" N latitude and 123° 12' 26.08868" W longitude then to 49° 7' 48.216" N latitude and 123° 19' 50.4228" W longitude then to 49° 5' 15.6948" N latitude and 123° 18' 36.8958" W longitude then to 49° 0' 8.0028" N latitude and 123° 18' 5.1156" W longitude then to 49° 0' 7.5564" N latitude and 123° 5' 27.528" W longitude and the waters of Boundary Bay bounded by a line commencing at 49° 0' 7.5198" N latitude and 123° 2' 6.5898" W longitude then to 49° 0' 7.5414" N latitude and 122° 49' 10.8552" W longitude then to 49° 1' 15.2256" N latitude and 122° 48' 20.7858" W longitude. Portions of DFO Management Sub-areas 29-6, 29-7, 29-8, 29-9, 29-10, 29-11, 29-12, 29-13, 29-14, 29-17.

---

**Terms and Conditions:**

**Definitions**

"Drift Net" means a gillnet free floating in the water, not attached in any manner to the shore, operated from a boat.

"DFO" means the Department of Fisheries and Oceans.

"Fishery" means fishing under the authority of this harvest document.

"Identification Number" in respect of a vessel means

(a) in the case of a registered commercial fishing vessel, the vessel registration number, and

(b) in the case of a vessel that is not a registered commercial fishing vessel, the number of the vessel identification decal issued by Tsawwassen First Nation.

"Observer" means an observer designated under section 39 of the Fishery (General) Regulations.

"Participant" means an individual carrying on fishing or any related activity, including transporting fish caught under the authority of this harvest document.

"Set Net" means a gillnet that is either tied to shore at one end and anchored in the river at the other end, or anchored in the river at both ends, or tied to the shore at one end and tied to a net pole at the other end.



Licence Number: XHD 20 2017

File Number: LFA-17-HD 435/TSAWWASSEN

Valid From: 26-Jun-2017

Expiry Date: 27-Jun-2017

“TFN” means Tsawwassen First Nation

“TFD” means Tsawwassen Fishing Department located at 1926 Tsawwassen Drive, V4M 4G2 604-943-2112.

### **Species and Quantity**

The Fishery is limited to a harvest of Chinook salmon and an incidental harvest of sockeye salmon.

All efforts and attempts shall be made to return all non-target species including steelhead and sturgeon alive and unharmed.

Steelhead and Sturgeon must not be retained.

### **Use of Fish**

Fish caught under this licence are for food, social and ceremonial purposes. Without prejudice to future agreements or regulations, sale of Fish caught under this licence is **not** permitted.

### **Designation of Individuals and Vessels**

Tsawwassen First Nation may not designate individuals who are not Tsawwassen Members to harvest salmon.

Where Tsawwassen First Nation designates an individual; a Tsawwassen fishing licence will be issued. An individual fishing under this harvest document must carry their Tsawwassen fishing licence at all times while participating in the Fishery or while transporting fish harvested in the Fishery and must present it to any DFO Fishery Officer, DFO Fishery Guardian or Aboriginal Fishery Officer upon request.

A vessel used in the Fishery must be identified by affixing a vessel identification decal issued by Tsawwassen First Nation. The decal must be affixed to the vessel so that the decal is legible and unobstructed when viewed from another vessel or from shore. Where the vessel is not a registered commercial vessel, the decal must be uniquely numbered. Where the vessel is a registered commercial vessel, the decal must not be numbered.

Prior to each fishing period, the Tsawwassen First Nation will provide to DFO a list of Tsawwassen First Nation members and vessels designated to fish under this Harvest Document and, in the case of a vessel, the vessel's Identity Number, and will immediately inform DFO of any changes to the list.

### **Catch Monitoring and Harvest Reporting**

#### **1.1 Participant and Interview Data**

Participants are required to notify the TFD of their intentions to harvest fish prior to their participation in each fishing period and report their catch and fishing effort information to the TFD after completion of each fishing period. These notifications and reports can be provided by phone to the TFD or by interview to an on-duty member of the TFN catch monitoring crew. Interviewers will record Salmon catch and effort information on the “TFN Salmon Fisheries Interview Data Form”.

#### **1.2 Daily Fishing Logs**

Each Participant will maintain a daily fishing log using the “TFN Salmon Fisheries Log Data Form”. Upon completion of each fishing period, each Participant will submit logs to monitors at landing sites or directly to the TFD office.

#### **1.3 Validation**

TFN will conduct on-water catch monitoring surveys or TFN fisheries officer patrols at least once every day during fishing period and, will record vessels participating in the Fishery. TFN will compare these records with the list of vessels designated to fish under this harvest document, will observe catches and compare it with catch reported orally



Licence Number: XHD 20 2017

File Number: LFA-17-HD 435/TSAWWASSEN

Valid From: 26-Jun-2017

Expiry Date: 27-Jun-2017

to the TFD or recorded in daily logs.

Catch per vessel data will be verified through a random and representative sampling of a percentage of vessel landings by TFN shore based monitors. Efforts should be made to provide a representative sample of the various vessel types, fishing locations and gear observed in the Fishery in these validation activities. During landing validation TFN monitors will interview the Participants to obtain hours fished, number and species of Salmon and other species retained and released and perform a count the vessel's catch. The percentage of vessels needing validation will vary dependent on the type of fishery and will be discussed at joint technical committee meetings or in season as needed but it is proposed that coverage should be in the range of 20%.

#### **1.4 Reporting**

Within 24 hours of the close of a fishing period, TFN will provide a preliminary catch report to DFO, including the names and the Vessel Identification Numbers that participated in the Fishery, the gear used, hours fished, status of the report (final or preliminary), number and species of Salmon and other species retained, and number and species of Salmon and other species released. Along with reported catch information, TFN will submit a report of validations conducted during the opening, including Vessel Identification Numbers, gear type, hours fished, number and species of Salmon and other species kept and number and species of Salmon and other species released. TFN will contact Participants who did not report after the Fishing period to determine whether they did participate, and if so, collect the requisite information. The preliminary catch report will be finalized within 48 hours of the close of the Fishing period.

#### **Compliance with the Fisheries Act**

Pursuant to subsection 22(6) of the Fishery (General) Regulations, compliance with the Fisheries Act and the regulations made under the Act is a condition of this licence.

---

Licence Issued: 26 June 2017

Licence Printed: 26 June 2017

Licence Issued By: BRIAN MATTS, Fisheries and Oceans Canada





Licence Number: XFSC 625 2016

File Number: LFA-17-HD 402/TSAWWASSEN

Valid From: 01-Jan-2017

Expiry Date: 31-Mar-2017

## HARVEST DOCUMENT FOR TSAWWASSEN FIRST NATION FOR CRAB

Whereas a final agreement with Tsawwassen First Nation is now in effect;

And whereas the final agreement describes a fishing right and provides for the issuance of harvest documents for the fishing right.

And whereas, under the final agreement, a harvest document may be, among other things, a licence or other document, or amendment thereto, issued by the Minister under Federal Law or Provincial Law in respect of the fishing right;

Now therefore, this harvest document is issued under the authority of section 7 of the Fisheries Act and section 4 of the Aboriginal Communal Fishing Licences Regulations.

This harvest document is issued to Tsawwassen First Nation in accordance with the final agreement and confers, subject to the Fisheries Act and regulations thereunder, the authority to fish for the following purposes: Food, Social and Ceremonial.

---

### Period of Activity:

Subject to amendments to the conditions of this harvest document and subject to close times as may be varied by the Director General, Pacific Region, DFO in accordance with the Fishery (General) Regulations, species of fish set out in this licence may be harvested under this licence. Subject to closures and other terms and conditions of this licence, the authority to fish under this licence will expire on March 31, 2017 or earlier if DFO, after consultation with the First Nation has determined that the maximum quantity has been reached.

---

### Licence Holder:

FIN: 108234

1926 Tsawwassen Drive  
Tsawwassen BC V4M 4G2

Tsawwassen First Nation

Contact Number: 604-943-4199

Fax Number: 604-943-9226

---

### Allowable Fishing Times:

Fishing periods defined for a species supersede all periods defined in this section.

**Start:** Sunday, January 1, 2017 at 00:01

**End:** Friday, March 31, 2017 at 23:59

#### Details:

---

### Individuals or groups assisting with the authorized activity:

Tsawwassen First Nation may not designate individuals who are not Tsawwassen Members to harvest crab.

Where Tsawwassen First Nation designates an individual, a Tsawwassen fishing licence will be issued. The Tsawwassen fishing licence must be carried at all times while participating in the Fishery or while transporting fish harvested in the Fishery and must be presented to any DFO Fishery Officer, DFO Fishery Guardian or Aboriginal Fishery Officer upon request.

A vessel used in the Fishery must be identified by affixing a vessel identification decal issued by Tsawwassen First Nation. The decal must be affixed to the vessel so that the decal is legible and unobstructed when viewed from another vessel or from shore. Where the vessel is not a registered commercial vessel, the decal must be uniquely numbered. Where the vessel is a registered commercial vessel, the decal must not be numbered.

Before the Fishery commences, Tsawwassen First Nation will provide to DFO a list of Tsawwassen First Nation members and vessels designated to fish under this Harvest Document and, in the case of a vessel, the vessel's Identity



Number, and will immediately inform DFO of any changes to the list.

---

**Species, Quantity of Fish, Area(s) and Gear:**

**Species:** DUNGENESS CRAB (*Cancer magister*)  
**Allowable Fishing Times:** Start: Sunday, January 1, 2017 at 00:01  
End: Friday, March 31, 2017 at 23:59  
Details:  
**Gear:** Hand Picking  
Net, Ring  
Trap, Crab  
**Licence Area:** Lower Fraser: See Additional Description

---

**Species:** GRACEFUL CRAB (*Cancer gracilis*)  
**Allowable Fishing Times:** Start: Sunday, January 1, 2017 at 00:01  
End: Friday, March 31, 2017 at 23:59  
Details:  
**Gear:** Hand Picking  
Net, Ring  
Trap, Crab  
**Licence Area:** See Additional Description

---

**Species:** RED ROCK CRAB (*Cancer productus*)  
**Allowable Fishing Times:** Start: Sunday, January 1, 2017 at 00:01  
End: Friday, March 31, 2017 at 23:59  
Details:  
**Gear:** Hand Picking  
Net, Ring  
Trap, Crab  
**Licence Area:** See Additional Description  
**Additional Descriptions:** **Fishing is permitted in the following area(s):**  
The waters of the Strait of Georgia bounded by a line commencing at 49° 11' 3.1524" N latitude and 123° 12' 26.08868" W longitude then to 49° 7' 48.216" N latitude and 123° 19' 50.4228" W longitude then to 49° 5' 15.6948" N latitude and 123° 18' 36.8958" W longitude then to 49° 0' 8.0028" N latitude and 123° 18' 5.1156" W longitude then to 49° 0' 7.5564" N latitude and 123° 5' 27.528" W longitude and the waters of Boundary Bay bounded by a line commencing at 49° 0' 7.5198" N latitude and 123° 2' 6.5898" W longitude then to 49° 0' 7.5414" N latitude and 122° 49' 10.8552" W longitude then to 49° 1' 15.2256" N latitude and 122° 48' 20.7858" W longitude. Portions of DFO Management Subareas 29-6, 29-7, 29-8, 29-9, 29-10.

**Species and Quantity:**

The Fishery is limited to a harvest of: Dungeness Crab, Graceful Crab and Red Rock Crab. The minimum size for Dungeness Crab is 165 mm and for Red Rock Crab is



Licence Number: XFSC 625 2016

File Number: LFA-17-HD 402/TSAWWASSEN

Valid From: 01-Jan-2017

Expiry Date: 31-Mar-2017

115 mm, both measured in a straight line across the widest part of the carapace, or shell. All crab less than the minimum size limit shall be immediately released to the area of capture. Fishers are encouraged to immediately release all female crabs to the area of capture in a manner that causes least harm.

**The following gear is permitted to be used:**

Hand-picking, Dip Net, Ring Net, and Traps, on condition that:

(i) Traps set individually each have attached a floating buoy legibly marked with the name of the First Nation and Participant and with the Identification Number for the vessel used; and multiple traps set in a string have a floating buoy legibly marked with the name of the First Nation and Participant and with the Identification Number for the vessel used attached to both ends of each string.

(ii) All buoy lines must be of a non-floating material so that the lines remain below the surface of the water while fishing, in order to minimize navigational hazards.

(iii) All crab traps must be fitted with at least one escape hole (ring) that is at least 100mm in diameter and that is not more than 100 mm below the top of the frame.

(iv) All traps have a section in the top or side that has been secured by a length of untreated cotton twine no greater than No. 120. On deterioration this must produce a rectangular opening with a minimum size of 7 cm x 20 cm, or a square opening with a minimum size of 11 cm x 11 cm.

(v) A maximum of 50 traps may be fished per vessel.

(vi) Each trap shall have a plastic trap tag attached to it. Each fisherman is issued 50 trap tags and 10 extra trap tags (in case some traps are lost). All submerged fishing gear must have a float of sufficient size such that it will not submerge with tidal or current change. Floating buoys must remain at all times outside of the Navigational No Float Zone shown on the map in Schedule A to this harvest document. Any floating buoys placed in the Navigational No Float Zone are subject to removal under authority of the Navigable Waters Protection Act.

---

**Additional Information:**

**Soft-Shell Periods**

Fishers are reminded that there is increased mortality during the crab soft-shell periods and are encouraged to carry out their fishing activity, as much as possible, during other time periods. The crab soft-shell periods are April to mid-June in the Fraser River estuary and May to mid-July in Boundary Bay.

**Commercial Fishing Vessels**

Any commercial fishing vessels participating in the Tsawwassen FSC crab fishery must be available for inspection prior to engaging in the Area I commercial fishery.

No fish harvested under the authority of this licence may be on board a vessel engaged in commercial fishing operations.

Commercial and FSC crab fishing trips must be conducted separately.

---

**Terms and Conditions:**



Licence Number: XFSC 625 2016

File Number: LFA-17-HD 402/TSAWWASSEN

Valid From: 01-Jan-2017

Expiry Date: 31-Mar-2017

## **Definitions**

“DFO” means the Department of Fisheries and Oceans.

“First Nation” means the Tsawwassen First Nation.

“Fishery” means fishing under the authority of this harvest document.

“Identification Number” in respect of a vessel means

(a) in the case of a registered commercial fishing vessel, the vessel registration number, and

(b) in the case of a vessel that is not a registered commercial fishing vessel, the number of the vessel identification decal issue by Tsawwassen First Nation.

“Observer” means an observer designated under section 39 of the Fishery (General) Regulations.

“Participant” means an individual carrying on fishing or any related activity, including transporting fish caught, under the authority of this harvest document.

## **Use of Fish**

Fish caught under this licence are for food, social and ceremonial purposes. Without prejudice to future agreements or regulations, sale of Fish caught under this licence is **not** permitted.

## **Catch Monitoring and Harvest Reporting**

Participants will notify the Tsawwassen fisheries department before they initiate fishing efforts and will report their catch and fishing effort information after each fishing trip. These notifications and reports may be reported directly to the Tsawwassen fishing department or by interview to an on-duty member of the Tsawwassen fisheries department catch monitoring crew. The Tsawwassen fisheries department will record catch and effort information on the “TFN Crab Fishery Interview Data Form”.

Within 72 hours of the end of each month, Tsawwassen First Nation will provide DFO with a list of all Participants and vessels that participated in the Fishery and a preliminary estimate of the total catch by species for that month.

Each Participant will maintain a daily fishing log for crab fishing efforts using the “TFN Crab Fisheries Log Data Form”.

## **Validation**

Tsawwassen First Nation will conduct on-water catch monitoring surveys or Tsawwassen First Nation’s fisheries officer patrols at random intervals during the Fishery and will record Fishery participants and observe catches for comparison with reported list of Fishery participants and the catch reported in daily logs. Tsawwassen First Nation will conduct interviews, after completed fishing trips of fishers to obtain data that to validate the information recorded in the harvest logs.

## **Reporting**

Within 72 hours of the end of each month, Tsawwassen First Nation will provide to Karen Burnett, DFO Management Biologist (telephone: 604 666-4819, fax:604-666-7112) a summary table showing the number of Participants interviewed after a fishing trip, the catch and effort observed and the catch and effort reported directly to Tsawwassen fisheries department and recorded in the daily fishing logs.

## **Compliance with the Fisheries Act**

Pursuant to subsection 22(6) of the Fishery (General) Regulations, compliance with the Fisheries Act and the regulations made under the Act is a condition of this licence.



