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## **2021 NASS RIVER SALMON STOCK ASSESSMENT UPDATE – FRIDAY, 25 JUNE**

The following is the first general weekly public update for 2021 of Nass River salmon and summer-run steelhead stock assessments from the Nisga'a Lisims Government Fisheries and Wildlife Department.

**All data presented in this update are preliminary and subject to change with further assessment information that becomes available and should be interpreted cautiously. For in-season assessment purposes only.**

### **NASS RIVER ASSESSMENT OPERATIONS UPDATE**

#### **OPERATIONAL ASSESSMENT INFORMATION FOR 2021**

1. Fishwheel Assessment data: 31 May to 23 June. Data summary below.
2. Meziadin Fishway data: will start operations on 1 July.
3. Kwinageese video-counting weir data: will start operations in second week of July.

#### **GITWINKSIHLKW (GW) FISHWHEELS - NASS RIVER TEST FISHERY – STARTED IN 1994 [28th year]:**

The Nass River test fishery fishwheels (FW1 and FW2) began operation on 31 May for tagging and historical catch index assessments for salmon and summer-run steelhead. All fish caught in the GW fishwheels to date were released alive after tagging and/or counting. Currently FW1 is operating under high water conditions.

High-water events occurred June 2-6 and from June 21-23 that shutdown one or both fishwheels during the high discharge periods. One fishwheel (FW1) was able to be restarted on June 24 for monitoring fish passage but water levels continue to be high and may rise with warm weather. Current water level is 1.9 m higher than average water levels (4.9 m vs. 3.0 m) based on 1994–2020 operations.

During shutdown periods, the Nass River discharge and water level readings averaged 3,200 m<sup>3</sup>/s (range: 2,600–5,000 m<sup>3</sup>/s) and 5.1 m (range: 4.1–7.7 m), respectively, at the GW fishwheels. When high water events occur that shutdown fishwheels, the estimated discharge of the Nass River exceeds 2,500 m<sup>3</sup>/s (4.1 m or higher) and few fish can migrate upstream of the fishwheels through the GW canyon under these high-water discharge and levels. A chart of the water levels at the test fishery follows the text summary that compares current levels to historical levels.

#### **GREASE HARBOUR (GH) FISHWHEELS:**

Start-up date of the upper fishwheels was on 18 June for the operation of one fishwheel (FW6) currently at Grease Harbour (upstream of Ts'im Anwiihlist), located approximately 16 km upstream of GW fishwheels. When water levels drop, three fishwheels will be operated. The GH fishwheels are used for in-season mark-recapture tag recoveries of salmon, abundance estimates passing upstream, additional tagging (adult Chinook and Chum salmon, and Pacific Lamprey), and for selective harvesting when permitted by Nisga'a Lisims

Government. No harvesting from the fishwheels is currently anticipated in 2021 due to low Nass salmon forecast predictions. All Sockeye caught at all fishwheels to date have been released, as have the other salmon, steelhead and other fish caught. The total Nass fishwheel catches this year are currently below average for all salmon species and Pacific Lamprey due to high water levels affecting catches. Total fishwheel catches of salmon, steelhead, and Pacific Lamprey to date are shown below including tagging results and jacks caught.

FISHWHEEL CATCH SUMMARIES	SOCK	CHIN	COHO	STEEL	PINK-ODD	CHUM	LAMP
FISHWHEEL TOTAL CATCH OF ADULTS	9	16	0	1	0	0	5
HISTORICAL AVG CUM CATCH (00-20) TO DATE	1,500	500	0	10	0	0	30
HISTORICAL AVG CUM TOTAL CATCH (00-20)	42,000	4,000	13,000	1,000	12,000	130	700
AVERAGE DAILY CATCH (5 D) OF ADULTS - GW	0	0	0	0	0	0	1
AVERAGE DAILY CATCH (5 D) OF ADULTS - GH	0	0	0	0	0	0	20
FISHWHEEL TOTAL TAGGED (OR ADIPOSE FIN MARKED)	9	16	0	0	0	0	4
FISHWHEEL TOTAL JACKS	1	1	0	NA	NA	NA	NA
HISTORICAL MEAN JACKS (00-20) TO DATE	20	27	0	NA	NA	NA	NA

Other adult species and juvenile salmon catches at the fishwheels to date include: 6 Rainbow Trout, 2 Dolly Varden, 3 Cutthroat Trout, and 12 salmon smolts (5 Coho, 6 Chinook, 1 Sockeye).

