

# North Coast Salmon Update ~~#3~~ #4 – Tuesday, July 11, 2017

Please note that in-season updates always deal in preliminary numbers. Usually these change somewhat upon receipt and analysis of all the data.

## Haida Gwaii

### Area F Troll Update

#### Chinook

The 2017 Area F Troll chinook TAC is 108,500 pieces, and will be managed to the maximum 3.2% exploitation objective on WCVI chinook using an Effort / Harvest Relationship Management Tool. The troll fishery opened June 21<sup>st</sup> (FN0513). Average CPUE over the past week as declined to 34 chinook per vessel per day which is above the decadal average. The estimated total catch as of July 10<sup>th</sup> is 64,200 chinook which is 59% of the 2017 Area F Troll TAC. The total chinook validated to date is 38,964 pieces. The estimated harvest rate of WCVI chinook is 1.1% as estimated by fishing effort using the Effort Harvest Management Tool.

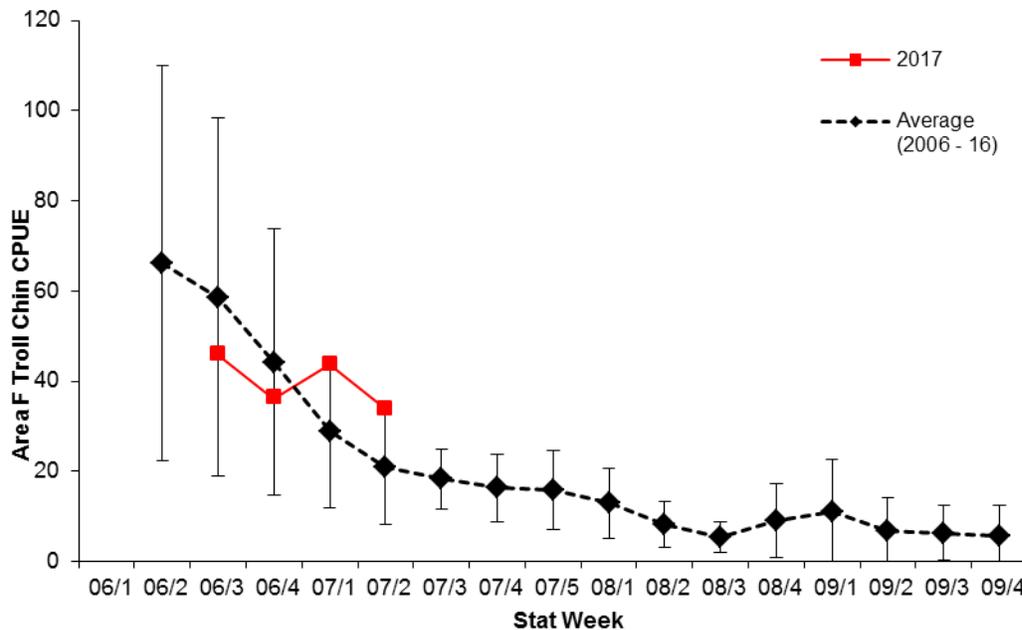


Figure 1: Area F Troll chinook interceptions per vessel day (CPUE includes retained + releases) by week. Black diamonds represent mean weekly CPUE for last decade. Black vertical bars represent 1 S.D. Red squares represent 2017 mean values.

#### Coho

The A-B Line coho retention fishery opened July 1<sup>st</sup> (FN0572) with retention of coho and pink salmon and the Dixon Entrance targeted coho Fishery opened today (FN0590). The current coho catch is estimated to be 7,700 pieces. The observed coho CPUE declined over the weekend as the fleet shifted in preparation for the main opening today. The coho CPUEs from late June and early July were above average.