Licence Number: XFSC 625 2016  
File Number: LFA-17-HD 402/TSAWWASSEN  
Valid From: 01-Jan-2017  
Expiry Date: 31-Mar-2017

---

---

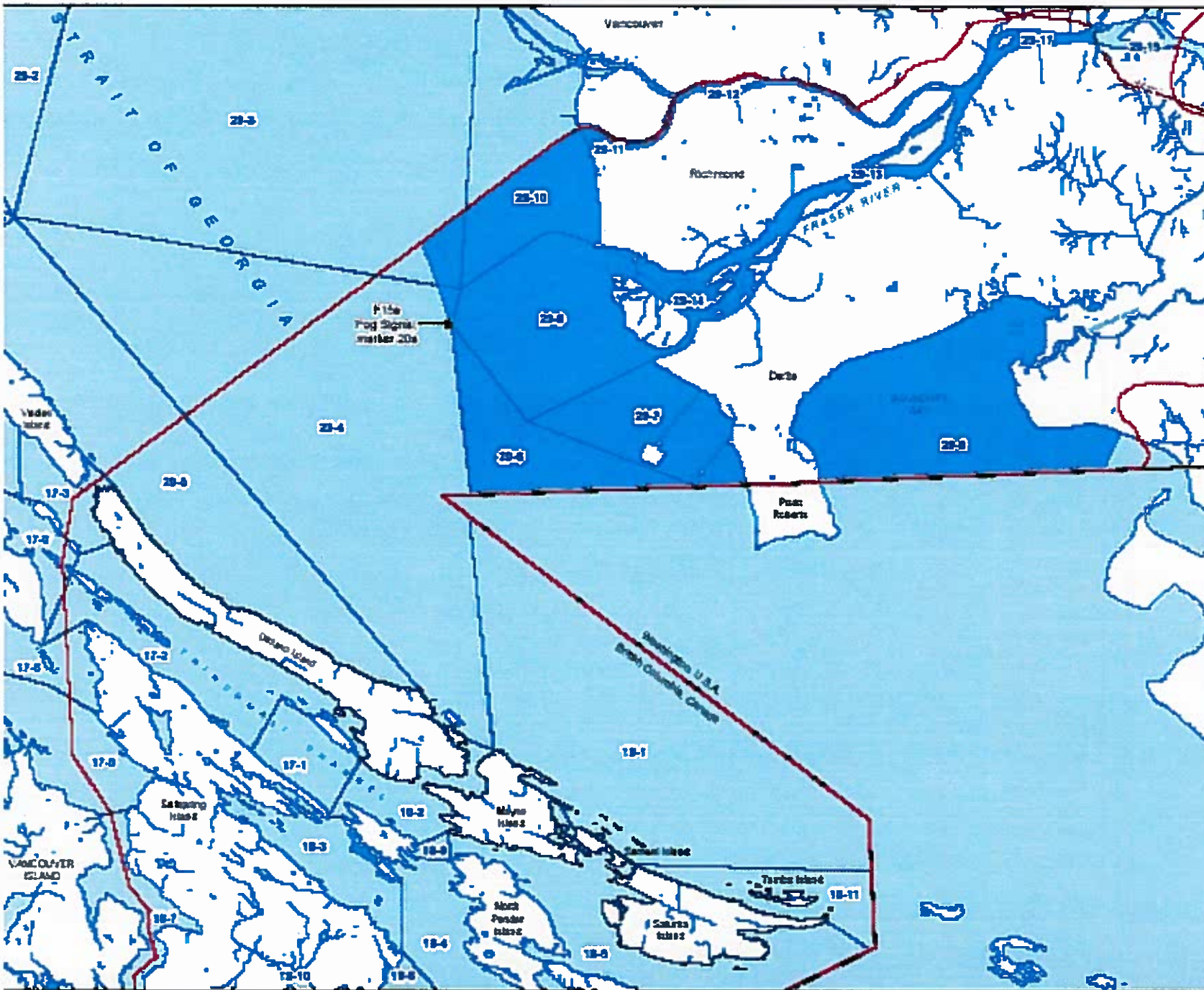
Issued by: Brian Matts, Resource Manager  
Fisheries and Oceans Canada

Date

Licence Issued: 29 December 2016

Licence Printed: 29 December 2016

# Appendix J-1: Tsawwassen Fishing Area and Tsawwassen Intertidal Bivalve Fishing Area

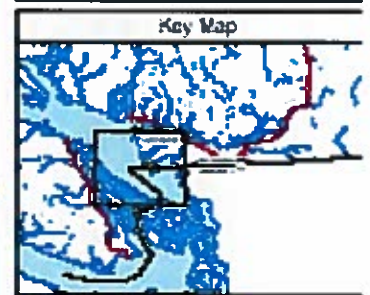


**Legend**

- Tsawwassen fishing Area
- Tsawwassen Intertidal Bivalve Area
- Tsawwassen Territory
- DFO Sub-area
- Water Body
- Watercourse
- Highway 1

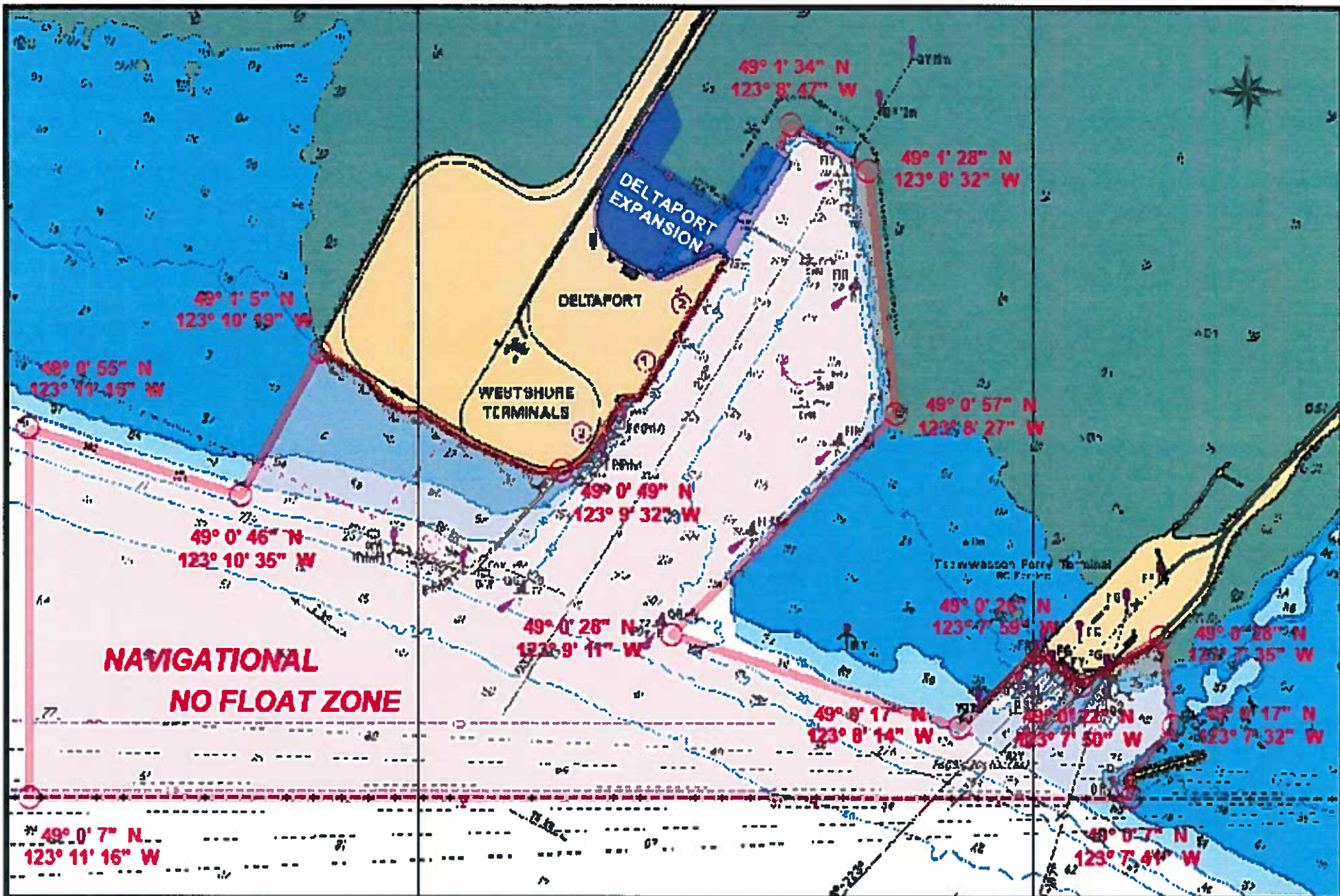
THE OFFICIAL VERSION OF THIS MAP IS HELD BY DFO/CFR AND THE TERRITORIES OF CANADA AND THE PROVINCES OF BRITISH COLUMBIA. THIS MAP IS FOR ILLUSTRATIVE PURPOSES ONLY.

0 5 10  
Kilometers

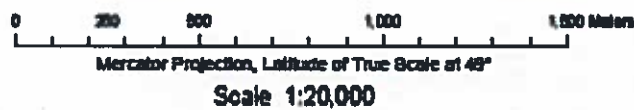


Produced November 22, 2005  
Data map derived from 1:25,000 TFSW data

**Tsawwassen First Nation**



**ROBERTS BANK**  
**NAVIGATIONAL NO FLOAT ZONE**  
**FIRST NATIONS**



- Deltaport Expansion
- No Crab Fishing

Map created on October 10, 2008.



Licence Number: XHD 3 2017

File Number: LFA-17-HD-LP 400/TSAWWASSEN

Valid From: 01-Apr-2017

Expiry Date: 02-Apr-2017

## HARVEST DOCUMENT FOR TSAWWASSEN FIRST NATION FOR EULACHON

Whereas a final agreement with Tsawwassen First Nation is now in effect;

And whereas the final agreement describes a fishing right and provides for the issuance of harvest documents for the fishing right.

And whereas, under the final agreement, a harvest document may be, among other things, a licence or other document, or amendment thereto, issued by the Minister under Federal Law or Provincial Law in respect of the fishing right;

Now therefore, this harvest document is issued under the authority of section 7 of the Fisheries Act and section 4 of the Aboriginal Communal Fishing Licences Regulations.

This harvest document is issued to Tsawwassen First Nation in accordance with the final agreement and confers, subject to the Fisheries Act and regulations thereunder, the authority to fish for the following purposes: Food, Social and Ceremonial.

---

### Period of Activity:

Subject to amendments to the conditions of this harvest document and subject to close times as may be varied by the Director General, Pacific Region, DFO in accordance with the Fishery (General) Regulations, species of fish set out in this harvest document may be harvested under this licence. Subject to closures and other terms and conditions of this licence, the authority to fish under this licence will expire on Sunday, April 2, 2017 or earlier if DFO, after consultation with Tsawwassen First Nation has determined there is a conservation concern.

---

### Licence Holder:

FIN: 108234

TSAWWASSEN FIRST NATION

---

### Allowable Fishing Times:

Fishing periods defined for a species supersede all periods defined in this section.

**Start Date:** Saturday, April 1, 2017

**End Date:** Sunday, April 2, 2017

**Times:** 16:00 - 21:00 daily

---

### Individuals or groups assisting with the authorized activity:

TFN has designated the following individuals to participate in this fishery:

#### **Nathan Wilson- M/V 'Ravenlyn 102 B'**

Designations are personal and non-transferable. Participants who fish under this licence shall carry their Designation or Band Card to establish their membership in the First Nation while participating in the Fishery and while transporting fish harvested in the Fishery and will present such documentation on request by any fishery officer or fishery guardian.

---

### Species, Quantity of Fish, Area(s) and Gear:

**Species:** EULACHON (*Thaleichthys pacificus*)





Licence Number: XHD 3 2017

File Number: LFA-17-HD-LP 400/TSAWWASSEN

Valid From: 01-Apr-2017

Expiry Date: 02-Apr-2017

**Allowable** Start Date: Saturday, April 1, 2017  
**Fishing** End Date: Sunday, April 2, 2017  
**Times:** Times: 16:00 - 21:00 daily  
**Gear:** Gillnet (unspecified)  
**Licence Area:** TSAWWASSEN TREATY FISHING AREA  
**To be** 485 Pounds  
**Retained:**

---

### Additional Information:

Drift Nets on condition that:

- i. Each Participant may fish using one drift net.
- ii. Drift nets shall be no more than one hundred (100) metres in length and shall have a mesh size of no less than twenty-five (25) millimetres and no greater than fifty (50) millimetres.
- iii. This fishery will be monitored by TFN Enforcement staff.

### AREA:

Drift fishing is permitted in the following area: Those waters of the main arm of the Fraser River westerly of the power lines immediately downstream of the Port Mann Bridge, the waters of the North Arm of the Fraser River from the junction of the main arm downstream to the Arthur Laing Bridge, the waters of the Middle arm of the Fraser River, the waters of the Strait of Georgia bounded by a line commencing at 49° 11' 3.1524" N latitude and 123° 12' 26.08868" W longitude then to 49° 7' 48.216" N latitude and 123° 19' 50.4228" W longitude then to 49° 5' 15.6948" N latitude and 123° 18' 36.8958" W longitude then to 49° 0' 8.0028" N latitude and 123° 18' 5.1156" W longitude then to 49° 0' 7.5564" N latitude and 123° 5' 27.528" W longitude and the waters of Boundary Bay bounded by a line commencing at 49° 0' 7.5198" N latitude and 123° 2' 6.5898" W longitude then to 49° 0' 7.5414" N latitude and 122° 49' 10.8552" W longitude then to 49° 1' 15.2256" N latitude and 122° 48' 20.7858" W longitude. Portions of DFO Management Sub-areas 29-6, 29-7, 29-8, 29-9, 29-10, 29-11, 29-12, 29-13, 29-14, 29-17.

---

### Terms and Conditions:

#### Definitions

- "Drift Net" means a gillnet free floating in the water, not attached in any manner to the shore, operated from a boat.
- "DFO" means the Department of Fisheries and Oceans.
- "Eulachon" means *Thaleichthys pacificus*
- "Fishery" means fishing under the authority of this harvest document.
- "Identification Number" in respect of a vessel means
- (a) in the case of a registered commercial fishing vessel, the vessel registration number, and
  - (b) in the case of a vessel that is not a registered commercial fishing vessel, the number of the vessel identification decal issued by Tsawwassen First Nation.
- "Observer" means an observer designated under section 39 of the Fishery (General) Regulations.
- "Participant" means an individual carrying on fishing or any related activity, including transporting fish caught under the authority of this harvest document.
- "TFN" means Tsawwassen First Nation
- "TFD" means Tsawwassen Fishing Department located at 1926 Tsawwassen Drive, V4M 4G2 604-943-2112.

### Species and Quantity



Licence Number: XHD 3 2017

File Number: LFA-17-HD-LP 400/TSAWWASSEN

Valid From: 01-Apr-2017

Expiry Date: 02-Apr-2017

The Fishery is limited to the harvest of 485 lbs Eulachon (*Thaleichthys pacificus*).

All efforts and attempts shall be made to return all non-target species including Chinook salmon, Steelhead salmon and Sturgeon to the water alive and unharmed. Chinook salmon, Steelhead salmon and Sturgeon must not be retained.

Subject to closures and other terms and conditions of this licence, the authority to fish under this licence will expire on April 2, 2017 or earlier if DFO, after consultation with the First Nation has determined that the maximum quantity has been reached.

### **Use of Fish**

Fish caught under this licence are for food, social and ceremonial purposes. Without prejudice to future agreements or regulations, sale of Fish caught under this licence is not permitted.

### **Designation of Individuals and Vessels**

Tsawwassen First Nation may not designate individuals who are not Tsawwassen Members to harvest Eulachon.

Where Tsawwassen First Nation designates an individual; a Tsawwassen fishing licence will be issued. An individual fishing under this harvest document must carry their Tsawwassen fishing licence at all times while participating in the Fishery or while transporting fish harvested in the Fishery and must present it to any DFO Fishery Officer, DFO Fishery Guardian or Aboriginal Fishery Officer upon request.

A vessel used in the Fishery must be identified by affixing a vessel identification decal issued by Tsawwassen First Nation. The decal must be affixed to the vessel so that the decal is legible and unobstructed when viewed from another vessel or from shore. Where the vessel is not a registered commercial vessel, the decal must be uniquely numbered. Where the vessel is a registered commercial vessel, the decal must not be numbered.

### **Catch Monitoring and Harvest Reporting**

#### **1.0 Participant and Interview Data**

Participants are required to notify the TFD of their intentions to harvest fish prior to their participation in each fishing period and report their catch and fishing effort information to the TFD after completion of each fishing period. These notifications and reports can be provided by phone to the TFD or by interview to an on-duty member of the TFN catch monitoring crew. Interviewers will record Eulachon catch and effort information on the "TFN Eulachon Fisheries Interview Data Form".

#### **1.1 Reporting**

Within 24 hours of the close of a fishing period, TFN will provide a preliminary catch report to DFO, including the names and the Vessel Identification Numbers that participated in the Fishery, the gear used, hours fished, status of the report (final or preliminary), number of Eulachon retained, and the number of other species released. Along with reported catch information, The preliminary catch report will be finalized within 48 hours of the close of the Fishing period.

### **Compliance with the Fisheries Act**

Pursuant to subsection 22(6) of the Fishery (General) Regulations, compliance with the Fisheries Act and the regulations made under the Act is a condition of this licence.



Licence Number: XHD 3 2017

File Number: LFA-17-HD-LP 400/TSAWWASSEN

Valid From: 01-Apr-2017

Expiry Date: 02-Apr-2017

---

Licence Issued: 31 March 2017

Licence Printed: 31 March 2017

Licence Issued By: LOURDES NURSE, Fisheries and Oceans Canada



Licence Number: XHD 39 2017

File Number: LFA-17-HD 492-TSAWWASSEN

Valid From: 23-Oct-2017

Expiry Date: 23-Oct-2017

This licence and/or permit is issued under the authority of SECTION 4 OF THE ABORIGINAL COMMUNAL FISHING LICENCES REGULATIONS.