### RUN SIZE AND ESCAPEMENT ESTIMATES FOR NASS SALMON & SUMMER-RUN STEELHEAD

In-season estimates of run size and projected forecasts to Gitwinksihlkw fishwheels for adult Nass salmon and summer-run steelhead are shown below and are currently historical catch index estimates until enough tag recoveries are caught at the upper fishwheels to generate an in-season mark-recapture estimate. The current run sizes for 2021 are well below average for Nass Sockeye and Chinook when compared to means to date from 1994 to 2020. Summer-run steelhead estimates will begin on 1 July and the run size target based on a minimum return goal as steelhead will continue to enter the Nass River after the fishwheels shutdown in mid-September.

IN-SEASON RUN SIZE SUMMARIES	SOCK	CHIN	COHO	STEEL		23-Jun-21
IN-SEASON RUN SIZE ESTIMATE TO DATE	176	225	-	-		
HISTORICAL MEAN RUN SIZE TO GW FOR DATE (94-20)	26,000	5,200	-	-		
RUN SIZE TARGET 2021 (MIN. FOR STEELHEAD)	250,000	15,000	65,000	4,200		

In-season preliminary forecast projections above Gitwinksihlkw are shown below. Estimates to Gitwinksihlkw are based on two methods, mean run timing and linear-regression of the in-season to final estimates to date. A very early run size projection estimate for Nass Sockeye is ranging between 196,000 and 254,000 to reach the run size goal (~250,000 for 2021) based on the in-season to final regression method with a point estimate of 225,000 ( $r^2=0.52$ ) based on mean-run timing (9%; range: <1–23%) of the run passing Gitwinksihlkw to date. The current run size projection for Nass Chinook is ranging between 11,000 and 20,000 based on the in-season to final regression method with a point estimate of 15,000 ( $r^2=0.22$ ) based on mean-run timing (29%; range: 4–66%) of the run passed Gitwinksihlkw to date.

IN-SEASON FORECASTS TO GW - METHODS:	SOCK	CHIN	COHO	STEEL		23-Jun-21
1. RUN TIMING METHOD (94-20) - Mean Run timing	Too Early	Too Early	Too Early	Too Early		
Lower (-2 S.D.)	Too Early	Too Early	Too Early	Too Early		
Upper (+2 S.D.)	Too Early	Too Early	Too Early	Too Early		In-season/Final
2. IN-SEASON TO FINAL (regression):	225,000	15,000	Too Early	Too Early		$r^2$ (CH) = 0.22
95% CI - lower	196,000	11,000	Too Early	Too Early		$r^2$ (SO) = 0.52
95% CI - upper	254,000	20,000	Too Early	Too Early		$r^2$ (CO) =
GW RUN SIZE TARGET (DEPENDING ON HARVESTS ABOVE GW)	250,000	15,000	65,000	4,200		$r^2$ (ST) =
Mean Run Timing % Return Estimate to GW fishwheels (94-20)	8.6%	29.5%	0.0%	0.0%		
Late run	0.2%	4.4%	0.0%	0.0%		
Early run	23.3%	65.8%	0.0%	0.0%		

Net Escapement Estimates for adult Nass salmon to date are shown below and relative to the Upper Nass net aggregate escapement goals. Less than 500 Sockeye and 500 Chinook are estimated to have passed to the Upper Nass River to date due to high water flow conditions.