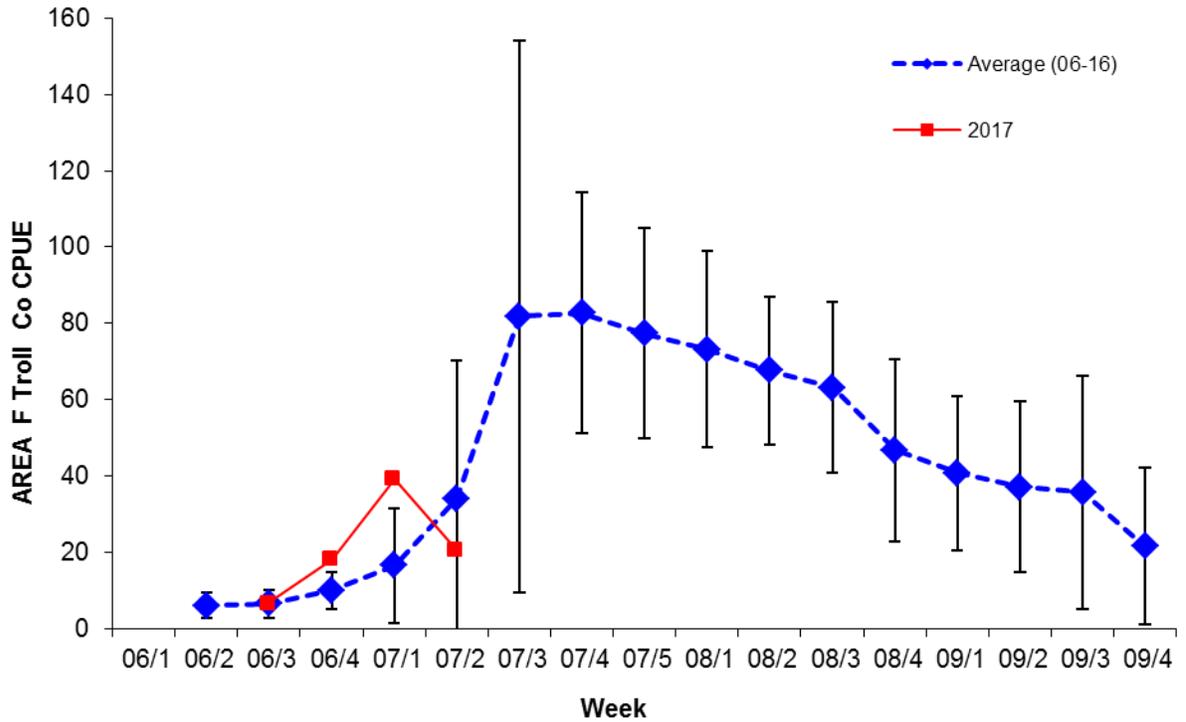


Figure 2: Area F Troll coho interceptions per vessel day (CPUE includes retained + releases) by week. Blue diamonds represent mean weekly CPUE for the last decade. Black vertical bars represent 1 S.D. Red squares represent 2017 mean values. There is a sockeye non-retention regulation in place for all Area F troll fisheries.

Table 1 – Summary of Area F Troll catch and releases to date by week.

WEEK	End Date	Effort	Chinook		Coho		Pink		Sockeye		Chum	
			Kept	Rel.	Kept	Rel.	Kept	Rel.	Kept	Rel.	Kept	Rel.
25	24-Jun	532	18,199	1,509	0	2,901	98	184	0	0	0	129
26	1-Jul	656	20,424	3,415	164	11,871	454	351	0	19	0	142
27	8-Jul	614	23,001	4,493	7,706	16,988	2,601	1,793	0	52	0	226
28	15-Jul	96	2,581	460	0	1,850	226	668	0	0	0	27
	<b>Total</b>		<b>64,205</b>	<b>9,877</b>	<b>7,870</b>	<b>33,610</b>	<b>3,379</b>	<b>2,996</b>	<b>0</b>	<b>71</b>	<b>0</b>	<b>524</b>