This licence and/or permit authorizes the person(s) listed below, subject to the following terms and conditions, to collect the species and quantity of fish identified below for: Food, Social, and Ceremonial purposes. Non-compliance with any condition of this licence and/or permit may result in the cancellation of this licence and/or permit.

---

**Licence/Permit Activity Description:**

HARVEST DOCUMENT FOR TSAWWASSEN FIRST NATION FOR SALMON  
COMMUNAL COMMERCIAL HARVEST DOCUMENT FOR CHUM SALMON

Whereas a final agreement with Tsawwassen First Nation is now in effect;

And whereas the final agreement describes a fishing right and provides for the issuance of harvest documents for the fishing right.

And whereas, under the final agreement, a harvest document may be, among other things, a licence or other document, or amendment thereto, issued by the Minister under Federal Law or Provincial Law in respect of the fishing right;

Now therefore, this harvest document is issued under the authority of section 7 of the Fisheries Act and section 4 of the Aboriginal Communal Fishing Licences Regulations.

This harvest document is issued to Tsawwassen First Nation in accordance with the final agreement and confers, subject to the Fisheries Act and regulations thereunder, the authority to fish for the following purposes: Food, Social and Ceremonial and economic opportunities.

---

**Period of Activity:**

Subject to amendments to the conditions of this harvest document and subject to close times as may be varied by the Director General, Pacific Region, DFO in accordance with the Fishery (General) Regulations, species of fish set out in this harvest document may be harvested under this licence. Subject to closures and other terms and conditions of this licence, the authority to fish under this licence will expire on Monday, October 23, 2017 or earlier if DFO, after consultation with Tsawwassen First Nation has determined there is a conservation concern.

---

**Licence Holder:**

FIN: 108234

TSAWWASSEN FIRST NATION

---

**Allowable Fishing Times:**

Fishing periods defined for a species supersede all periods defined in this section.

**Start:** Monday, October 23, 2017 at 06:00

**End:** Monday, October 23, 2017 at 18:00

---

**Species, Quantity of Fish, Area(s) and Gear:**

**Species:** CHUM SALMON (*Oncorhynchus keta*)

**Allowable** Start: Monday, October 23, 2017 at 06:00

**Fishing** End: Monday, October 23, 2017 at 18:00

**Times:**

**Gear:** Gillnet, Set, Anchored

Gillnet, Drift

**Licence Area:** TSAWWASSEN TREATY FISHING AREA



---

## Terms and Conditions:

### Definitions

'DFO' means the Department of Fisheries and Oceans.

'Drift Net' means a gillnet free floating in the water, not attached in any manner to the shore, operated from a boat;

'Fishery' means fishing under the authority of this licence;

'Hatchery Marked Coho' means a coho salmon marked by the absence of the adipose fin and having a healed scar in place of that absent fin (an adipose fin consists of a small fleshy appendage without fin ray support, located dorsally between the rayed dorsal fin and caudal (tail) fin);

'Identification Number' in respect of a vessel means:

- (a) in the case of a registered commercial fishing vessel, the vessel registration number, and
- (b) in the case of a vessel that is not a registered commercial fishing vessel, the number of the vessel identification decal issued by Tsawwassen First Nation;

'Landing Site' means a site designated by DFO and the Monitoring and Enforcement Committee that has a monitor on duty during the Fishery. For this licence, **the landings sites are located at:**

- 1) Ladner Harbour
- 2) Shearer Seafoods- Annyville
- 3) packer vessel **M/V 'Western Mist'**

'Monitor' means an individual hired by the First Nation to carry out monitoring activities;

'Observer' means an observer designated under section 39 of the Fishery (General) Regulations;

'Participant' means an individual carrying on fishing or any related activity, including transporting fish caught under the authority of this licence;

'Set Net' means a gillnet that is either tied to shore at one end and anchored in the river at the other end, or anchored in the river at both ends, or tied to the shore at one end and tied to a net pole at the other end;

'TFN' means Tsawwassen First Nation;

'TFD' means Tsawwassen Fishing Department located at 1926 Tsawwassen Drive, V4M 4G2 604-943-2112; and,

'Wild Coho' means any coho salmon that has an adipose fin.

### Species and Quantity

The Fishery is limited to a harvest of chum salmon and hatchery marked coho salmon.

All efforts and attempts shall be made to return all non-target species including sockeye salmon, chinook salmon, wild coho salmon, pink salmon, steelhead salmon and sturgeon, to the water alive and unharmed.

Sockeye salmon, chinook salmon, wild coho salmon, pink salmon, steelhead salmon and sturgeon must not be



Licence Number: XHD 39 2017

File Number: LFA-17-HD 492-TSAWWASSEN

Valid From: 23-Oct-2017

Expiry Date: 23-Oct-2017

retained.

### **Use of Fish**

Fish caught under this licence are for food, social and ceremonial purposes. Without prejudice to future agreements or regulations, **sale of chum salmon and hatchery marked coho salmon caught under this licence is permitted**.

### **Gear and Gear Identification**

The following gear is permitted to be used:

#### **Drift Nets on condition that:**

- (i) Nets do not exceed a maximum of 100 fathoms or 600 feet in length and a maximum depth of 60 meshes with a minimum mesh size of 6 ¼ inches with 3:1 hang ratio.
- (ii) Each Participant fishes only one net.
- (iii) Only one net is fished from any vessel.
- (iv) Each net is attended at all times by the Participant who is fishing the net.
- (v) No vessel fishing under the authority of this licence may have on board any net that does not meet the conditions in (i) above.
- (vi) Spare nets on board a vessel actively fishing are kept in a stowed condition.

#### **Set Nets on condition that:**

- (i) Nets do not exceed a maximum of 10 fathoms or 60 feet and a maximum depth of 60 meshes with a minimum mesh size of 6 ¼ inches.
- (ii) All Set Nets are identified by a floating buoy prominently displaying the Participant's designation number, and the Participant's designation number is the only number displayed on the buoy.
- (iii) All Set Nets fished from poles have buoys attached to the end of the net farthest from the beach by means of a tag line of sufficient length to allow the buoys to be on the surface of the water and clearly visible for inspection at all times.

### **Area**

Those waters of the main arm of the Fraser River westerly of the power lines immediately downstream of the Port Mann Bridge, the waters of the North Arm of the Fraser River from the junction of the main arm downstream to the Arthur Laing Bridge, the waters of the Middle arm of the Fraser River, the waters of the Strait of Georgia bounded by a line commencing at 49° 11' 3.1524" N latitude and 123° 12' 26.08868" W longitude then to 49° 7' 48.216" N latitude and 123° 19' 50.4228" W longitude then to 49° 5' 15.6948" N latitude and 123° 18' 36.8958" W longitude then to 49° 0' 8.0028" N latitude and 123° 18' 5.1156" W longitude then to 49° 0' 7.5564" N latitude and 123° 5' 27.528" W longitude and the waters of Boundary Bay bounded by a line commencing at 49° 0' 7.5198" N latitude and 123° 2' 6.5898" W longitude then to 49° 0' 7.5414" N latitude and 122° 49' 10.8552" W longitude then to 49° 1' 15.2256" N latitude and 122° 48' 20.7858" W longitude. Portions of DFO Management Sub-areas 29-6, 29-7, 29-8, 29-9, 29-10, 29-11, 29-12, 29-13, 29-14, 29-17.

### **Designation of Individuals and Vessels**

Tsawwassen First Nation may not designate individuals who are not Tsawwassen Members to harvest salmon.

Where Tsawwassen First Nation designates an individual; a Tsawwassen fishing licence will be issued. An individual fishing under this harvest document must carry their Tsawwassen fishing licence at all times while participating in the Fishery or while transporting fish harvested in the Fishery and must presented it to any DFO Fishery Officer, DFO Fishery Guardian or Aboriginal Fishery Officer upon request.



Licence Number: XHD 39 2017

File Number: LFA-17-HD 492-TSAWWASSEN

Valid From: 23-Oct-2017

Expiry Date: 23-Oct-2017

A vessel used in the Fishery must be identified by affixing a vessel identification decal issued by Tsawwassen First Nation. The decal must be affixed to the vessel so that the decal is legible and unobstructed when viewed from another vessel or from shore. Where the vessel is not a registered commercial vessel, the decal must be uniquely numbered. Where the vessel is a registered commercial vessel, the decal must not be numbered.

Prior to each fishing period, the Tsawwassen First Nation will provide to DFO a list of Tsawwassen First Nation members and vessels designated to fish under this Harvest Document and, in the case of a vessel, the vessel's Identity Number, and will immediately inform DFO of any changes to the list.

### **Revival Tank**

When Fishing, where sale of Chum Salmon is authorized, all vessels greater than 30 feet in length shall be equipped with a revival tank, the purpose of which is to revive and hold those species of Fish, including Coho Salmon and Steelhead Salmon, which the vessel is prohibited from retaining. The revival tank shall meet the following specifications:

- (a) constructed of non-transparent material;
- (b) minimum inside dimensions of 90 cm x 40 cm x 40 cm;
- (c) equipped with a tight fitting lid; and
- (d) designed so as to receive a continuous flow of oxygenated seawater throughout the tank.

The revival tank must be operating at all times while Fishing and also when Fish are being held in the tank after Fishing is completed. While operating, the revival tank must be filled with water and there must be a constant exchange of oxygenated seawater throughout the tank.

The revival tank and equipment shall be kept clean and the tank shall be used for no other purpose than that set out above.

### **Landing Slips**

All fish caught by a Participant under the authority of this licence must be inspected by an Observer, Monitor, DFO fishery officer, or Aboriginal Fisheries Officer at the Participant's Landing Site, and such person shall issue a landing slip ('Landing Slip') to the Participant. The Participant must obtain a Landing Slip each and every time that salmon caught under the authority of this Licence are landed. The Landing Slip will specify:

- the Landing Site;
- the date and time of landing;
- the Participant's name and designation number;
- the number of salmon landed for each species of salmon;
- the name and signature of the inspecting Observer, Monitor, DFO fishery officer, or Aboriginal Fisheries Officer ; and
- in the case of drift net fishing, the vessel name, commercial fishing vessel number or Ministry of Transport identification number.

### **Proof of Landing**

Except where fishing or transporting salmon to a Landing Site, a Participant having possession of salmon caught under the authority of this Licence must carry a Landing Slip for the salmon. The Participant shall show Landing Slips to any DFO Fishery Officer, Aboriginal Fisheries Officer, Monitor or Observer upon request.

### **Transportation of Salmon**

A Participant will transport all fish caught under the Communal Commercial Licence from the fishing site where, or the boat from which, the fish were caught immediately and directly to a Landing Site for inspection and counting by species



Licence Number: XHD 39 2017

File Number: LFA-17-HD 492-TSAWWASSEN

Valid From: 23-Oct-2017

Expiry Date: 23-Oct-2017

within one hour after the closing time as set out by the Communal Commercial Licence. A Participant may identify to the First Nation a second Participant who may transport the salmon to the Landing Site. No Participant will be authorized to transport salmon on behalf of more than three Participants in addition to him/herself. A Participant must inform the First Nation of such arrangements at least forty-eight hours prior to the start of a Fishery opening. The First Nation will provide DFO and the Planning Committee with a list of Participants authorized to transport salmon on behalf of other Participants during normal office hours of 0800 hours to 1600 hours, Monday to Thursday and prior to 1300 hours on Friday, and not less than six hours before the start of the Fishery opening.

## **Monitoring, Reporting and Validation**

### **Participant and Interview Data**

Participants are required to notify the TFD of their intentions to harvest fish prior to their participation in each fishing period and report their catch and fishing effort information to the TFD after completion of each fishing period. These notifications and reports can be provided by phone to the TFD or by interview to an on-duty member of the TFN catch monitoring crew. Interviewers will record Salmon catch and effort information on the "TFN Salmon Fisheries Interview Data Form".

### **Daily Fishing Logs**

Each Participant will maintain a daily fishing log using the "TFN Salmon Fisheries Log Data Form". Upon completion of each fishing period, each Participant will submit logs to monitors at landing sites or directly to the TFD office.

### **Validation**

TFN will conduct on-water catch monitoring surveys or TFN fisheries officer patrols at least once every day during fishing period and, will record vessels participating in the Fishery. TFN will compare these records with the list of vessels designated to fish under this harvest document, will observe catches and compare it with catch reported orally to the TFD or recorded in daily logs.

Catch per vessel data will be verified through a random and representative sampling of a percentage of vessel landings by TFN shore based monitors. Efforts should be made to provide a representative sample of the various vessel types, fishing locations and gear observed in the Fishery in these validation activities. During landing validation TFN monitors will interview the Participants to obtain hours fished, number and species of Salmon and other species retained and released and perform a count the vessel's catch. The percentage of vessels needing validation will vary dependent on the type of fishery and will be discussed at joint technical committee meetings or in season as needed but it is proposed that coverage should be in the range of 20%.

### **Reporting**

Within 24 hours of the close of a fishing period, TFN will provide a preliminary catch report to DFO, including the names and the Vessel Identification Numbers that participated in the Fishery, the gear used, hours fished, status of the report (final or preliminary), number and species of Salmon and other species retained, and number and species of Salmon and other species released. Along with reported catch information, TFN will submit a report of validations conducted during the opening, including Vessel Identification Numbers, gear type, hours fished, number and species of Salmon and other species kept and number and species of Salmon and other species released. TFN will contact Participants who did not report after the Fishing period to determine whether they did participate, and if so, collect the requisite information. The preliminary catch report will be finalized within 48 hours of the close of the Fishing period.

## **Compliance with the Fisheries Act**

Pursuant to subsection 22(6) of the Fishery (General) Regulations, compliance with the Fisheries Act and the regulations made under the Act is a condition of this licence.





Licence Number: XHD 39 2017

File Number: LFA-17-HD 492-TSAWWASSEN

Valid From: 23-Oct-2017

Expiry Date: 23-Oct-2017

Licence Issued: 19 October 2017

Licence Printed: 19 October 2017

Licence Issued By: BRIAN MATTS, Fisheries and Oceans Canada



Licence Number: XFSC 626 2016

File Number: LFA-17-HD 403/TSAWWASSEN

Valid From: 01-Jan-2017

Expiry Date: 31-Mar-2017

## HARVEST DOCUMENT FOR TSAWWASSEN FIRST NATION FOR GROUND FISH

Whereas a final agreement with Tsawwassen First Nation is now in effect;

And whereas the final agreement describes a fishing right and provides for the issuance of harvest documents for the fishing right.

And whereas, under the final agreement, a harvest document may be, among other things, a licence or other document, or amendment thereto, issued by the Minister under Federal Law or Provincial Law in respect of the fishing right;

Now therefore, this harvest document is issued under the authority of section 7 of the Fisheries Act and section 4 of the Aboriginal Communal Fishing Licences Regulations.

This harvest document is issued to Tsawwassen First Nation in accordance with the final agreement and confers, subject to the Fisheries Act and regulations thereunder, the authority to fish for the following purposes: Food, Social and Ceremonial.

---

### Period of Activity:

Subject to amendments to the conditions of this harvest document and subject to close times as may be varied by the Director General, Pacific Region, DFO in accordance with the Fishery (General) Regulations, species of fish set out in this licence may be harvested under this licence. Subject to closures and other terms and conditions of this licence, the authority to fish under this licence will expire on March 31, 2017 or earlier if DFO, after consultation with the First Nation has determined that the maximum quantity has been reached.

---

### Licence Holder:

FIN: 108234

1926 Tsawwassen Drive  
Tsawwassen BC V4M 4G2

Tsawwassen First Nation

Contact Number: 604-943-4199

Fax Number: 604-943-9226

---

### Allowable Fishing Times:

Fishing periods defined for a species supersede all periods defined in this section.

**Start:** Sunday, January 1, 2017 at 00:01

**End:** Friday, March 31, 2017 at 23:59

#### Details:

---

### Individuals or groups assisting with the authorized activity:

Tsawwassen First Nation may not designate individuals who are not Tsawwassen Members to harvest groundfish.

Where Tsawwassen First Nation designates an individual; a Tsawwassen fishing licence will be issued. The Tsawwassen fishing licence must be carried at all times while participating in the Fishery or while transporting fish harvested in the Fishery and must be presented to any DFO Fishery Officer, DFO Fishery Guardian or Aboriginal Fishery Officer upon request.

A vessel used in the Fishery must be identified by affixing a vessel identification decal issued by Tsawwassen First Nation. The decal must be affixed to the vessel so that the decal is legible and unobstructed when viewed from another vessel or from shore. Where the vessel is not a registered commercial vessel, the decal must be uniquely numbered. Where the vessel is a registered commercial vessel, the decal must not be numbered.

Before the Fishery commences, Tsawwassen First Nation will provide to DFO a list of Tsawwassen First Nation members and vessels designated to fish under this Harvest Document and, in the case of a vessel, the vessel's Identity



Number, and will immediately inform DFO of any changes to the list.