IN-SEASON NET ESCAPEMENT ESTIMATES	SOCK	CHIN	COHO	STEEL		23-Jun-21
HARVEST ESTIMATES ABOVE GW TO DATE	-	54	-	-		
NET ESCAPEMENT (ABOVE GW):	176	171	-	-		
NET ESCAPEMENT TARGET (UPPER RIVER ONLY)	200,000	13,000	60,000	4,000		

The NFWD program carefully tracks Nass salmon and steelhead runs each year to ensure adequate numbers reach their spawning grounds (escapement). Presently, due to the high water experienced, the run sizes passing Gitwinksihlkw and the Upper Nass for Sockeye (<500; Table 1) and Chinook (<500; Table 2) are well below average abundance levels (38,000 Sockeye and 7,500 Chinook) to week ending June 26 based on returns from 1994 to 2020. Caution is needed on all harvesting activities until water levels drop and fish can continue upstream migration to the spawning grounds.

Table 1. Weekly Nass Sockeye Salmon cumulative run size estimates passing Gitwinksihlkw and Grease Harbour in 2021 and compared to historical averages.

Wk	End date	Run passing Gitwinksihlkw			Run passing Grease Harbour		
		Cum 2021	Mean Cum (94-20)	Diff.	Cum 2021	Mean Cum (94-20)	Diff.
23	05-Jun	0	400	-400	0	300	-300
24	12-Jun	0	2,000	-2,000	0	1,700	-2,000
25	19-Jun	200	12,000	-12,000	200	11,200	-11,000
26	26-Jun	200	38,000	-38,000	200	36,300	-36,000
27	03-Jul		73,000			70,200	
28	10-Jul		103,000			98,400	
29	17-Jul		128,000			121,800	
30	24-Jul		161,000			153,500	
31	31-Jul		199,000			190,200	
32	07-Aug		229,000			219,100	
33	14-Aug		251,000			240,600	
34	21-Aug		264,000			253,400	
35	28-Aug		272,000			261,400	
36	04-Sep		278,000			267,400	
37	11-Sep		281,000			270,400	

Table 2. Weekly Nass Chinook Salmon cumulative run size estimates passing Gitwinksihlkw and Grease Harbour in 2021 and compared to historical averages.

Wk	End date	Run passing Gitwinksihlkw			Run passing Grease Harbour		
		Cum 2021	Mean Cum (94-20)	Diff.	Cum 2021	Mean Cum (94-20)	Diff.
23	05-Jun	0	100	-100	0	20	0
24	12-Jun	100	500	-400	74	300	-200
25	19-Jun	200	2,700	-2,500	146	2,300	-2,200
26	26-Jun	200	7,500	-7,300	146	6,800	-6,700
27	03-Jul		12,900	-12,900		11,800	
28	10-Jul		16,100	-16,100		14,700	
29	17-Jul		17,400	-17,400		15,800	
30	24-Jul		17,900	-17,900		16,300	
31	31-Jul		18,200	-18,200		16,600	
32	07-Aug		18,400	-18,400		16,700	
33	14-Aug		18,600	-18,600		16,900	
34	21-Aug		18,800	-18,800		17,100	
35	28-Aug		18,900	-18,900		17,200	
36	04-Sep		19,000	-19,000		17,300	
37	11-Sep		19,000	-19,000		17,300	

## HARVEST ESTIMATES FOR ADULT NASS SALMON & STEELHEAD

ALASKAN FISHERIES IN SE ALASKA (information courtesy from ADFG's website):

The 2021 Alaskan Southeast fisheries started on 20 June for gillnet fisheries in District 101 (Tree Point) and District 106 (Sumner and Upper Clarence), and seine fisheries in District 102 (Middle Clarence). The table below shows the current estimates of catches of salmon in Alaskan net fisheries in Districts 101–106 (and mean catch comparisons from 2000 to 2020) to **24 June 2021** based on data from ADFG. Current catches are below average for all salmon except Pink Salmon in D102SN fishery with the start of the Alaskan SE fisheries.