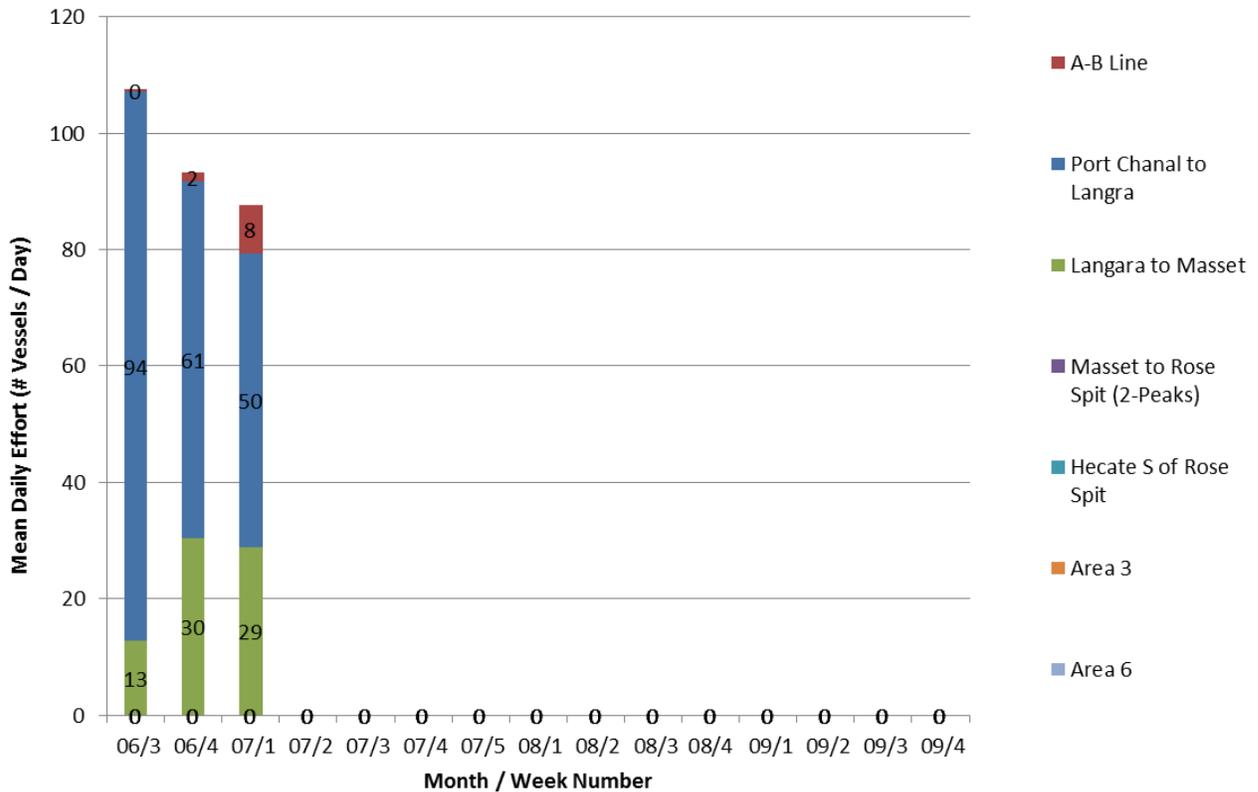


Figure 3: Distribution of fishing effort of the Area F Troll fleet by week.

## Area 1-2 Recreational

The majority of lodges commenced fishing operations in early June. Anecdotal reports have indicated lower chinook abundance and above average coho abundance compared to the last few years. June catch information will be available next week.

## Area 3 (Nass River)

Nass River sockeye returns are forecasted to be slightly below the 20-year average with an expected Total Return to Canada (TRTC) of 454,000 (50% probability) based on the sibling relationship model. In addition, a below average return of 24,000 (50% probability) upper Nass chinook was anticipated.

The Nass River fish wheels have been in operation since May 31<sup>st</sup>. The river level of 2.2m at the Gitwinksilkh Canyon on July 9<sup>th</sup> is 0.6m below the mean water level, for this date, since the fish wheel program began in 1994. In addition, current water temperatures are slightly warmer than the 1994–2016 average (10.3°C vs. 9.5°C). Sockeye and chinook catches at the fish wheels are well below average, while coho and steelhead catches are above average.

The current estimated escapement to the lower fish wheels continues to be well below average, to date, (57,133 vs. 105,000 mean) for sockeye and chinook (3,380 vs. 16,700 mean). Based on

average run-timing, 37% of sockeye and 83% of Nass chinook had migrated past the lower fish wheels as of this past Sunday (July 9<sup>th</sup>).

Based on average run timing and in-season catch and escapement to date, the projected in-season TRTC estimate for Nass sockeye is 262,000, and 12,000 for upper Nass chinook. It is still too early to derive predictions for other salmon species.

### Net Fisheries:

The gill net fleet is now restricted from fishing Area 3 to protect Kwinageese sockeye. The next possible Area 3 gill net opportunity will be no sooner than July 23, and will be dependent on Nass sockeye abundance.