**Species, Quantity of Fish, Area(s) and Gear:**

<b>Species:</b>	Halibut, Sablefish, Dogfish, Lingcod, Flatfish, Rockfish
<b>Gear:</b>	Longline
<b>Licence Area:</b>	Tsawwassen First Nation fishing area in PFMA 29

**Additional Information:**

**Longline Gear:**

- 1) Each vessel will be equipped with long lines from one to three miles (1.6-5km) long.
- 2) The number of lines per vessel will not be limited; however, the number of hooks will not exceed 500/vessel.
- 3) Each line will be baited then set and marked with floats, the lines will be checked at regular intervals.
- 4) Prior to the fishery commencing the TFN will provide DFO with a list of TFN members and vessels (maximum 4 vessels) designated to fish under his Harvest Document and the vessels identity number. TFN will immediately inform DFO of any changes to the list.
- 5) All members designated to fish will be informed that only one vessel is able to participate per day with a crew of up to four designated fishers

**Fishing is permitted in the following area(s):**

The waters of the Strait of Georgia bounded by a line commencing at 49°11' 3.1524" N latitude and 123° 12' 26.08868" W longitude then to 49° 7' 48.216" N latitude and 123°19' 50.4228" W longitude then to 49° 5' 15.6948" N latitude and 123° 18' 36.8958" W longitude then to 49° 0' 8.0028" N latitude and 123° 18' 5.1156" W longitude then to 49°0' 7.5564" N latitude and 123° 5' 27.528" W longitude and the waters of Boundary Bay bounded by a line commencing at 49 0' 7.519" N latitude and 123 2' 6.5898 W longitude then to 49 0' 7.5414 N latitude and 122 49' 10.8552" W longitude then to 49 1' 15.2256" N latitude and 122 48' 20.7858" W longitude. Portions of DFO Management Subareas 29-6, 29-7, 29-8, 29-9, 29-10.

**Terms and Conditions:**

**Definitions**

“DFO” means the Department of Fisheries and Oceans.

“First Nation” means the Tsawwassen First Nation.

“Fishery” means fishing under the authority of this harvest document.

“Identification Number” in respect of a vessel means

(a) in the case of a registered commercial fishing vessel, the vessel registration number, and

(b) in the case of a vessel that is not a registered commercial fishing vessel, the number of the vessel

identification decal issued by Tsawwassen First Nation.

'Longline' means a fishing technique that uses a longline, called the mainline, with baited hooks attached at intervals by means of branch lines called snoods (or gangions). A snood is a short length of line, attached to the main line by a clip or swivel, wit the hook atthe other end.

“Observer” means an observer designated under section 39 of the Fishery (General) Regulations.

“Participant” means an individual carrying on fishing or any related activity, including transporting fish caught, under the authority of this harvest document.



Licence Number: XFSC 626 2016

File Number: LFA-17-HD 403/TSAWWASSEN

Valid From: 01-Jan-2017

Expiry Date: 31-Mar-2017

### **Species and Quantity**

The Fishery is limited to the harvest of halibut and an incidental harvest of sablefish, dogfish, lingcod, flatfish, and rockfish.

All efforts and attempts shall be made to return all non-target species to the water alive and unharmed.

### **Use of Fish**

Fish caught under this licence are for food, social and ceremonial purposes. Without prejudice to future agreements or regulations, sale of fish caught under this licence is **not** permitted.

### **Catch Monitoring and Harvest Reporting**

All vessels participating in this fishery will have a TFN monitor trained in groundfish identification onboard during all fishing activity. Participants will notify the Tsawwassen Fisheries Department (TFD) before they initiate fishing efforts to ensure an on-board monitor is present. Fishing times and locations will be provided to DFO prior to each fishing period so DFO monitoring or audits of fishing can occur.

The on-board TFN monitor will collect information on hours fished, location fished (PFMA sub-area), number and species of groundfish and other species retained and released. The monitor will record this information on the "TFN Groundfish Fishery Interview Data Form".

Within 72 hours of the end of each month, Tsawwassen First Nation will provide to Karen Burnett (DFO Management Biologist : tel 604-666-4819; fax 604-666-7112) a summary table showing the number of participants, catch and effort observed by and reported directly to the TFD staff (including patrol logs and daily fishing logs).

### **Compliance with the Fisheries Act**

Pursuant to subsection 22(6) of the Fishery (General) Regulations, compliance with the Fisheries Act and the regulations made under the Act is a condition of this licence.

---

Issued by: Brian Matts, Resource Manager  
Fisheries and Oceans Canada

Date

Licence Issued: 29 December 2016



Licence Number: XFSC 626 2016

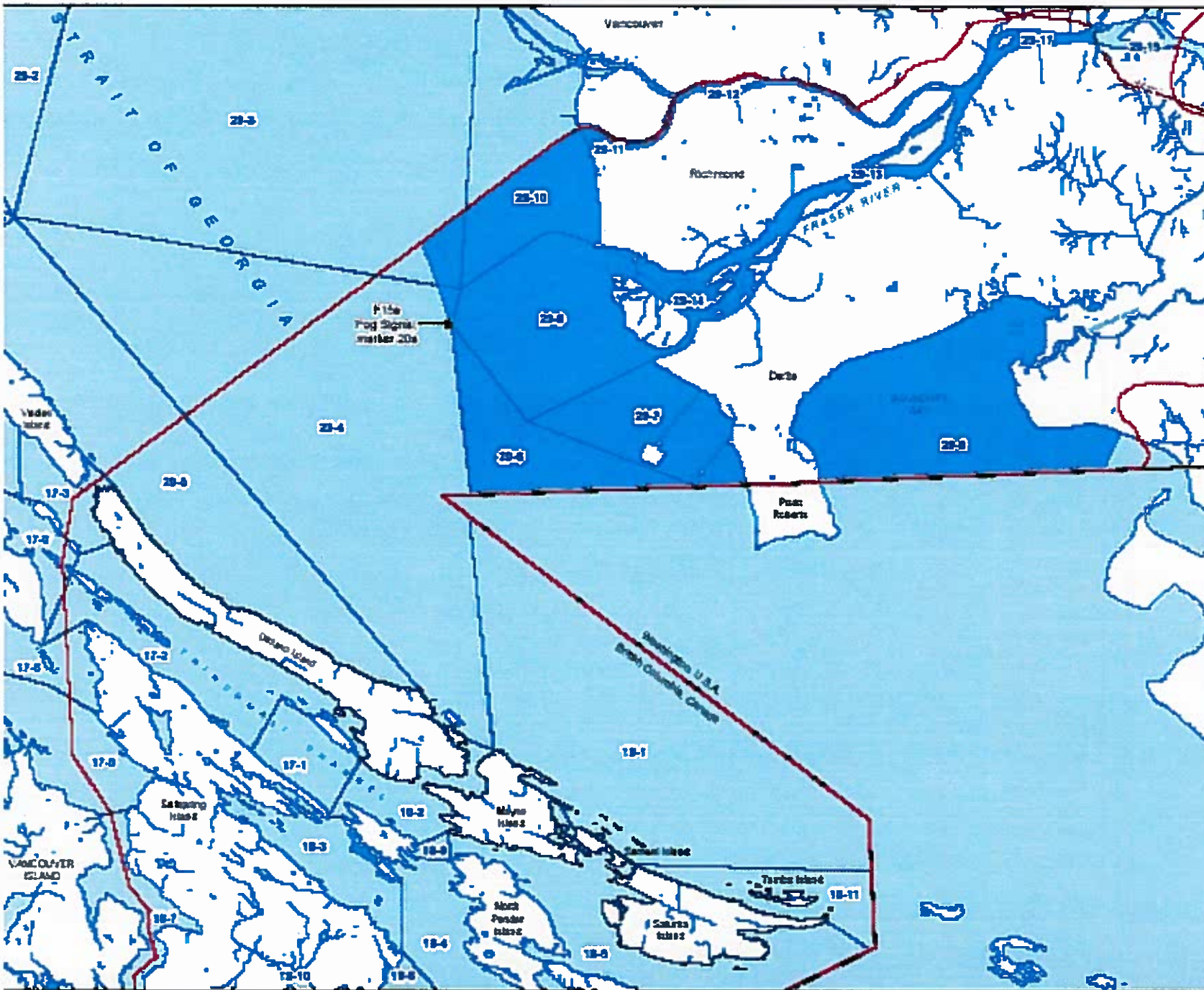
File Number: LFA-17-HD 403/TSAWWASSEN

Valid From: 01-Jan-2017

Expiry Date: 31-Mar-2017

Licence Printed: 29 December 2016

# Appendix J-1: Tsawwassen Fishing Area and Tsawwassen Intertidal Bivalve Fishing Area

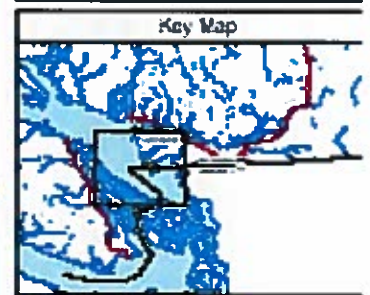


**Legend**

- Tsawwassen fishing Area
- Tsawwassen Intertidal Bivalve Area
- Tsawwassen Territory
- DFO Sub-area
- Water Body
- Watercourse
- Highway 1

THE OFFICIAL VERSION OF THIS MAP IS HELD BY DFO/CFM AND THE TERRITORIES OF CANADA AND THE PROVINCES OF BRITISH COLUMBIA. THIS MAP IS FOR ILLUSTRATIVE PURPOSES ONLY.

0 5 10  
Kilometers



Produced November 22, 2005  
Data map derived from 1:25,000 TFSW data

**Tsawwassen First Nation**

## Aquatic Plant Harvest Document for Tsawwassen First Nation

File No.: 20560-20-HD Tsawwassen  
Harvest Document No.: Tsawwassen -02

**Issued To:** Attention: Hegus, Tsawwassen First Nation  
Tsawwassen First Nation  
1926 Tsawwassen Drive  
Tsawwassen BC V4M 4G2

This Harvest Document is issued under the authority of Section 14 of the *Tsawwassen First Nation Final Agreement Act* and clauses 59 to 64 of Chapter 9 [Fisheries] of the *Tsawwassen First Nation Final Agreement*, for Aquatic Plant species managed by the Province of British Columbia. All terms used in this document have the same meaning as that contained in the *Tsawwassen First Nation Final Agreement* and applicable legislation.

Accordingly, this Harvest Document authorizes Tsawwassen First Nation to exercise their Tsawwassen Fishing Right to harvest Aquatic Plants for Domestic Purposes, in accordance with the following conditions:

**Harvest Period:** April 1, 2017 to March 31, 2018

**Harvest Location:** Tsawwassen Fishing Area

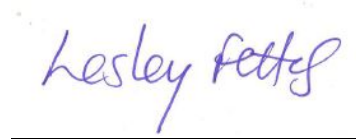
**Harvestable Aquatic Plant Species:**

- Group 1:** Giant kelp (*Macrocystis integrifolia*) / Bull kelp (*Nereocystis luetkeana*)
- Group 2:** Sugar kelp (*Saccharina* spp.) / Ribbon kelp (*Alaria* spp.) / Feather Boa kelp (*Egregia menziesii*) / *Eisenia arborea* / *Costaria costata* / *Agarum* spp. / Sea Cabbage (*Hedophyllum sessile*) / Three Ribbed kelp (*Cymathere triplicatei*) / *Pterygophora californica*
- Group 3:** *Gracilaria* spp. / *Gracilariopsis sjoestedtii* / *Gelidium* spp. / *Gymnogrongus* spp / *Ahnfeltia* spp. / Red Weed (*Agardhiella tenera*) / *Endocladia muricata* / *Gloiopeltis furcata*
- Group 4:** *Iridaea* spp. / Little Turkish Towel (*Gigartina* spp.)
- Group 5:** Rockweed (*Fucus* spp.) / *Sargassum muticum* / Chain Bladder (*Cystoseira geminata*)
- Group 6:** Nori (*Porphyra* spp.) / *Rhododymenia* spp. / Sea Lettuce (*Ulva* spp.) / Gut Weed (*Enteromorpha* spp.) / *Monostroma* spp.
- Group 7:** Eelgrass (*Zostera marina*) / Surfgrass (*Phyllospadix* spp.)
- Group 8:** Sea Asparagus (*Salicornia* spp.)
- Group 9:** Other marine plants not referenced above.

**Monitoring & Reporting:** As per the Tsawwassen Fisheries Operation Guidelines, and for greater clarity, Tsawwassen First Nation Harvesters are required to identify harvested plants by group in the Tsawwassen First Nation Aquatic Plant Harvest Log. Tsawwassen First Nation will submit the aggregate harvesting values to the Joint Fisheries Committee and CC. FLNRO at the conclusion of the Harvest Period defined in this Harvest document.

These conditions may be amended in accordance with Paragraph 63 and 64 of the Fisheries Chapter of the *Tsawwassen First Nation Final Agreement*.

**Issued By:**



---

Lesley Fettes  
Section Head, Aquaculture  
Minister of Forests, Lands and Natural Resource Operations

**Issue Date:** April 12, 2017



**APPENDIX C**  
**Dataforms**



# TSAWWASSEN FIRST NATION - SALMON FISHERIES INTERVIEW DATA FORM

Monitor's Name : \_\_\_\_\_

**SET NET / DRIFT NET**  
Put Set and Drift Net Catch on Separate Sheets Even  
from the Same Fisher.

Date : \_\_\_\_\_ Sheet ID : \_\_\_\_\_

Site Location : \_\_\_\_\_

Fishing Area (Zone) : \_\_\_\_\_

#	Name of Fisher	No.	Fishing Area	Mesh Size	Count or Hail?	# Drifts	Interview Time		Net Set (Start of Fishing)		Net Picked (End of Fishing)		Fish Kept						Fish Released				Still Fish'n (Y/N)												
							Date	Time	Date	Time	Date	Time	Sock	Chin	Pink	Coho	Chum	Other	Sturg	FL	Sthd	Other													
1					C/H																														
2					C/H																														
3					C/H																														
4					C/H																														
5					C/H																														
6					C/H																														
7					C/H																														
8					C/H																														
9					C/H																														
10					C/H																														
11					C/H																														
12					C/H																														
13					C/H																														
14					C/H																														
15					C/H																														
16					C/H																														
17					C/H																														
Fishing Areas * T1 = Roberts Bank (29-6,29-7), T2 = Sandheads (29-9, 29-10), T3 = Canoe Pass to Deas (29-14), T4 = Steveston-Pattullo (29-13), T5 = Pattullo-Port Mann (29-17), T6 = North Arm (29-12).											<b>TOTALS</b>																								

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

USE ONE DATA COLLECTION FORM FOR EACH SET NET FISHER OR FISHING GROUP.  
 PLEASE REMEMBER TO TOTAL UP ALL OF THE CATCH, AND HOURS FISHED, ON EACH OF YOUR PAGES.