IN-SEASON SE ALASKAN CUM. SALMON CATCH ESTIMATES (ADFG WEBSITE) - 2021									WEEK END:		26-Jun-21
DISTRICTS	AREA	SOCK CATCH	AVG (00-20)	CHIN CATCH	AVG (00-20)	PINK CATCH	AVG ODD (00-19)	CHUM CATCH	AVG (00-20)	COHO CATCH	AVG (00-20)
DIST 101 GN	TREE PT	600	14,000	600	700	100	3,600	5,500	20,000	100	900
DIST 106 GN	UPP. CLAR	900	12,000	100	600	3,200	10,000	3,000	11,000	100	6,000
DIST 101 SN	LOW CLAR	0	0	0	0	0	0	0	0	0	0
DIST 102 SN	MID CLAR.	200	1,000	0	200	110,000	4,900	10,000	42,000	2,500	1,900
DIST 103 SN	CORDOVA	0	0	0	0	0	0	0	0	0	0
DIST 104 SN	NOYES/DALL	0	0	0	0	0	0	0	0	0	0
<b>CUMULATIVE TOTAL</b>		<b>2,000</b>	<b>27,000</b>	<b>1,000</b>	<b>2,000</b>	<b>113,000</b>	<b>19,000</b>	<b>19,000</b>	<b>73,000</b>	<b>3,000</b>	<b>9,000</b>

The average total mean harvest of Nass salmon in Alaskan net fisheries from 2000 to 2020 is 108,000 Sockeye (range: 22,000–304,000), 63,000 Pink (range: 4,000–192,000), 143,000 Coho (range: 57,000–491,000), and 6,600 Chum (<500–24,000). Of the total in-season Sockeye catch reported in the SE Alaskan fisheries in 2021 to date (~1,700), approximately 35% (600) are estimated as Nass origin based on mean stock composition estimates from 1982 to 2020 and are currently below average (13,000) to date.

CANADIAN COMMERCIAL NET FISHERIES IN AREA 3 (information courtesy from DFO Prince Rupert):

DFO have not opened Area 3 commercial net fisheries due to poor return status of Nass Sockeye and Chinook to the Upper Nass River to date with high water levels preventing upriver migration to spawning areas. NFWF anticipates that DFO will limit commercial fisheries in Area 3 due to low Nass salmon returns projected for 2021, including Meziadin sockeye return projections (107,000; 95% CI: 80,000-147,000) being below escapement goal (160,000) based on TRTC pre-season historical regression forecast (318,000, n=36 years,  $r^2=0.78$ ). To reach the Meziadin escapement goal (160,000) for Sockeye, on average the TRTC would need to be 525,000 (95% CI: 343,000-789,000) or greater based on linear regression of TRTC returns from 1985 to 2020 ( $r^2=0.78$ ).

NISGA'A FOOD, SOCIAL, CEREMONIAL (FSC) AND ECONOMIC FISHERIES:

Nisga'a domestic and sale fisheries are monitored by the Nisga'a Fisheries and Wildlife Department and catch monitoring began on 1 May 2021. Cumulative harvests to week ending **19 June** are shown in the table below for Food, Social, and Ceremonial (FSC) catches. Due to low Nass salmon returns projected for 2021 no sale fisheries are anticipated for Nisga'a fisheries. The current harvests of Nass salmon and steelhead estimated in 2021 are well below average (2,100 vs. 6,400 or 13,000 when including past sale fisheries) when compared to harvests from 2000 to 2020.

Reported Week Ending Period		DOMESTIC (FSC) HARVESTS TO WK END - 2021		TOTAL HARVESTS TO DATE INCLUDING ESTIMATED RELEASE MORTALITIES 2021	
NASS SPECIES	Wk end	Harvest	Mean*	Harvest	Mean*
CHINOOK	19-Jun-21	1,852	2,100	1,852	2,200
SOCKEYE	19-Jun-21	242	4,200	242	10,200
PINK	19-Jun-21	0	14	0	20
COHO	19-Jun-21	0	1	0	1
CHUM	19-Jun-21	0	31	0	31
STEELHEAD	19-Jun-21	10	54	10	54
<b>TOTAL</b>		<b>2,100</b>	<b>6,400</b>	<b>2,100</b>	<b>13,000</b>

\* Total mean harvests from 2000-2020 for week end periods also include historical sale fisheries. Total harvests include all gear types estimates (net, angling, seine, etc.) and release mortality (60% of releases).