### Area 3 Gillnet Catch Estimates

#### Management Area 3

Stat Week	Week of Year	Date	Effort	Sockeye Salmon		Coho Salmon		Pink Salmon		Chum Salmon		Chinook Salmon		Steelhead	Status
				Kept	Rel	Kept	Rel	Kept	Rel	Kept	Rel	Kept	Rel	Rel	
		06-Jun	61	1263	0	1	0	0	0	0	2	85	27	22	Reviewed
		07-Jun	49	440	0	0	0	0	0	4	11	22	14		
		Total for Week	110	1703	0	1	0	0	0	6	96	49	36		
		12-Jun	121	4778	0	1	3	0	0	0	13	403	117	30	Reviewed
		13-Jun	124	2118	0	11	3	0	0	32	144	76	31		
		Total for Week	245	6896	0	12	6	0	0	45	547	193	61		
		19-Jun	179	4796	0	16	4	0	0	0	139	219	90	60	Reviewed
		20-Jun	131	2599	0	16	2	0	0	227	39	40	24		
		Total for Week	310	7395	0	32	6	0	0	366	258	130	84		
		26-Jun	190	10690	0	92	1	6	1	901	162	250	124	39	Reviewed
		27-Jun	110	3301	0	175	5	41	2	3307	57	106	3	14	
		Total for Week	300	13991	0	267	6	47	3	4208	219	356	127	53	
		03-Jul	113	4458	0	299	0	691	0	0	1186	0	88	12	Preliminary
		Total for Week	113	4458	0	299	0	691	0	0	1186	0	88	12	
		Total for Management Area 3 in Period	1078	34443	0	611	18	738	3	4208	1822	1257	587	246	

The Fishery Monitoring and Catch Reporting program is currently going through a review. In the meantime, a dockside monitoring program is in place for the 2017 season for Area 3.

### Area 3 Seine Catch Estimates

The first Area 3 seine opening was on July 5<sup>th</sup> to target Area 3 pinks, with catch and effort data listed below. Pink abundance was poor so the fishery was not extended to a second day. Seines fished Area 3 again this past Monday. A non-possession/retention of sockeye, chinook and steelhead regulation is in place for this opening. The non-retention of sockeye regulation is in place to protect Kwinageese sockeye. With improved pink abundance during the Monday opening, the fishery was extended to a second day.

### Management Area 3

Stat Week	Week of Year	Date	Effort	Sockeye Salmon		Coho Salmon		Pink Salmon		Chum Salmon		Chinook Salmon		Steelhead	Status
				Kept	Rel	Kept	Rel	Kept	Rel	Kept	Rel	Kept	Rel	Rel	
		05-Jul	19	0	359	265	0	880	0	20570	0	0	52	0	Preliminary
		Total for Week	19	0	359	265	0	880	0	20570	0	0	52	0	
		Total for Management Area 3 in Period	19	0	359	265	0	880	0	20570	0	0	52	0	

The Fishery Monitoring and Catch Reporting program is currently going through a review. In the meantime, a dockside monitoring program is in place for the 2017 season for the Area 3 seine fleet. The at-sea observer component of the Area 3 seine fishery will be dependent on fleet compliance with regulations.

Nass River salmon stock assessment updates from the Nisga'a Fish and Wildlife Department will be available later this week. Periodic in-season updates are available here:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/northcoast-cotenord/nass-eng.html>

or here:

<ftp://ftp.lgl.com/Nass%20Stock%20Assessment%20Updates/>

### Nass Inland Demonstration Fishery

Both the Nisga'a and the Gitanyow Nations were expected to participate in inland demonstration fisheries to fish for sockeye in the Nass watershed. This fishery will not take place until the return projection improves.

### Meziadin Fishway

The Meziadin Fishway became operational on July 1<sup>st</sup>, with a total of 225 sockeye being counted as of July 10<sup>th</sup>. Historic and 2017 counts will be available here:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/northcoast-cotenord/meziadin-eng.html>

### Kwinageese Weir

The Kwinageese weir, which was installed on July 9<sup>th</sup>, will again be operated by the Nisga'a Fish and Wildlife department. No fish have passed the weir to date.

### Tree Point Gill Net Fishery

The Tree Point gillnet fishery in south-east Alaska opened for 4 days this week, opening Sunday, July 9<sup>th</sup> at noon. No catch estimates are available for this week. Pink salmon abundance improved over the previous week and chum abundance is near record levels for Week 27. Preliminary catch estimates for Week 27 include 2,500 sockeye, 600 coho, 15,000 pink, 60,000 chum and 400 chinook, for a fleet of 50 vessels.

## Noyes Island Seine Fishery

The District 4 (Noyes/Dall Island) seine fishery has not yet been opened in 2017. Due to the very poor Skeena sockeye return prediction, southeast Alaskan Fishery Managers are looking at management changes to reduce impacts of this fishery on Skeena sockeye.