**TSAWWASSEN FIRST NATION - SALMON FISHERIES LOG DATA FORM**

Fisher Name/No. \_\_\_\_\_

Vessel Name/No: \_\_\_\_\_

Sheet ID : \_\_\_\_\_

#	Fishing Location	Location Code	Net Length (feet)	Mesh Size (inches)	# of drifts	Data Recorded		Net Set (Start of Fishing)		Net Picked (End of Fishing)		Fishing Effort Hours	Fish Kept						Fish Released (species & #)	Hailed in Y/N			
						Date	Time	Date	Time	Date	Time		Sock	Chin	Pink	Coho	Chum	Steelhd			Other		
	Canoe Pass	T3	300	4.5	3	Apr 4	2100	Apr 4	0900	Apr 4	2000	1.1		3						1 Surgeon	Y		
1																							
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							
13																							
14																							
15																							
16																							
<b>Fishing Areas</b>	* T1 = Roberts Bank (29-6,29-7), T2 = Sandheads (29-9, 29-10), T3 = Canoe Pass to Deas (29-14), T4 = Steveston-Pattullo (29-13), T5 = Pattullo-Port Mann (29-17), T6 = North Arm (29-12).										<b>TOTALS</b>												

Comments: \_\_\_\_\_

**TSAWWASSEN FIRST NATION - CRAB FISHING INTERVIEW DATA FORM**

Sheet ID: \_\_\_\_\_

Monitor's Name: \_\_\_\_\_

Location: \_\_\_\_\_

Date: \_\_\_\_\_

#	TFN FISHER		FISHING METHOD	STAT. AREA	HAULED		SOAK TIME	DEPTH	SPECIES	CATCH INFO.		Number of Traps Pulled	REMARKS OR COMMENTS
	NAME	No.	(GL/SL)	(Area-Sub)	Date	Time	Hours	Meters	(DU/RR)	Number Kept	Number Released		
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

Methods: GL = Ground Line, SL = Single Lines

Species: DU = Dungeness, RR = Red Rock, G = Graceful

**TSAWWASSEN FIRST NATION - CRAB FISHING LOG DATA FORM**

Sheet ID: \_\_\_\_\_

Fisher Name/No. \_\_\_\_\_

Vessel Name/No. \_\_\_\_\_

#	FISHING METHOD	STAT. AREA	HAULED		SOAK TIME	DEPTH	SPECIES	CATCH INFO.		Number of Traps Pulled	REMARKS OR COMMENTS
	(GL/SL)	(Area-Sub)	Date	Time	Hours	Feet	(DU/RR)	Number Kept	Number Released		
	SL	29-6	Apr 20	1800	48	50	DU	8	2	2	2 female crab released
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Methods: GL = Ground Line, SL= Single Lines

Species: DU= Dungeness, RR=Red Rock, G=Graceful

**TSAWWASSEN FIRST NATION - OTHER FISHERIES INTERVIEW DATA FORM**

Sheet ID: \_\_\_\_\_

Monitor's Name: \_\_\_\_\_

Location: \_\_\_\_\_

Date: \_\_\_\_\_

#	TFN FISHER		SPECIES (Code)	FISHING METHOD (Code)	STAT. AREA (Area-Sub)	LANDING		FISHING TIME Hours	DEPTH Meters	CATCH INFO.		Units (Code)	Number of Traps Pulled	REMARKS OR COMMENTS
	NAME	No.				Date	Time			Number Kept	Number Released			
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														
25														

Species: RF= Rockfish, LC = Lingcod, HB=Halibut, DF=Dogfish, C=Clams, O= Oysters, P=Prawns, S=Shrimp

Methods: HL= Hook & Line, LL=Long-line, HP= Hand pick, T=Trap

Units: P = Pieces, KG=kilograms, LB=pounds, B=5 gallon bucket

**TSAWWASSEN FIRST NATION - OTHER FISHERIES LOG DATA FORM**

Sheet ID: \_\_\_\_\_

Fisher Name/No. \_\_\_\_\_

Vessel Name/No. \_\_\_\_\_

#	SPECIES	FISHING METHOD	STAT. AREA	LANDING		FISHING TIME	DEPTH	CATCH INFO.		Units	Number of Traps Pulled	REMARKS OR COMMENTS
	(Name)	(Code)	(Area-Sub)	Date	Time	Hours	Meters	Number Kept	Number Released	(Code)		
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

Species: RF= Rockfish, LC = Lingcod, HB=Halibut, DF=Dogfish, FS=flounder/sole, C=Clams, O= Oysters, P=Prawns, S=Shrimp  
 Methods: RR=Rod & Reel, LL=Long-line, HP= Hand pick, T=Trap  
 Units: P = Pieces, KG=kilograms, LB=pounds, B=5 gallon bucket



# TSAWWASSEN FIRST NATION AQUATIC PLANT HARVEST LOG

Name of Tsawwassen First Nation Harvester: \_\_\_\_\_

Harvest Document #: \_\_\_\_\_

Date Harvested (yyyy/mm/dd)	DFO Stat Area and Subarea	Specific Area Description	Species Harvested	Quantity Harvested (Kg wet weight)	Initial of Harvester
<b>Total Weight [Kilograms (Kg)] for this log sheet</b>					

I declare this harvest log to be correct and true to the best of my knowledge

**Return this form to:**  
**Tsawwassen First Nation**  
**1926 Tsawwassen Drive**  
**Tsawwassen BC V4M 4G2**

**Signature of Harvester:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Print name:** \_\_\_\_\_



**APPENDIX D**  
**2017 Fraser River Sockeye In-season Status Report**



**DRAFT AGENDA  
PACIFIC SALMON COMMISSION  
FRASER RIVER PANEL  
Thursday, August 31, 2017 at 1:00 pm.  
Via Teleconference  
1-888-299-2873 CANADA  
1-888-585-9008 United States  
Conference Room 902-802-337**

- |  |             |
|--|-------------|
| 1) Roll Call (Panel and Tech members, others pls email Julie Ehrmantraut ( <a href="mailto:Ehrmantraut@psc.org">Ehrmantraut@psc.org</a> )) | PSC Staff   |
| 2) Agenda  |             |
| 3) Total catches, Escapements and accounted-to-date relative to pre-season forecasts and in-season adopted run sizes                       | PSC Staff   |
| 4) In-season data flow for updating objectives   | PSC Staff   |
| a) Mission acoustics   |             |
| b) Test fishing catches and test fisheries remaining to come   |             |
| c) Stock proportions   |             |
| d) Environmental conditions, and predicted DBE for Early Summer-run sockeye  |             |
| 5) Assessments and recommendations   | Staff/Panel |
| a) Migration graphs, escapement projections, and run-size assessments  | PSC Staff   |
| b) Pink salmon assessments   | PSC Staff   |
| 6) Review and decisions on staff recommendations (abundance, timing, management adjustments)   | Panel       |
| 7) Fishery recommendations   | Panel       |
| a) Secretariat staff evaluation of fisheries recommendations   | PSC staff   |
| b) Panel decisions on fishery recommendations  | Panel       |
| 8) Other Business  | Panel       |
| a) Draft Weekly Report no. 8 (Comments to Les and James)   | Staff/Panel |
| b) Termination of marine purse seines (Area 12, Wed, Sep 6, Area 20, Thurs. Sep 7)   | Panel       |
| b) Next meeting (via teleconference only Tuesday September 5; 11 am?)  | Panel       |

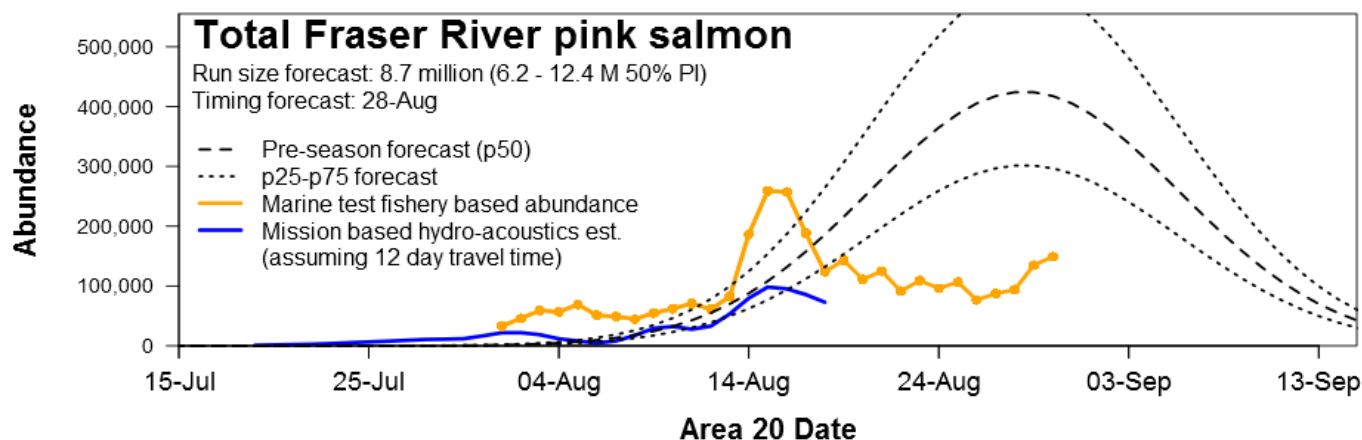
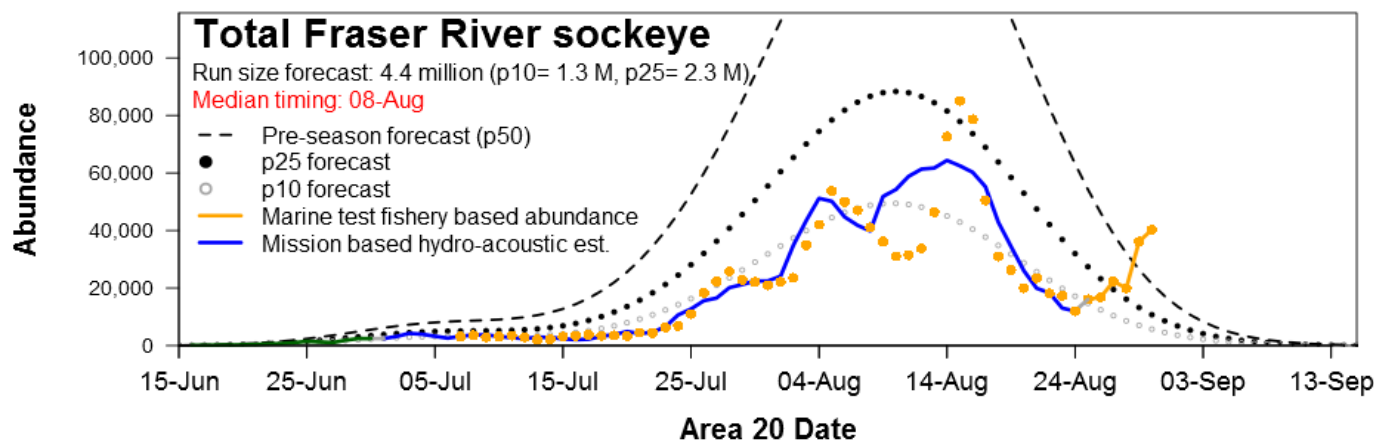
### 2017 Run status of Fraser sockeye salmon

Date: Aug. 31, 2017

Week of: Aug. 27 - Sep. 2, 2017	Sockeye				Pink	
	Management Group				Total Fraser	Total Fraser
	E.Stuart	E.Summer	Summer	Late		
Mission passage <sup>1</sup> (incls Pitt, Alouette, Coquitlam)	46,400	161,000	940,100	93,000	1,240,500	785,100
Catch downstream of Mission	200	2,000	16,000	4,000	22,200	38,000
Accounted run-to-date	46,600	163,000	956,100	97,000	1,262,700	823,100
<b>Run size adopted in-season <sup>2</sup></b>	<b>46,000</b>	<b>150,000</b>	<b>1,000,000</b>	<b>247,000</b>	<b>1,443,000</b>	<b>4,800,000</b>
Run size forecasted pre-season	99,000	343,000	3,407,000	583,000	4,432,000	8,693,000
<b>Area 20 timing adopted in-season</b>	<b>4/Jul</b>	<b>2/Aug</b>	<b>11/Aug</b>	<b>18/Aug</b>	na	<b>24/Aug</b>
Area 20 timing expected pre-season	1/Jul	20/Jul	6/Aug	14/Aug	5/Aug	28/Aug
<b>Johnstone Str. Diversion Rate</b>	In-season 5-day average				97%	72%
	Preseason forecast of annual rate:				51%	50%

1 For pink salmon the accounted run-to-date is a reconstruction-based estimate.

2 Run sizes are usually not adopted until after the peak of the run has passed through marine test fishery areas in Juan de Fuca and Johnstone Straits.



## 2017 Catch-to-date by fishery

Date: Aug. 31, 2017

Week of: Aug. 27 - Sep. 2, 2017		Sockeye		Pink	
		Total	Fraser	Total	Fraser
<b>Canada</b>		<b>52,750</b>	<b>52,650</b>	<b>24,830</b>	<b>15,450</b>
<b>Commercial</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
B Purse Seine		0	0	0	0
D Gillnet		0	0	0	0
E Gillnet		0	0	0	0
F Troll		0	0	0	0
G Troll		0	0	0	0
H Troll		0	0	0	0
<b>First Nations</b>		<b>52,670</b>	<b>52,570</b>	<b>24,790</b>	<b>15,400</b>
Food, Social & Ceremonial (FSC)		52,670	52,570	24,790	15,400
Marine		9,100	9,000	23,430	14,040
Fraser R.		43,530	43,530	1,360	1,400
Lower Fraser (LFA)		14,510	14,510	1,100	1,100
BC Interior (BCI)		29,010	29,010	200	200
Economic Opportunity (EO) & Demonstration (Demo)		0	0	0	0
Fraser R.		0	0	0	0
Lower Fraser (LFA)		0	0	0	0
BC Interior (BCI)		0	0	0	0
<b>Escapement Surplus to Spawning Requirements (ESSR)</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Recreational</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Marine		0	0	0	0
Fraser R. *		0	0	0	0
<b>Charter (Albion gillnet test fishery)</b>		<b>80</b>	<b>80</b>	<b>0</b>	<b>0</b>
<b>United States</b>		<b>400</b>	<b>400</b>	<b>13,900</b>	<b>10,220</b>
<b>Commercial</b>		<b>0</b>	<b>0</b>	<b>13,900</b>	<b>10,220</b>
Treaty Indian (TI)		0	0	10,310	7,420
Areas 4B, 5, 6C		0	0	0	0
Areas 6, 7, 7A		0	0	10,310	7,420
All Citizen (AC)		0	0	3,590	2,790
Purse Seine (PS)		0	0	0	0
Gillnet (GN)		0	0	0	0
Reefnet (RN)		0	0	3,590	2,790
<b>Treaty Indian Ceremonial &amp; Subsistence (C&amp;S)</b>		<b>400</b>	<b>400</b>	<b>0</b>	<b>0</b>
Areas 4B, 5, 6C		0	0	0	0
Areas 6, 7, 7A		400	400	0	0
<b>All Citizen Recreational</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Alaska **</b>		<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>
<b>Panel-approved Test Fisheries</b>		<b>12,990</b>	<b>12,570</b>	<b>33,430</b>	<b>13,720</b>
<b>Panel Waters</b>		<b>6,970</b>	<b>6,670</b>	<b>19,440</b>	<b>10,440</b>
Canada		6,970	6,670	17,260	9,020
U.S.		0	0	2,200	1,420
<b>Non-Panel Waters</b>		<b>6,020</b>	<b>5,910</b>	<b>14,000</b>	<b>3,280</b>
<b>Total</b>		<b>66,110</b>	<b>65,600</b>	<b>72,160</b>	<b>39,390</b>
Catch Seaward of Mission ***		22,700	22,190	70,770	38,000
Catch Upstream of Mission		43,410	43,410	1,390	1,390

\* Recent LFA Recreational catches may be projected based on a scalar applied to Mission Escapement.

\*\* Alaska data are processed post-season and so are unavailable in-season.

\*\*\* All catches in marine areas and in the Fraser River downstream of Mission.

### 2017 Fraser Sockeye Test Fishing & Escapement Summary

Area/Gear Location From A20	Johnstone Strait			Juan de Fuca Strait		Fraser River				Qualark		Hell's Gate
	A12 GN Round Is (-2 days)	A12 PS Blinkhorn (-1 day)	A13 PS Lower JS (+1 day)	A20 GN* Port Renfrew (0 days)	A20 PS Port Renfrew (0 days)	A29B GN Cottonwood (+5 days)	A29D GN Whonnock (+6 days)	Mission Hydroacoustics (+6 days)		GN Catch (+8 days)	Estimate	Estimates <sup>3</sup> (+10 days)
10-Aug	37	576	1,450	6	80	28	51	45,500	S1+M+D2	29	30,192	2,320
11-Aug	23	1,180	289	FIN	111	42	8	48,700	S1+M+D2	52	37,658	1,430
12-Aug	13	819	288		61	23	12	48,000	S1+M+D2	16	37,152	1,830
13-Aug	15	1,652	999		86	18	11	30,400	S1+M+D2	14	35,715	2,500
14-Aug	FIN	2,931	456		262	44	26	35,900	S1+M+D2	33	43,103	5,840
15-Aug		1,995	FIN		376	19	28	38,300	S1+M+D2	41	45,484	4,820
16-Aug		1,155			160	31	18	56,900	S1+M+D2	32	39,882	1,960
17-Aug		761			70	54	17	46,400	S1+M+D2	41	40,832	3,530
18-Aug		233			84	92	40	57,800	S1+M+D2	47	39,811	5,990
19-Aug		616			89	42	29	74,800	S1+M+D2	41	26,572	900
20-Aug		211			56	30	17	50,200	S1+M+D2	26	25,970	2,460
21-Aug		315			49	16	74	65,100	S1+M+D2	40	46,899	4,210
22-Aug		136			59	15	70	64,800	S1+M+D2	50	60,999	5,720
23-Aug		184			12	35	39	39,500	S1+M+D2	41	56,093	15,980
24-Aug		155			11	20	23	48,700	S1+M+D2	50	68,411	8,770
25-Aug		412			2	33	32	31,900	W	30	48,036	7,780
26-Aug		298			12	10	17	18,000	W	31	30,815	5,740
27-Aug		907			8	4	25	25,800	W	17	30,963	1,600
28-Aug		514			9	9	16	14,700	W	29		3,310
29-Aug		2,136			12	0	12	13,700	W	26		2,890
30-Aug		140			4	3	9	10,100	W			4,170