The total harvest summary of Nass salmon and steelhead to date in all Nisga'a fisheries is as follows:

NISGA'A TOTAL HARVEST SUMMARY	SOCK	CHIN	COHO	PINK-ODD	CHUM	STEEL
MARINE SALE FISHERY TOTAL	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
IN-RIVER SALE FISHERY TOTAL	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
<b>INDIVIDUAL SALE (IS) FISHERY TOTAL</b>	<b>CLOSED</b>	<b>CLOSED</b>	<b>CLOSED</b>	<b>CLOSED</b>	<b>CLOSED</b>	<b>CLOSED</b>
NLG COMMUNAL SELECTIVE TREATY FISHERY - GH FISHWHEELS	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
NLG COMMUNAL SELECTIVE TREATY FISHERY - SEINE	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
<b>DOMESTIC (FSC) GILLNET FISHERY - WK END: JUN 19</b>	<b>242</b>	<b>1,852</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>
<b>SUB TOTAL (NLG TREATY FISHERIES)</b>	<b>242</b>	<b>1,852</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>
NLG SOCK DEMONSTRATION FISHERY HARVEST - DFO INVENTORY	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED	CLOSED
<b>GRAND TOTAL</b>	<b>242</b>	<b>1,852</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>

## TOTAL RETURN TO CANADA (TRTC) AND NISGA'A ENTITLEMENT ESTIMATES FOR NASS SALMON

### Pre-season TRTC and Nisga'a entitlement forecasts:

Based on the preliminary Nass salmon return and age information from 2020, preliminary forecasts for Nass salmon and Nisga'a entitlement allocations for 2021 were calculated using pre-season forecast models. The pre-season forecasts were used for general planning purposes until in-season forecasts were available. Forecast models used were a combination of sibling (Sockeye and Chinook only) and brood year mean returns that project 25%, 50%, and 75% probability point estimates.

Pre-season TRTC forecasts (50% probability estimates) for 2021 predict below average return forecasts for Nass Sockeye (318,000 vs. 609,000), Nass Chinook (25,000 vs. 31,000), Nass odd-year Pink (395,000 vs. 551,000); Nass Chum (39,000 vs. 52,000; projected to below the 45,000-escapement goal), and Nass Coho (150,000 vs. 187,000) based on mean TRTC returns from 1994 to 2020. When reviewing Nass salmon returns over a 30-year period and forecasted for 2021 (1994-2021), the pre-season forecast projections predict 2021 to be poor for Sockeye (3<sup>rd</sup> worst) and Chum (17<sup>th</sup> worst), and fair for Chinook (11<sup>th</sup> worst), Pink (14<sup>th</sup> worst), and Coho (15<sup>th</sup> worst). The overall return of Nass salmon in 2021 (927,000 vs. 1,430,000 average) is predicted to be the 8<sup>th</sup> worst return in 30 years.

PRE-SEASON TRTC & ENTITLEMENT FORECASTS	SOCK	CHIN	COHO	PINK-ODD	CHUM
HISTORICAL MEAN TRTC (1994-2020)	609,000	31,000	187,000	551,000	52,000
PRE-SEASON TRTC FORECAST (50% PROBABILITY)	<b>318,000</b>	<b>25,000</b>	<b>150,000</b>	<b>395,000</b>	<b>39,000</b>
75% probability	217,000	19,000	88,000	176,000	25,000
25% probability	469,000	33,000	280,000	888,000	62,000
TOTAL PRE-SEASON NISGA'A CATCH POTENTIAL	<b>44,000</b>	<b>5,300</b>	<b>12,000</b>	<b>28,000</b>	<b>3,100</b>
75% probability	17,000	4,000	7,000	1,000	<500
25% probability	78,000	6,900	19,200	104,000	5,000