### Area 4 (Skeena River)

The 2016 Babine Counting Fence jack sockeye count was the worst on record, at less than 0.06%. In addition, the proportion of 4 year-old sockeye in the 2016 Skeena sockeye aggregate was approximately 20%. As such, the total Skeena sockeye return is expected to be well below the minimum escapement target of 1.05M, based on the sibling regression model. The range of probabilities for the forecasted return are from a 10% chance that the return will be 1.24 million or higher, to a 90% chance that the return will be 285,000 or higher. For management purposes, the pre-season return forecast point estimate is 595,000 (50% probability).

### **Net Fisheries:**

There have been no commercial fisheries in Area 4 this year.

### **Recreational Fisheries:**

The Area 3 and 4 creel survey began on June 1<sup>st</sup>. June results will be available in mid-July. Regular daily retention limits apply for all salmon but sockeye in Area 4 tidal waters, where retention limits for sockeye have been varied to 0.

### **Tyee Test Fishery:**

The Tyee Test Fishery continues to operate at a discharge, temperature and turbidity normally seen at this time of year. Catches of sockeye and chinook at the test site remain well below average. An estimated 68,742 sockeye have migrated into the Skeena River, to date. Based on assumed average run-timing, approximately 15.8% of the return will have migrated past the Tyee Test site. Based on estimated escapement to date, and assuming average run-timing, the current Total Return to Canada estimate is 434,000 sockeye.

2017 Tyee test fishery daily and cumulative sockeye escapement estimate data, along with 2017 escapement indices by species, are available here:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/northcoast-cotenord/skeenasatyeeng.html>

Tyee test fishery cumulative index to July 10:

	<b>Sockeye</b>	<b>Coho</b>	<b>Pink</b>	<b>Chum</b>	<b>Lg Chinook</b>	<b>Steelhead</b>
2017	76.83	0.19	0.32	0.00	32.68	1.21
2013	98.27	0.19	3.29	0.00	65.90	2.23
2000's Avg.	368.32	0.16	1.87	0.05	183.99	1.93
1990's Avg.	254.32	0.21	0.85	0.19	167.01	3.73
1980's Avg.	327.20	0.12	1.37	0.11	125.78	7.35

## **Kitwanga Weir**

The Gitanyow Fisheries Authority began operating the Kitwanga weir yesterday. Updates provided by the Gitanyow Fisheries Authority will be available here:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/northcoast-cotenord/docs/kitwanga.pdf>

## **Slamgeesh Weir** (From the Gitksan Watershed Authority)

The end of the 2017 Slamgeesh Smolt season marked the ninth consecutive year of operation. Two fyke traps were in full operation for 61 days beginning on April 28<sup>th</sup> and ending on July 2<sup>nd</sup>. Due to high water events (second highest recorded since the year 2000), the traps were inoperable for a total of five days. Slamgeesh Lake was free of ice by May 10<sup>th</sup> and spring freshet arrived on June 10<sup>th</sup>.

Installing the traps at the end of April and running them through the July 2<sup>nd</sup> allows us to assume the entire sockeye salmon smolt outmigration was sampled (first encounter April 28<sup>th</sup>; last encounter June 17<sup>th</sup>) and the vast majority of the coho salmon smolt population (first encounter April 28<sup>th</sup>; last encounter June 30<sup>th</sup>). Peak outmigration for sockeye salmon smolts was on May 14<sup>th</sup> and June 7<sup>th</sup> for coho salmon smolts.

### **Sockeye Salmon Smolts**

Every sockeye salmon smolt encountered had a four week rotating caudal clip applied (primary mark) and its adipose fin removed (secondary mark). All marked individuals were released upstream of the traps in the outlet of Slamgeesh Lake, which allows us to estimate trap efficiency (~10%). To account for low numbers of recaptures, we used the Chapman modification of the Lincoln-Peterson mark-recapture estimator (Seber, 1982) to estimate the number of sockeye salmon smolts ( $42,115 \pm 3,607$ ). The 2017 sockeye salmon smolts are mainly derived from the 2015 brood year, which had a total escapement of 1,276 pre-spawn large sockeye salmon (829 females). With the highest estimated number of sockeye salmon smolts in the history of the project, the estimated number of smolts per female for the 2015 brood year (range; 46 to 55) was below the project's historic average (84 smolts per female).