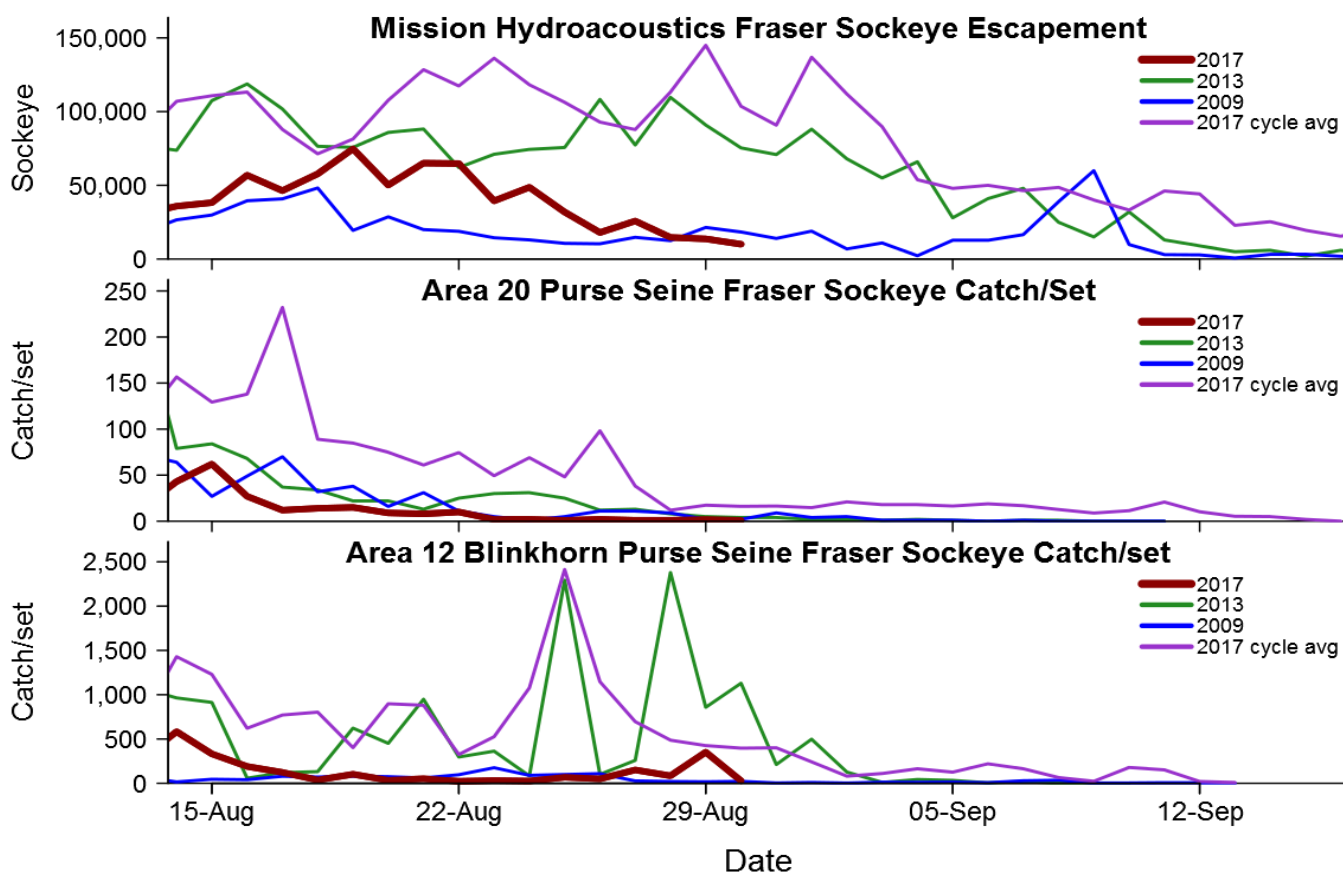
<sup>1</sup> Upstream escapement estimate - does not include Pitt

<sup>2</sup> Mission Source: S1+M+D2 = Left-bank split-beam (S1) + Mobile split-beam (M)+ Right-bank inshore DIDSON (D2)

W = Whonnock sockeye CPUE x Expansion Line (Sockeye escapements from Aug 25 onwards are based on Whonnock CPUE X 12,700 expansion line)

<sup>3</sup> Daily Hell's Gate abundance estimate; actual daily count has been multiplied by 2.

\* Area 20 Gillnet - one boat only for the season



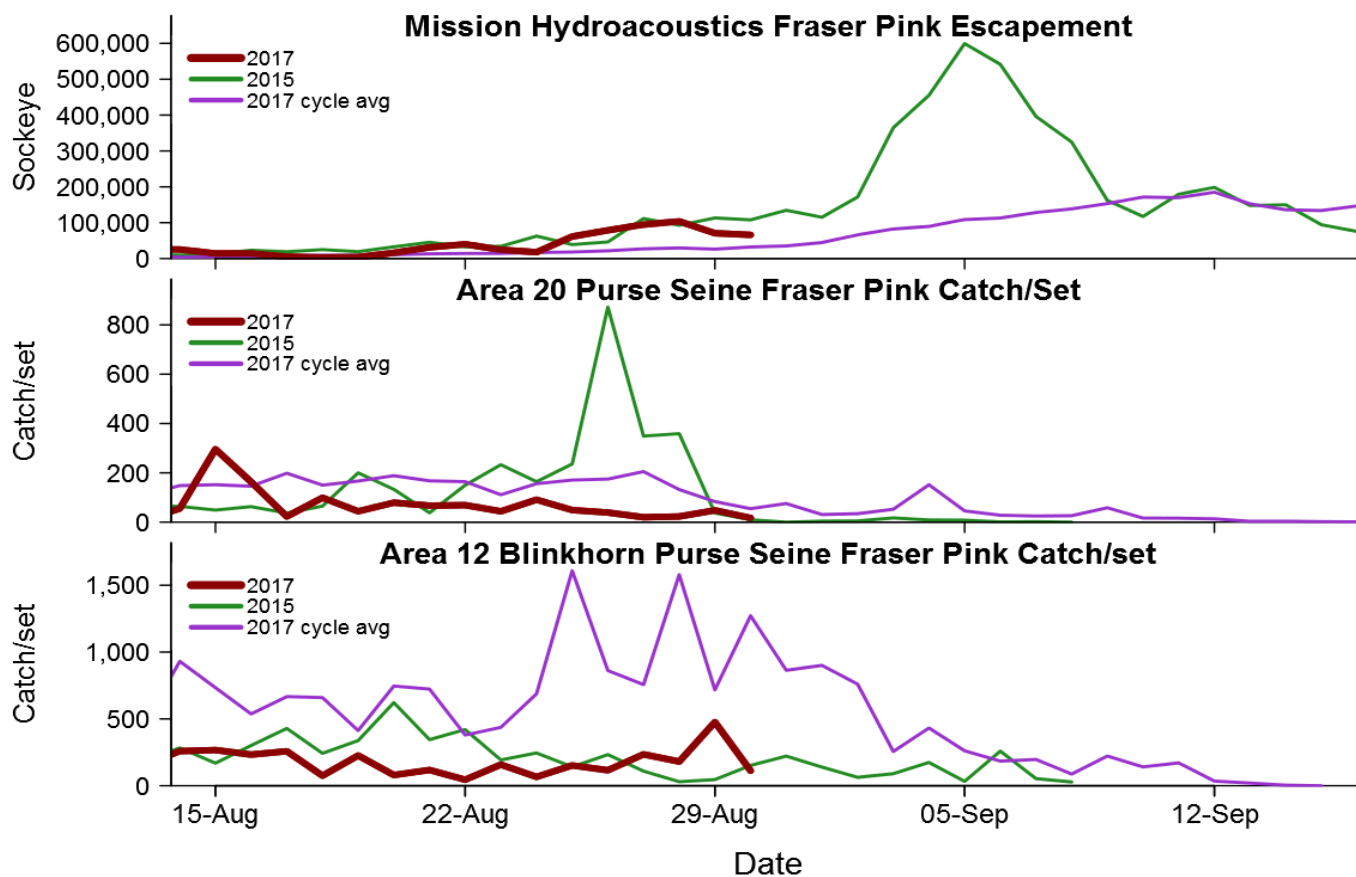


### 2017 Fraser Pink Test Fishing & Escapement Summary

Area/Gear Location	Johnstone Strait			Juan de Fuca Strait		Fraser River				Qualark		Hell's Gate
	A12 GN	A12 PS	A13 PS	A20 GN*	A20 PS	A29B GN	A29D GN	Mission Hydroacoustics		GN Catch	Estimate	Counts
	Round Is (-2 days)	Blinkhorn (-1 day)	Lower JS (+1 day)	Port Renfrew (0 days)	(0 days)	Cottonwood (+5 days)	Whonnock (+6 days)	Estimate (+6 days)	Method <sup>1</sup>	(+8 days)		(+10 days)
10-Aug	25	1760	2113	15	432	0	2	11,200	S1+M+D2	1	1041	0
11-Aug	10	3531	1035	FIN	130	0	1	10,100	S1+M+D2	1	724	0
12-Aug	5	1583	404		104	0	3	14,100	S1+M+D2	1	2322	0
13-Aug	1	2082	1605		105	2	7	25,500	S1+M+D2	0	0	0
14-Aug	FIN	2770	911		631	4	1	25,300	S1+M+D2	3	3918	0
15-Aug		3243	FIN		3267	4	2	14,200	S1+M+D2	2	2219	424
16-Aug		2684			1736	3	3	14,700	S1+M+D2	3	3739	5,222
17-Aug		2841			241	5	1	5,300	S1+M+D2	1	996	162
18-Aug		785			994	2	0	3,100	S1+M+D2	4	3388	74
19-Aug		2292			425	2	2	4,200	S1+M+D2	4	2531	6
20-Aug		780			754	2	1	16,000	S1+M+D2	4	3995	11
21-Aug		1108			622	0	14	31,300	S1+M+D2	5	5862	11
22-Aug		413			623	1	19	39,900	S1+M+D2	4	4692	740
23-Aug		1399			394	11	9	24,700	S1+M+D2	4	5472	700
24-Aug		572			794	11	39	17,600	S1+M+D2	2	2,736	1,079
25-Aug		1280			209	27	61	55,600	S1+M+D2	1	6,005	797
26-Aug		956			324	10	20	85,900	S1+M+D2	8	7,952	670
27-Aug		1895			166	8	28	94,900	S1+M+D2	10	17,202	368
28-Aug		1430			187	19	41	103,700	S1+M+D2	23	-	812
29-Aug		3698			383	0	10	70,700	S1+M+D2	23	-	936
30-Aug		715			137	5	13	66,100	S1+M+D2	-	-	2,646

<sup>1</sup> Mission Source: S1+M+D2 = Left-bank split-beam (S1) + Mobile split-beam (M)+ Right-bank inshore DIDSON (D2)

\* Area 20 Gillnet - one boat only for the season



### 2017 Fraser River Sockeye Salmon Stock identification Review

Recent stock composition estimates for sockeye salmon

Fishing						Fraser-only Stock Proportions by Reporting Group <sup>4</sup> (%)														Age (%)	
						Early Stuart	Early Summer				Summer					Late				Overall Stocks	
							Early Stuart	Chilli-wack	Pitt Alouette Coquit-lam	Nadina Bowron Gates Nahat-latch Taseko	Early Thompson	Early Summer sub-total	Harrison Widgeon	Late Stuart Stellako	Chilko Quesnel	Raft North Thompson	Summer sub-total	Birken-head Big Silver	Late Shuswap Portage	Weaver Cultus	Late sub-total
<b>Johnstone Strait &amp; Queen Charlotte Strait</b>																					
A12 ps	tf	Aug 24	DNA	100	100%	0%	1%		3%	3%	2%	9%	49%	5%	65%	1%	10%	22%	32%	85%	
A12 ps	tf	Aug 26	DNA	100	100%	0%			1%	1%	2%	8%	63%	6%	78%	1%	8%	12%	21%	85%	
A12 ps	tf	Aug 27	DNA	99	100%	0%				0%		12%	65%	4%	81%	6%	5%	8%	19%	90%	
A12 ps	tf	Aug 29	DNA	99	99%	0%		2%		2%	2%	6%	35%	9%	52%	5%	23%	18%	46%	88%	
A12 ps		Sep 3	Prediction	1	100%	0%		1%	1%	1%	1%	5%	51%	14%	71%	4%	13%	12%	28%	NA	
<b>Juan de Fuca Strait &amp; Washington &amp; Other</b>																					
A20 ps	tf	Aug21-23	DNA	70	100%	0%		1%		1%	7%	6%	35%	5%	53%	3%	21%	22%	45%	79%	
A20 ps	tf	Aug24-27	DNA	36	97%	0%				0%	8%	8%	37%		53%	3%	15%	29%	47%	77%	
A20 ps	tf	Aug28-30	Scales	25	0%					0%	12%			12%				0%		60%	
A20 ps		Sep 2	Prediction	1	99%	0%		1%	1%	2%	6%	5%	49%	11%	71%	3%	11%	13%	27%	NA	
<b>In-river</b>																					
BB gn	tf	Aug23-24	DNA	55	100%	0%	4%	3%	1%	7%		15%	54%	11%	80%	5%	2%	5%	13%	93%	
BB gn	tf	Aug25-26	DNA	43	100%	0%				0%		7%	54%	14%	75%	5%	6%	14%	25%	89%	
BB gn	tf	Aug27-28	DNA	14	100%	0%		7%		7%	7%		64%		71%		7%	14%	21%	92%	
AB gn	tf	Aug28-29	Scales	25	0%					0%	20%			20%				0%		64%	

### 2017 Fraser River Pink Salmon Stock identification Review

Recent stock composition estimates for pink salmon

Fishing					DNA % Estimates by Group		
Area/Gear <sup>1</sup>	Sector <sup>2</sup>	Date	Type <sup>3</sup>	Size (n)	Fraser River	Washington	Canada South Coast
<b>Johnstone Strait</b>							
A12 PS	TF	Aug18	DNA	96	51%	15%	34%
A12 PS	TF	Aug25	DNA	96	68%	2%	30%
A12		Sep03	Prediction	1	83%	8%	9%
<b>Juan de Fuca Strait</b>							
A20 PS	TF	Aug19	DNA	90	68%	16%	16%
A20 PS	TF	Aug26	DNA	96	70%	24%	6%
A20		Sep03	Prediction	1	80%	15%	5%
<b>Washington</b>							
A7 RN	CM	Aug25	DNA	96	72%	9%	19%
A7 MGS	CM	Aug25-26	DNA	96	95%	2%	2%
A7		03-Sep	Prediction	1	82%	12%	6%

**Notes for sockeye and pink tables:**

<sup>1</sup> GU TR=29\_1-6, BB GN=29\_13 (Cottonwood), AB GN=29\_16 (Whonnock), MI GN=Mission test fishery, QU GN=Qualark

<sup>2</sup> TF=sample from test fishery catch, CM=sample from commercial catch, C&S=ceremonial & subsistence catch, FSC=food, social, & ceremonial catch

<sup>3</sup> Predictions for sockeye are multinomial extrapolations of current year data to 5 days after the last observation; Predictions for pink salmon are projections of stock compositions based on historic and current data

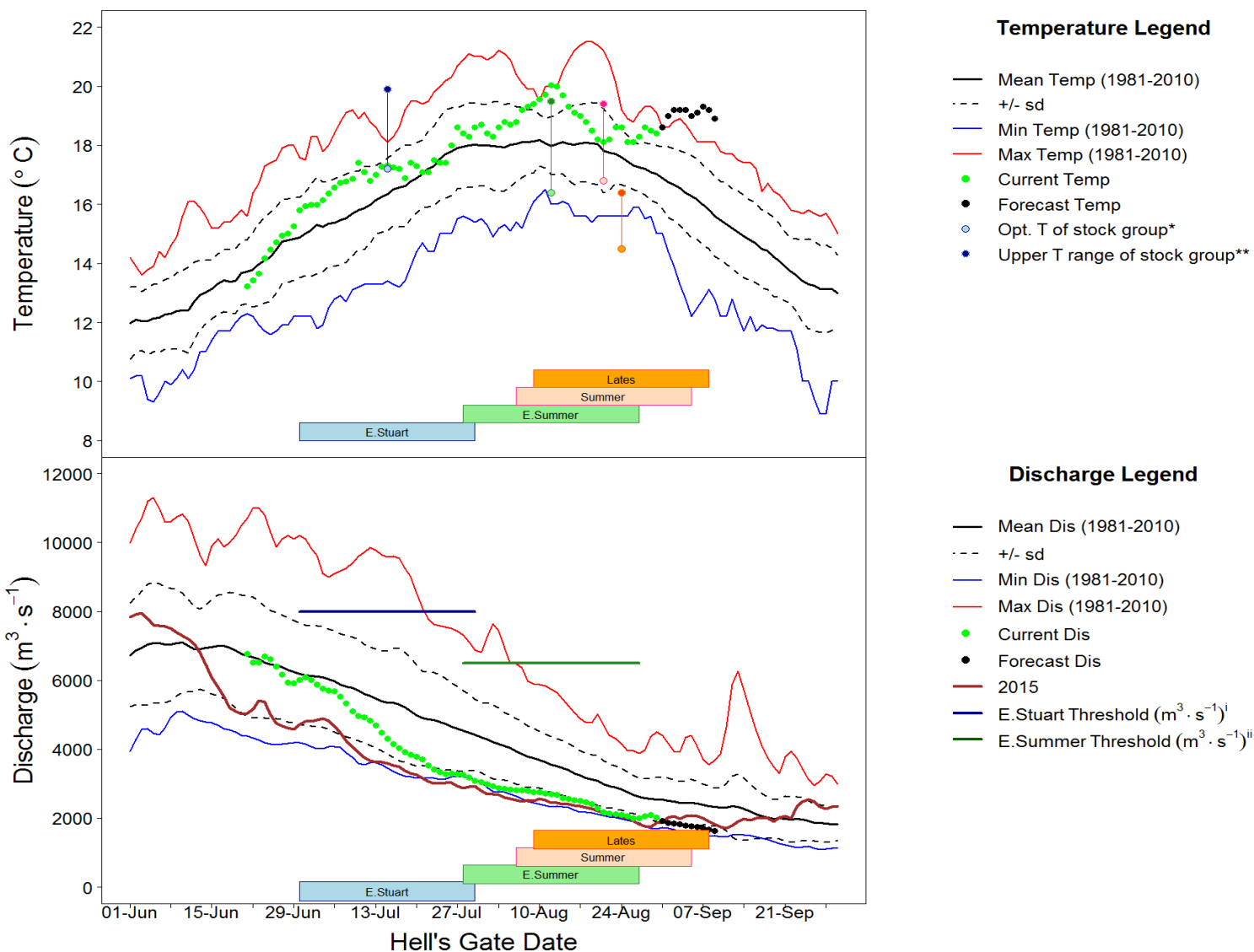
<sup>4</sup> Further information relating stock group descriptions to spawning ground locations and population definitions can be found at [http://www.psc.org/FRPWeb/Escapement/PSC\\_Fraser\\_Sockeye\\_Stock\\_Group\\_Definitions.pdf](http://www.psc.org/FRPWeb/Escapement/PSC_Fraser_Sockeye_Stock_Group_Definitions.pdf)

Results in grey text have been presented to the Panel previously

<b>Observed Fraser River Temperature at Qualark for 30-Aug</b>	18.4°C
<b>Average (1981-2010) Historical Temperature on this day</b>	17°C
<b>Deviation from Average</b>	1.4°C
<b>Forecast Temperature for 5-Sep-17</b>	19°C

Temperatures are forecasted to be quite hot in Kamloops next week which is expected to drive up the river temperature. However, Kamloops is again having issues with smoke so it's uncertain if forecasted air temperatures will be realized if the smoke persists.