Year	Total Return to Canada estimates for Nass Salmon						Ranking - Poorest return from 1 to 30					
	Sockeye	Pink	Chinook	Coho	Chum	Total	Sockeye	Pink	Chinook	Coho	Chum	Total
1992	1,572,000	328,000	35,000	160,000	54,000	2,149,000	29	11	20	16	20	28
1993	1,586,000	874,000	45,000	62,000	239,000	2,806,000	30	23	28	2	30	30
1994	590,000	184,000	43,000	351,000	105,000	1,273,000	20	6	25	28	28	15
1995	855,000	829,000	22,000	68,000	83,000	1,857,000	26	22	8	3	26	23
1996	694,000	465,000	42,000	126,000	40,000	1,367,000	24	18	24	8	18	16
1997	574,000	416,000	36,000	33,000	31,000	1,090,000	19	16	21	1	14	12
1998	446,000	143,000	46,000	72,000	182,000	889,000	14	3	29	4	29	7
1999	645,000	1,259,000	29,000	107,000	68,000	2,108,000	22	29	15	6	24	26
2000	539,000	292,000	33,000	134,000	26,000	1,024,000	18	10	17	11	13	10
2001	380,000	995,000	48,000	247,000	36,000	1,706,000	9	27	30	23	16	22
2002	1,279,000	365,000	28,000	319,000	18,000	2,009,000	28	13	13	27	7	25
2003	1,024,000	1,019,000	44,000	176,000	76,000	2,339,000	27	28	26	18	25	29
2004	681,000	696,000	33,000	136,000	58,000	1,604,000	23	19	17	12	21	19
2005	522,000	1,348,000	28,000	216,000	33,000	2,147,000	17	30	13	21	15	27
2006	637,000	136,000	44,000	130,000	60,000	1,007,000	21	2	26	10	22	9
2007	351,000	896,000	40,000	179,000	13,000	1,479,000	7	24	23	19	4	18
2008	333,000	51,000	30,000	139,000	3,800	556,800	5	1	16	13	1	1
2009	425,000	810,000	39,000	362,000	22,000	1,658,000	12	21	22	29	8	21
2010	392,000	185,000	27,000	184,000	9,000	797,000	10	7	12	20	3	5
2011	458,000	174,000	18,000	129,000	7,000	786,000	15	4	4	9	2	4
2012	419,000	270,000	16,000	164,000	16,000	885,000	11	9	2	17	6	6
2013	437,000	976,000	16,000	510,000	15,000	1,954,000	13	26	2	30	5	24
2014	487,000	399,000	23,000	267,000	22,000	1,198,000	16	15	10	24	8	13
2015	753,000	422,000	33,000	146,000	60,000	1,414,000	25	17	17	14	22	17
2016	362,000	349,000	18,000	288,000	24,000	1,041,000	8	12	4	25	10	11
2017	341,000	926,000	11,000	302,000	24,000	1,604,000	6	25	1	26	10	19
2018	294,000	256,000	22,000	89,000	50,000	711,000	2	8	8	5	19	2
2019	326,000	175,000	20,000	218,000	25,000	764,000	4	5	6	22	12	3
2020	265,000	744,000	21,000	123,000	104,000	1,257,000	1	20	7	7	27	14
2021	318,000	395,000	25,000	150,000	39,000	927,000	3	14	11	15	17	8
Average:												
92-20	609,000	551,000	31,000	187,000	52,000	1,430,000						

\* Color coding from mean averages from 1992-2020: Green - above average; Yellow - below average but higher than 1 SD; and Red - below average and lower than 1 SD.