### **Coho Salmon Smolts**

Every coho salmon smolt encountered had a four week rotating caudal clip applied (temporary primary mark), adipose fin removed (permanent secondary mark), and coded wire tag (CWT) inserted. All marked individuals were released upstream of the traps in the outlet of Slamgeesh Lake, which allows us to estimate trap efficiency (~10%). To account for low numbers of recaptures, we used the Chapman modification of the Lincoln-Peterson mark-recapture estimator (Seber, 1982) to estimate the number of coho salmon smolts ( $23,522 \pm 2,615$ ). The total output of CWTs for 2017 was 2,023 (adjusted for 85% tag retention). Tag retention was estimated by scanning all recaptured individuals for a CWT and specific tag retention/capture mortality experiments.

## Slamgeesh Adult Weir Program

The adult weir is planned for installation on July 18<sup>th</sup> and will remain in until early November. The expected number of adult sockeye salmon is low since these individuals were mainly derived from the 2013 brood year (93 sockeye salmon spawners). All fish captured in the weir will have the following data collected; species, fork length, scales, and tissue. Also, all sockeye salmon will have their body depth measured with an accompanying photograph for studying phenotypic variation in collaboration with Simon Fraser University. Since the weir is considered to capture 100% of the sockeye salmon and the vast majority of the coho salmon returning to spawn, we can confirm mark-recapture estimators (e.g., transgenerational genetic mark-recapture), as well as detect inbreeding avoidance when low numbers of individuals return (as expected in 2017), and determine whether the effective population size ( $N_e$ ) changes with higher variability of adult spawners (e.g., 93 sockeye spawners in 2013 to 1,276 spawners in 2015). Finally, higher resolution collection of genetic data allows us to increase the genetic baseline.

## Sustut Weir

The Province of BC will be operating the Sustut weir again this year, which typically becomes operational in early August.

## Area 6

### **Net Fisheries:**

The first gill net opportunity targeting Kitimat River Hatchery chums occurred yesterday and has been extended to a second day. Detailed catch estimates were not available at the time of posting.

The first Area 6 seine opening is anticipated for the middle of July to target pink salmon. A catch monitoring program will be in place for this fishery.

## Area 7

### **Net Fisheries:**

The first net fisheries are not anticipated until late July, depending on in-season assessments of abundance.

### **Recreational Fisheries:**

An up-date on the status of recreational fishing in the area will not be available until mid to late July.

## Area 8

### Net Fisheries:

Area 8 opened to gill nets for 16 hours yesterday to target chum, with chinook and pink salmon retention also being permitted. Release of all live sockeye is requested. Catch estimates for this fishery are not available at this time for the fleet of 156 vessels.

### Area 8 Gillnet Catch Estimates

#### Management Area 8

Stat Week	Week of Year	Date	Effort	Sockeye Salmon		Coho Salmon		Pink Salmon		Chum Salmon		Chinook Salmon		Steelhead	Status
				Kept	Rel	Kept	Rel	Kept	Rel	Kept	Rel	Kept	Rel	Rel	
		05-Jun	9	0	0	0	0	0	0	5	0	68	0	0	Reviewed
		Total for Week	9	0	0	0	0	0	0	5	0	68	0	0	
		12-Jun	16	0	0	0	0	0	0	26	0	112	0	1	Reviewed
		Total for Week	16	0	0	0	0	0	0	26	0	112	0	1	
		19-Jun	21	6	0	0	0	0	0	63	0	91	0	0	Preliminary
		Total for Week	21	6	0	0	0	0	0	63	0	91	0	0	
		26-Jun	25	0	0	0	0	0	0	997	0	308	0	0	Preliminary
		Total for Week	25	0	0	0	0	0	0	997	0	308	0	0	
		03-Jul	94	54	5	0	42	13	5	9261	0	320	3	9	Preliminary
		Total for Week	94	54	5	0	42	13	5	9261	0	320	3	9	
		Total for Management Area 8 in Period	165	60	5	0	42	13	5	10352	0	899	3	10	

For central coast catch information, please contact Jeffrey Radford: [Jeffrey.Radford@dfo-mpo.gc.ca](mailto:Jeffrey.Radford@dfo-mpo.gc.ca)

### Recreational Fisheries (Hakai Pass):

An up-date on the status of recreational fishing in the area will not be available until at least late July.

## Area 9

### Recreational Fisheries:

Fishing for chinook and coho has slowed down in the Rivers Inlet area over the previous week. Pink salmon encounters have increased over the previous week, but no chums have been encountered yet.

## **Area 10**

It is unlikely that the Docee fence will be operational in 2017.

## **North Coast**

For more information please visit the North Coast website here:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/northcoast-cotenord/index-eng.html>