<b>Observed Fraser River Discharge at Hope for 30-Aug</b>	2025 m <sup>3</sup> ·s <sup>-1</sup>
<b>Average (1981-2010) Historical Discharge on this day</b>	2542 m <sup>3</sup> ·s <sup>-1</sup>
<b>% above or below Historical Discharge</b>	-20%
<b>Forecast Discharge for 5-Sep-17</b>	1767 m <sup>3</sup> ·s <sup>-1</sup>

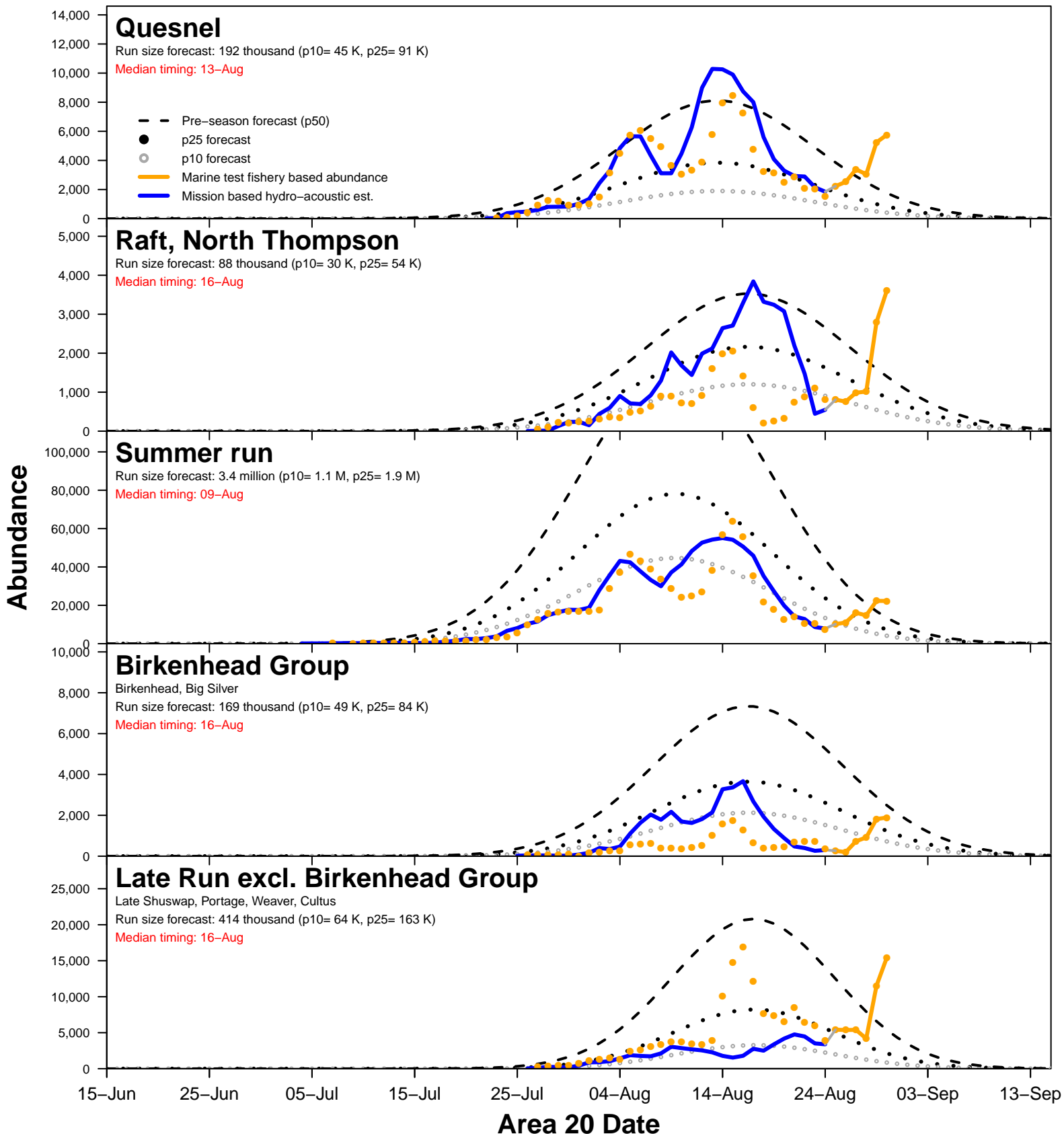


Run timing bars represent a 31 day spread of the run centered around the Hell's Gate date. Hell's gate timing is 5 days from Mission for Early Stuart and Lates; and 4 days from Mission for Early Summer and Summer run. <sup>i</sup>pMA is the proportional increase to spawning escapement targets to help ensure targets are achieved. <sup>ii</sup>%DBE is %difference between estimates of potential spawning escapement and spawning escapement. \*This is the optimum temp for aerobic swimming - T<sub>opt</sub> (Eliason et al. (2011). Science 332: 109-112)\*\*This is the upper range of the optimum temp for aerobic swimming - T<sub>pejus</sub>. <sup>i</sup>Discharge threshold of 8000cms for Early Stuart from Macdonald (2000). Can. Tech. Rep. Fish. Aquat. Sci. 2315: 120p. <sup>ii</sup>Discharge threshold of 6500cms for Early Summer from Macdonald et al. (2011). Trans. Am. Fish. Soc. 139: 768-782. 19 days of T & Q data are required to calculate a pMA - 15 days before the Hell's Gate Date and 3 days after. MA estimates can be calculated 4 days after the Area 20 date.

<b>Current Temperatures</b>				
<b>30-Aug</b>	<b>Daily Mean</b>	<b>Historic Median</b>	<b>Deviation from Historic Median</b>	<b>Year Range</b>
<b><u>Fraser River Mainstem</u></b>				
Fraser River @ Qualark	<b>18.4</b>	<b>17.3</b>	<b>1.1</b>	<b>1994-2016</b>
Fraser River @ Texas Creek	<b>17.5</b>	<b>16.2</b>	<b>1.3</b>	<b>2006-2016</b>
Fraser @ Marguerite	<b>NA</b>	<b>NA</b>	<b>NA</b>	
Upper Fraser @ Shelley	<b>14.6</b>	<b>13.7</b>	<b>0.9</b>	<b>1994-2016</b>
<b><u>Fraser River Tributaries</u></b>				
Thompson R. @ Ashcroft	<b>18.5</b>	<b>17.9</b>	<b>0.6</b>	<b>1995-2016</b>
South Thompson @ Chase	<b>NA</b>	<b>19.4</b>	<b>NA</b>	<b>1995-2016</b>
North Thompson @ McLure	<b>17.4</b>	<b>14.8</b>	<b>2.6</b>	<b>2000-2016</b>
Quesnel R. @ Quesnel	<b>17.4</b>	<b>16.5</b>	<b>0.9</b>	<b>1994-2016</b>
Nechako R. @ Isle Pierre	<b>NA</b>	<b>16.7</b>	<b>NA</b>	<b>2006-2016</b>
Stuart R. @ Ft. St. James	<b>17.0</b>	<b>16.5</b>	<b>0.5</b>	<b>2000-2016</b>

# 2017 Fraser River sockeye daily migration abundance

## Using median timing estimates



## 2017 Fraser River sockeye abundance en-route to Mission

Current date: 31-Aug

Area 20 date	Escapement past Mission through 30-Aug	Projected abundance en route to Mission based on marine test fishery data <sup>1,2</sup>							Total	80% PI <sup>3</sup>		Escapement + projections through 05-Sep			
		25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug		01-Sep	02-Sep		03-Sep	04-Sep	05-Sep
<b>Mission date</b>															
<b>Total Fraser</b>	<b>1,240,200</b>	<b>10,900</b>	<b>23,100</b>	<b>15,900</b>	<b>27,600</b>	<b>16,000</b>	<b>64,100</b>	<b>157,600</b>	<b>95,900</b>	<b>228,100</b>	<b>1,397,800</b>				
<b>Early Stuart</b>	<b>46,400</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>46,400</b>				
<b>Early Summer Run</b>	<b>160,600</b>	<b>100</b>	<b>300</b>	<b>100</b>	<b>0</b>	<b>200</b>	<b>1,300</b>	<b>2,000</b>	<b>1,000</b>	<b>4,100</b>	<b>162,600</b>				
Chilliwack	16,400	0	0	0	0	0	0	0	0	0	16,400				
Pitt/Alouette/Coquitlam	90,500	0	100	0	0	0	0	100	0	200	90,600				
Nadina/E.Thomp. group <sup>4</sup>	53,700	100	200	100	0	200	1,300	1,900	900	3,900	55,600				
<b>Summer Run</b>	<b>940,200</b>	<b>7,100</b>	<b>14,500</b>	<b>11,200</b>	<b>22,200</b>	<b>10,600</b>	<b>33,600</b>	<b>99,200</b>	<b>60,500</b>	<b>142,800</b>	<b>1,039,400</b>				
Harrison / Widgeon <sup>2</sup>	51,200	300	700	500	0	200	1,300	3,000	1,800	4,300	54,200				
Late Stuart / Stellako	246,800	1,000	1,700	1,200	3,300	1,400	3,900	12,500	7,600	18,000	259,300				
Chilko / Quesnel	600,200	5,300	11,100	8,700	17,700	7,900	22,300	73,000	44,500	105,100	673,200				
Raft / North Thompson	42,000	500	1,000	800	1,200	1,100	6,100	10,700	6,500	15,400	52,700				
<b>Late Run</b>	<b>93,000</b>	<b>3,700</b>	<b>8,300</b>	<b>4,600</b>	<b>5,400</b>	<b>5,200</b>	<b>29,200</b>	<b>56,400</b>	<b>34,400</b>	<b>81,200</b>	<b>149,400</b>				
Birkenhead / Big Silver	35,900	100	300	200	1,700	800	2,900	6,000	3,700	8,600	41,900				
Late run excl Birkenhead <sup>2</sup>	57,100	3,600	8,000	4,400	3,700	4,400	26,300	50,400	30,700	72,600	107,500				

<sup>1</sup> En route catches are incomplete: catches from present and future fisheries must be deducted from projections and added to the catches removed

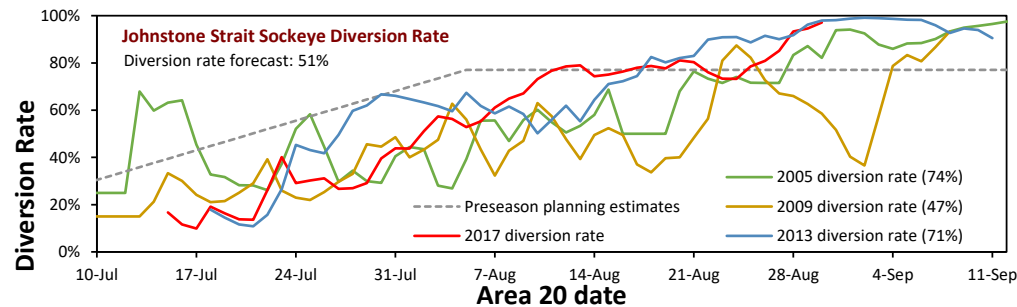
<sup>2</sup> Projected abundances en route to Mission include Harrison and Late runs, an uncertain number of which are expected to delay

<sup>3</sup> 80% Probability Interval: there exists an 80% chance that the true abundance lies within this interval

<sup>4</sup> Nadina / Bowron / Gates / Nahatlatch / Taseko / Early South Thompson / North Barriere

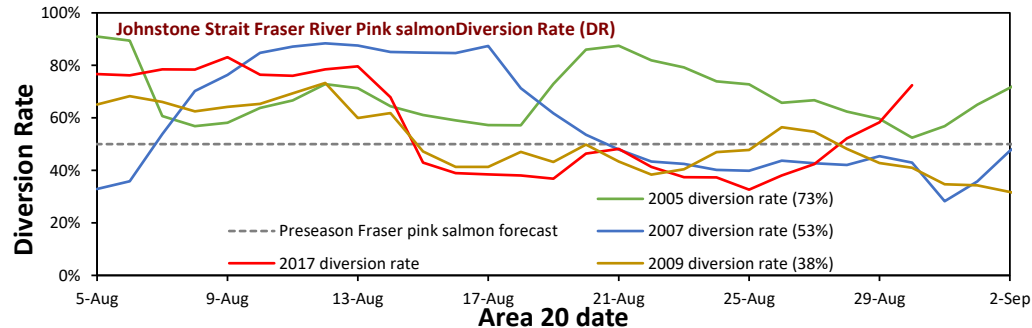
## 2017 Fraser River sockeye diversion rates through Johnstone Strait

	5-day average
<b>Diversion rate</b>	<b>97%</b>
Gillnet	#N/A
Purse Seine	97%

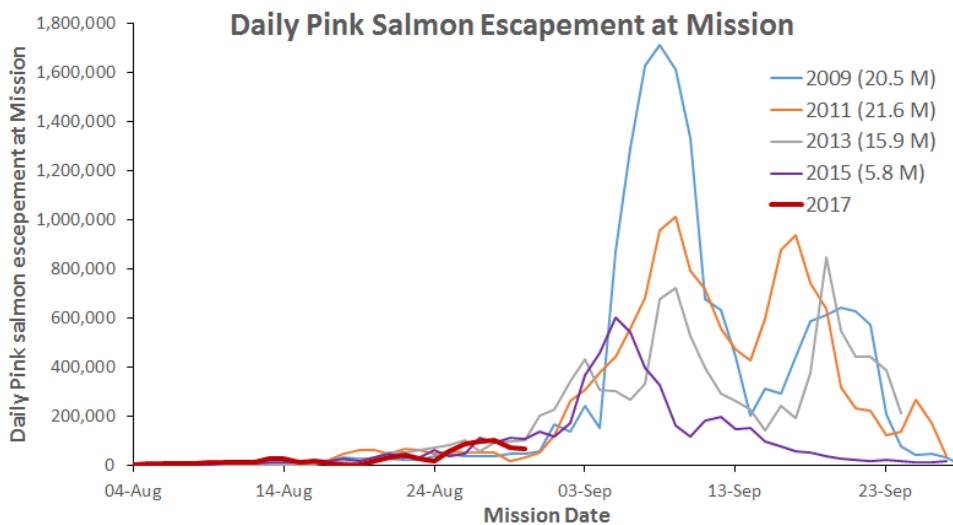
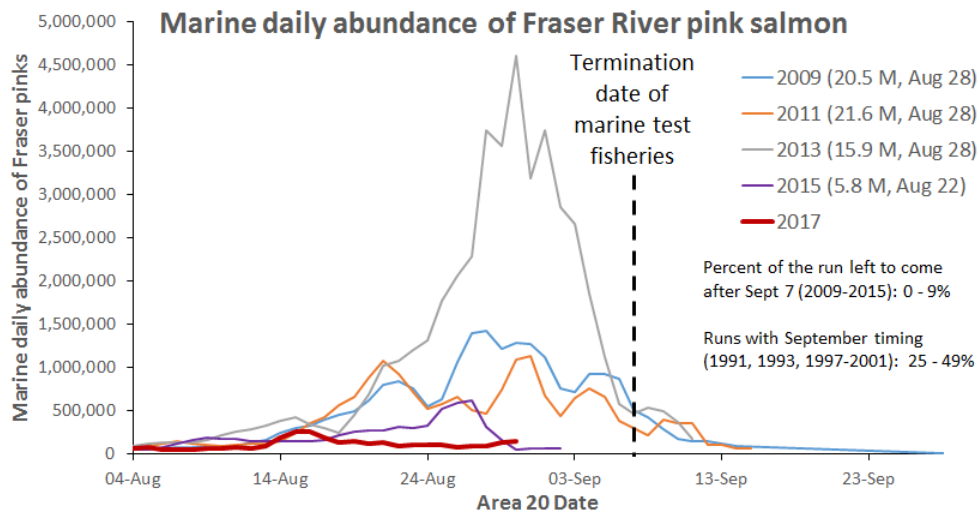
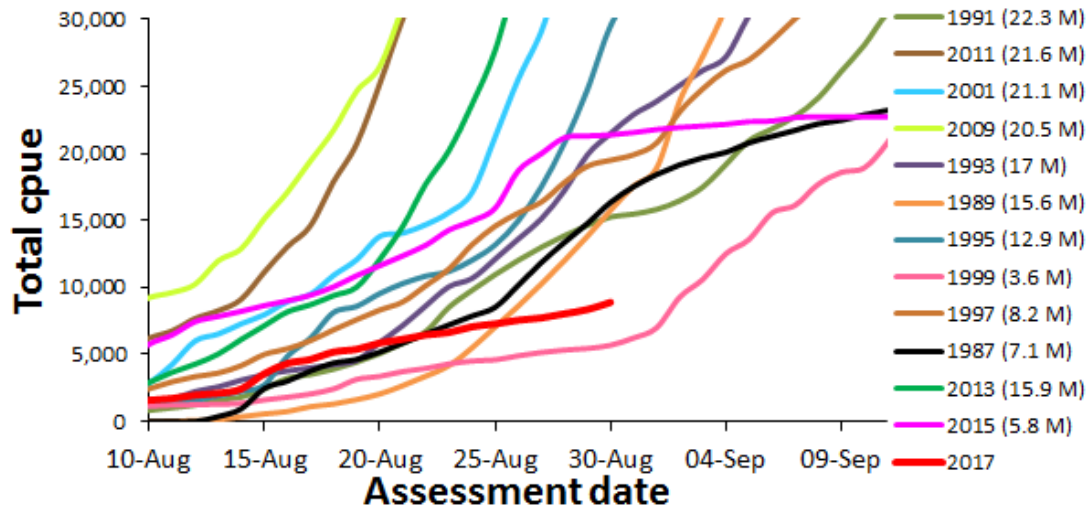