In-season Total Return to Canada (TRTC) and Nisga'a entitlement estimates for Nass salmon:

Very early preliminary in-season TRTC estimates estimated by NFWF for Nass Sockeye (277,000; range: 168,000–385,000) and Chinook (23,000; range: 16,000–27,000) are based on run size projections from in-season to final regression methods and run timing ranges to Area 3 to date for Nass Sockeye (9%; range: <1–24%) and Chinook (18%; range: 3–53%, including lower/coastal stocks based on habitat capacity proportions). Insufficient in-season data are available for the other Nass salmon species so pre-season Nisga'a entitlements are considered as preliminary Nisga'a entitlement estimates. The current in-season TRTC estimates for Nass Sockeye and Chinook are tracking below pre-season forecasts with estimated run-timing ranges.

Nisga'a harvest entitlement ranges for 2021 to date based on current TRTC estimates and early to late run ranges are:

- Nass Sockeye is between 18,000 and 59,000 with point estimate 35,000. Current harvest estimate is 242 (with no release mortalities);
- Nass Chinook is between 3,400 and 6,000 with point estimate 4,800. Current harvest is 1,852 (with no release mortalities);
- Nass Coho is between 7,000 and 19,200 with point estimate 12,000 based on pre-season forecast. Current harvest is 0;
- Nass Pink is between 1,000 and 104,000 with point estimate 28,000 based on pre-season forecast. Current harvest is 0;
- Nass Chum is between <500 and 5,000 with point estimate 3,100 based on pre-season forecast. Current harvest is 0; and
- Nass steelhead, upper limit is 1,000 summer-run and unlimited winter/spring run, with current harvest of 10 (with no release mortalities).

IN-SEASON TRTC & ENTITLEMENT ESTIMATES	SOCK	CHIN	COHO	PINK-ODD	CHUM
PROJECTED TRTC BASED ON INSEASON TO FINAL REGRESSION	277,000	23,000	Pre-season	Pre-season	Pre-season
Lower (95% CI)	168,000	16,000	Pre-season	Pre-season	Pre-season
Upper (95% ci.)	385,000	27,000	Pre-season	Pre-season	Pre-season
ESTIMATED %TRTC TO DATE: MEAN. RUN TIMING	9.0%	17.6%	0.0%	0.0%	0.0%
Late run	0.2%	3.1%	0.0%	0.0%	0.0%
Early run	24.0%	52.8%	0.0%	0.0%	1.3%
IN-SEASON NISGA'A ENTITLEMENT TARGET	35,000	4,800	Pre-season	Pre-season	Pre-season
Lower (95% CI)	18,000	3,400	Pre-season	Pre-season	Pre-season
Upper (95% ci.)	59,000	6,000	Pre-season	Pre-season	Pre-season

The next Nass River general stock assessment update from the Nisga'a Fisheries and Wildlife Department is planned for: **Friday, 2 July 2021.**

Nass stock assessment updates are available at the following links (no passwords are required):

Weekly email updates are posted after each update to DFO and NLG's websites:

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

Daily and weekly run size information are also posted on Mondays, Wednesdays, and Fridays to the following site:

- <ftp://ftp.lglsidney.com//Nass Stock Assessment Updates>



Photo 1. High water flooding at Gitwinksihlkw canyon on June 3, 2021 that reached over 8 m on water gauge and 5000 m<sup>3</sup>/s discharge rate.



Photo 2. Chinook Salmon caught and operculum tagged at Gitwinksihlkw fishwheels on 10 June 2021.



Photo 3. Sockeye Salmon caught and spaghetti tagged at Gitwinksihlkw fishwheels on 11 June 2021.



Photo 4. Chinook Salmon caught and operculum tagged at Gitwinksihlkw fishwheels on 12 June 2021.



Photo 5. Chinook Salmon caught and operculum tagged at Gitwinksihlkw fishwheels on 18 June 2021.



Photo 6. Sockeye Salmon caught and spaghetti tagged at Gitwinksihlkw fishwheels on 19 June 2021.

*Photos courtesy of NFWD's senior crew leader, Ben Guno Jr, and other staff.*