## 2017 Fraser River Pink salmon diversion rates through Johnstone Strait

	5-day-average
Total pink salmon	72%
Fraser pink salmon	72%



## 2017 pink salmon assessment information



**2017 Fraser River run size and timing estimates**

Preseason forecasts, inseason estimates, and official estimates of run size and associated timing

	Run size								Run timing <sup>1</sup>							
	Preseason Forecast	Inseason Adopted	Catch + Escape.	Delay <sup>3</sup>	6-day Projection <sup>4</sup>	Salmon seaward		Run size estimate			Method	Preseason Forecast	Inseason Adopted	Timing estimate		
						Abundance	%	Median	80% PI <sup>2</sup>					Median	80% PI	
<b>Total Fraser sockeye</b>	<b>4,432,000</b>		<b>1,262,000</b>	<b>82,000</b>	<b>171,000</b>	<b>42,000</b>	<b>3%</b>	<b>1,542,000</b>	<b>1,423,000</b>	<b>1,680,000</b>		<b>05-Aug</b>		<b>11-Aug</b>	<b>09-Aug</b>	<b>11-Aug</b>
<b>Early Stuart</b>	<b>99,000</b>	<b>46,000</b>	<b>47,000</b>		<b>0</b>	<b>0</b>	<b>0%</b>	<b>47,000</b>	<b>43,000</b>	<b>50,000</b>	<b>Recon.</b>	<b>01-Jul</b>	<b>04-Jul</b>	<b>04-Jul</b>	<b>03-Jul</b>	<b>04-Jul</b>
<b>Early Summer Run</b>	<b>343,000</b>	<b>150,000</b>	<b>162,000</b>		<b>1,000</b>	<b>2,000</b>	<b>1%</b>	<b>165,000</b>	<b>163,000</b>	<b>166,000</b>	<b>Sum</b>	<b>20-Jul</b>	<b>02-Aug</b>	<b>04-Aug</b>	<b>03-Aug</b>	<b>04-Aug</b>
Chilliwack	78,000		17,000		0	0	0%	17,000	17,000	17,000	Recon.	08-Jul		11-Jul	11-Jul	11-Jul
Pitt/Alouette/Coquitlam	84,000		91,000		0	0	0%	91,000	91,000	91,000	Recon.	23-Jul		03-Aug	03-Aug	03-Aug
Nadina Group <sup>5</sup>	131,000		35,000		1,000	1,000	3%	37,000	36,000	38,000	Recon.	24-Jul		09-Aug	09-Aug	10-Aug
Early Thompson <sup>6</sup>	50,000		19,000		0	1,000	5%	20,000	19,000	20,000	Recon.	28-Jul		12-Aug	11-Aug	12-Aug
Est. used for Management adjustment calculations: Early Summers excl. Chilliwack and Pitt								57,000	55,000	58,000				10-Aug	10-Aug	10-Aug
<b>Summer Run</b>	<b>3,407,000</b>	<b>1,000,000</b>	<b>956,000</b>	<b>13,000</b>	<b>114,000</b>	<b>22,000</b>	<b>2%</b>	<b>1,090,000</b>	<b>1,036,000</b>	<b>1,153,000</b>	<b>Sum</b>	<b>06-Aug</b>	<b>11-Aug</b>	<b>12-Aug</b>	<b>11-Aug</b>	<b>12-Aug</b>
Harrison / Widgeon	255,000		52,000	13,000	3,000	2,000	3%	70,000	63,000	77,000	Recon.	03-Aug		06-Aug	05-Aug	07-Aug
Late Stuart / Stellako	730,000		252,000		13,000	1,000	0%	266,000	261,000	273,000	Recon.	04-Aug		07-Aug	06-Aug	07-Aug
Chilko	2,142,000		480,000		50,000	8,000	1%	538,000	515,000	566,000	Recon.	06-Aug		12-Aug	12-Aug	13-Aug
Quesnel	192,000		129,000		23,000	4,000	3%	156,000	145,000	168,000	Recon.	06-Aug		14-Aug	14-Aug	15-Aug
Raft / North Thompson	88,000		42,000		11,000	7,000	12%	60,000	52,000	69,000	Recon.	15-Aug		18-Aug	17-Aug	19-Aug
Estimates used for Management adjustment calculations: Summer Run excl. Harrison								1,020,000	973,000	1,076,000				11-Aug	11-Aug	12-Aug
<b>Late Run</b>	<b>583,000</b>	<b>247,000</b>	<b>97,000</b>	<b>69,000</b>	<b>56,000</b>	<b>18,000</b>	<b>8%</b>	<b>240,000</b>	<b>181,000</b>	<b>311,000</b>	<b>Sum</b>	<b>14-Aug</b>	<b>18-Aug</b>	<b>17-Aug</b>	<b>16-Aug</b>	<b>21-Aug</b>
Birkenhead Group <sup>7</sup>	169,000		36,000		6,000	2,000	5%	44,000	40,000	48,000	Recon.	15-Aug		15-Aug	15-Aug	15-Aug
L.Shuswap/Weaver Gr. <sup>8</sup>	414,000		61,000	69,000	50,000	16,000	8%	196,000	141,000	263,000	Recon.	13-Aug		18-Aug	16-Aug	23-Aug
<b>Fraser Pink salmon</b>	<b>8,700,000</b>	<b>4,800,000</b>	<b>820,000</b>	<b>1,655,000</b>	<b>635,000</b>	<b>1,690,000</b>	<b>35%</b>	<b>4,800,000</b>	<b>2,600,000</b>	<b>9,200,000</b>		<b>28-Aug</b>	<b>24-Aug</b>	<b>24-Aug</b>	<b>16-Aug</b>	<b>01-Sep</b>

- <sup>1</sup> Run timing refers to the date when 50% of the run migrated past the Area 20 reference point.
- <sup>2</sup> 80% Probability Interval: there exists an 80% chance that the true abundance lies within this interval.
- <sup>3</sup> This may include delaying fish for Harrison, Late Shuswap, Portage, Weaver, Cultus and Pink salmon
- <sup>4</sup> Normally based on fishery data. Based on Model if Method = Recon(2). Based on 12-days for Pink salmon
- <sup>5</sup> Nadina / Bowron / Gates / Nahatlatch / Taseko.
- <sup>6</sup> Early South Thompson / North Barriere.
- <sup>7</sup> Birkenhead / Big Silver
- <sup>8</sup> Late Shuswap / Portage / Weaver / Cultus

**Method for run size estimation**

- Model Run size assessment model (median)
- Recon. Reconstruction consisting of catch + escapement + 6 day projection + seaward projection
- Recon(2) Reconstruction consisting of catch + escapement + model projections
- M&M Run size assessment model (average of median and mode)
- p25 p25 preseason forecast level
- Timing Timing based

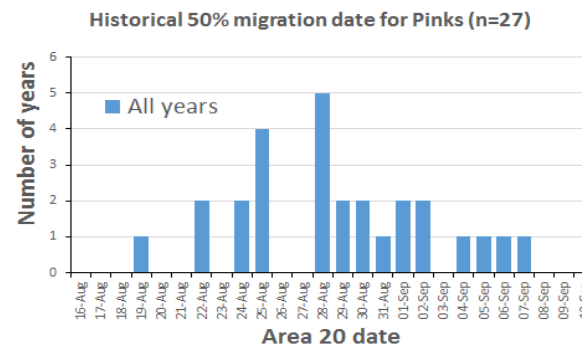
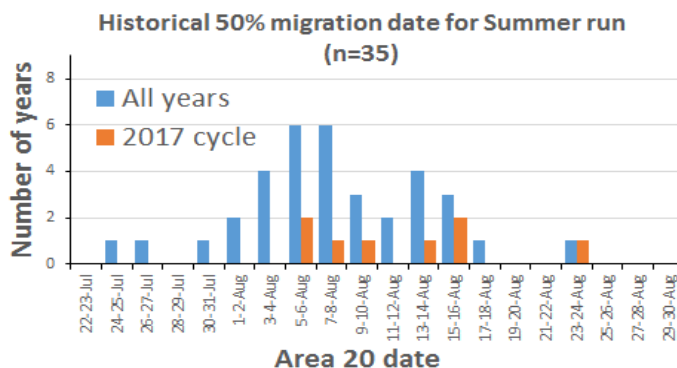
**Summer-run run size based on timing**

<b>Reconstructed-to-date:</b>	<b>1,070,000</b>
	<b>Run Size* % Seaward</b>
Based on timing of 12-Aug	1,156,000 7%
Based on timing of 13-Aug	1,278,000 16%
Based on timing of 14-Aug	1,373,000 22%
Based on timing of 15-Aug	1,491,000 28%

**Fraser pink salmon run size based on timing**

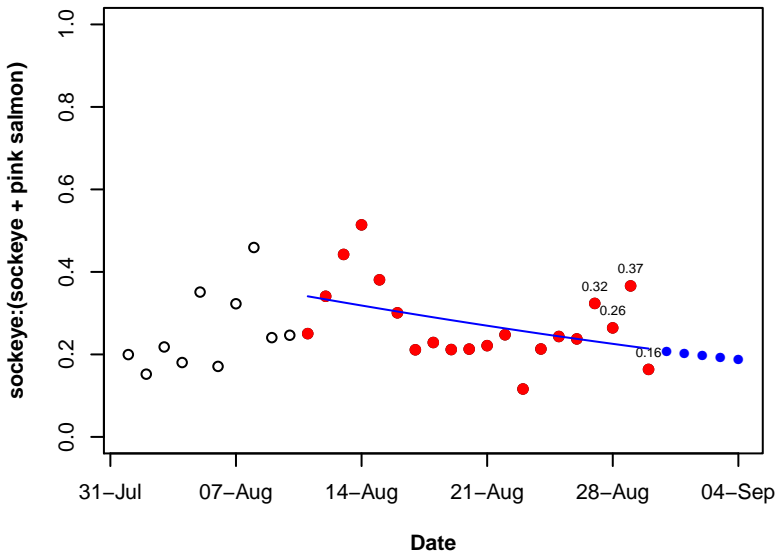
<b>Reconstructed-to-date:</b>	<b>3,111,000</b>
	<b>Run Size* % Seaward</b>
Based on timing of 19-Aug	3,800,000 18%
Based on timing of 21-Aug	4,300,000 28%
Based on timing of 23-Aug	4,600,000 32%
Based on timing of 25-Aug	5,100,000 39%

\* Based on % seaward in 1991-2015 if timing is later than 30-Aug

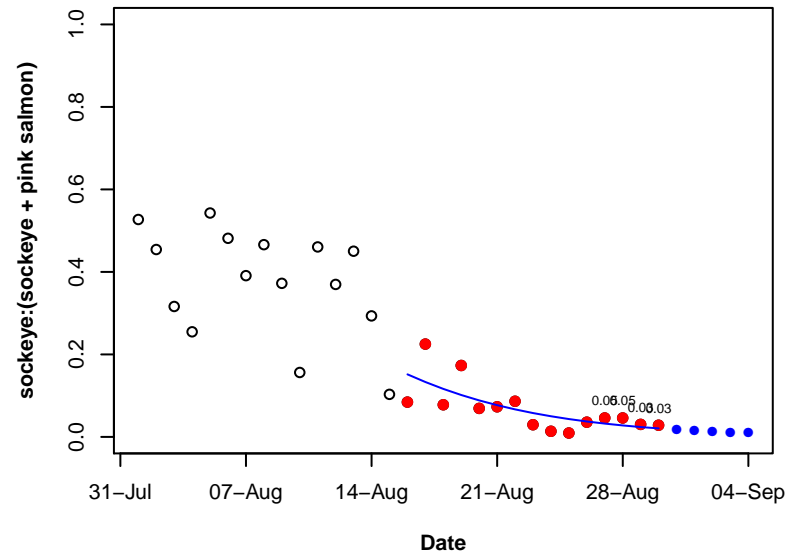




Proportion of sockeye in  
A12PS TF: 0.19



Proportion of sockeye in  
A20PS TF: 0.01



## 2017 Predicted Fraser River Sockeye Mortality in Pink Directed Fisheries

	Fraser River Predicted Sockeye Mortality and Pink Catch				
	Total	E Summers	Summer	Lates	Pink
<b>Predicted Total over last 4 days: Treaty Indian</b>	388	2	215	171	59,025
<b>Actual PS Catch: Sockeye (Aug 30); Pink (Aug 30)*</b>	130				5,031
<b>Predicted Total over last 4 days: All Citizen</b>	97	0	54	43	59,025
<b>Actual PS Catch: Pink (Aug 29)</b>	na				2

Date: 08/31/2017

\* Data from one seine boat, second seiner data not available yet.

Area 7 date	Fraser River pink salmon <sup>1</sup>		% Sockeye S/(S+P)	Fraser River Sockeye Salmon <sup>2</sup>				US encounter rate <sup>3</sup>	Mortality rate <sup>4</sup>	Predicted mortality of Sockeye <sup>5</sup>	
	Predicted abundance	Predicted catch <sup>6</sup>		Total	Esummers	Summer	Lates			Total Treaty Indian	Total All Citizen <sup>7</sup>
22-Aug	171,000	31,800	4%	7,697	173	5725	1798	0.15	0.25	1,154	289
23-Aug	24,000	24,225	16%	4,645	125	3246	1275	0.15	0.25	697	174
24-Aug	104,000	20,850	5%	5,369	46	2864	2459	0.15	0.25	805	201
25-Aug	46,000	20,925	16%	8,913	66	4771	4077	0.15	0.25	1,337	334
26-Aug	83,000	21,150	2%	1,783	11	958	814	0.15	0.25	267	67
27-Aug	70,000	22,125	2%	1,520	0	811	709	0.15	0.25	228	57
28-Aug	72,000	19,575	1%	559	0	295	264	0.15	0.25	84	21
29-Aug	47,000	19,650	3%	1,448	0	655	793	0.15	0.25	217	54
30-Aug	96,000	21,750	1%	965	0	437	529	0.15	0.25	145	36
31-Aug	51,000	17,925	1%	580	2	335	243	0.15	0.25	87	22
01-Sep	41,000	11,550	2%	777	6	485	286	0.15	0.25	117	29
02-Sep	21,000	7,800	1%	260	4	174	83	0.15	0.25	39	10

<sup>1</sup> Assumed travel time for pink salmon from Area 20 to Area 7 is 6 days<sup>2</sup> Assumed travel time for sockeye salmon from Area 20 to Area 7 is 3 days<sup>3</sup> Assumes 15% of sockeye entering US waters will be encountered in pink fisheries.<sup>4</sup> Sockeye release mortality of 25% applied to purse seine catches based on past studies<sup>5</sup> Assumes Treaty Indian and All Citizen fisheries will be take place on different days<sup>6</sup> Assumes fishing on 2 days (or blocks) of fish and 15% encounter rate<sup>7</sup> Fish encountered by All Citizen will be subject to 25% release mortality; no gillnet harvest, only applies to purse seine