

2021 Post Season Review



Salmon

North Coast Areas 1-6



Fisheries and Oceans
Canada

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Canada

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2021 Expectations and Results

2021 EXPECTATIONS & RESULTS AREAS 1 TO 10						
1. Preseason Expectations						
Expected Return	<u>Area</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Chinook</u>
	1-2W	UNK	Below avg	UNK	Below avg	UNK
	3 ¹	318,000	150,000	395,000	39,000	25,000
	4	1,696,972	Below avg	Below avg	Below avg	Below avg
	5	Below avg	UNK	Below avg	Below avg	UNK
	6	Below avg	UNK	Below avg	Below avg	UNK
	7 ⁶	Below avg	Below avg	Below avg	Below avg	Average
	8	Below avg	Below avg	Below avg	Below avg	Average
	9	Below avg	Below avg	Below avg	Below avg	Average
	10	Below avg	Below avg	Below avg	Below avg	Below Avg
Interim Target Escapement ²	1	100,000	UNK	1,152,000	62,000	UNK
	2E	15,000	UNK	728,075	468,000	UNK
	2W	12,000	UNK	411,550	180,000	UNK
	3 ³	200,000	60,000	225,000	67,000	15,000
	4 ⁴	900,000	UNK	2,097,800	20,000	UNK
	5	50,500	UNK	254,500	UNK	UNK
	6	63,850	UNK	1,344,450	520,000	UNK
	7	24,200	UNK	440,720	311,950	UNK
	8	UNK	UNK	1,475,400	267,450	UNK
	9	200,000	UNK	342,450	150,700	22,700
	10	100,000	UNK	UNK	UNK	UNK
Total		1,665,550	UNK	8,471,945	2,047,100	UNK
Food, Social and Ceremonial Alloc.	1-2W	20,000	5,000	2,500	2,500	3,000
	3-6 North	244,250	8,650	32,425	4,975	15,860
	6 South-10	50,000	8,470	13,270	12,520	7,970
Total		314,250	22,120	48,195	19,995	26,830
Treaty - Nisga'a (all catch)	3 ⁵	55,078	54,829	10,918	37,989	17,294
1 - Nisga'a Fisheries Sockeye and Chinook sibling forecasts 2 - Target Escapements are based on subjective spawning capacity with some reference to historic esc. and subsequent returns 3 - Skeena and Nass Sockeye and Skeena Pink escapement targets are the product of stock recruitment analysis. 4 - Chinook targets for the Skeena and Nass Rivers are the PST stock rebuilding goals 5 - Nisga'a Treaty + Harv. Agr. allocation based on pre-season forecast TRTC of "Nass Area" salmon stocks (overage/underage not included) 6 - Area 7 & 8 Chinook are based on the Bella Coola/Atnarko preseason outlook						

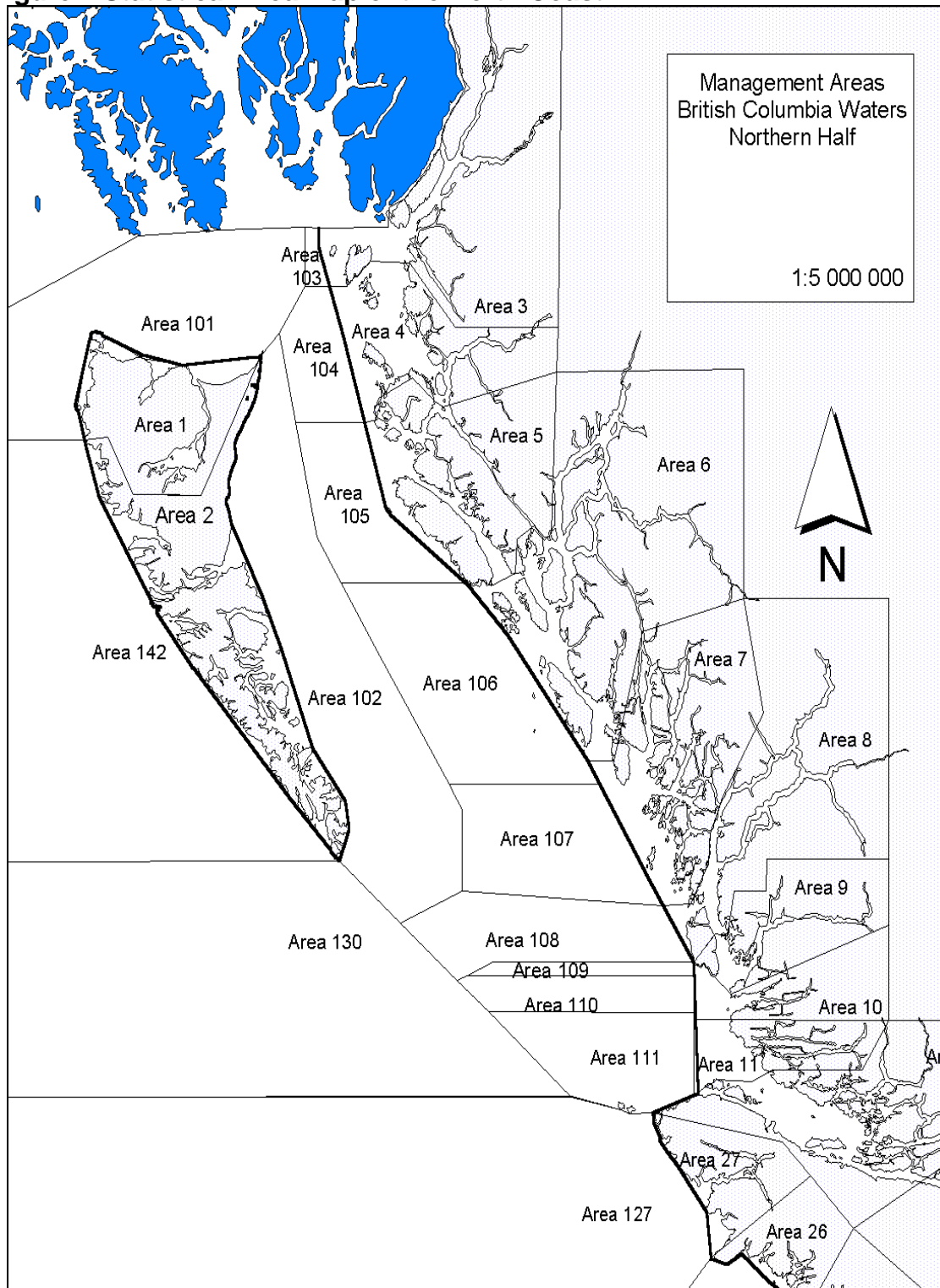
2021 EXPECTATIONS & RESULTS								
AREAS 1 TO 10								
2. Post Season Catch (preliminary)								
<u>Commercial</u>	<u>Area</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Chinook</u>		
Troll	1	Closed	9,882	4,088	closed	11,941		
In-season Hail	2W	Closed	2,226	124	closed	4,648		
	3	Closed	Closed	closed	closed	closed		
	6	Closed	Closed	closed	closed	closed		
	7	Closed	Closed	closed	closed	closed		
	8	Closed	Closed	closed	closed	closed		
	101	73	51,872	77,709	closed	30,621		
	102	Closed	Closed	closed	closed	closed		
	103	Closed	Closed	closed	closed	closed		
	104	Closed	Closed	closed	closed	closed		
	105	Closed	Closed	closed	closed	closed		
	142	Closed	3,380	564	closed	17,260		
Total		73	67,360	82,485	closed	64,470		
	<u>Area</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Chinook</u>		
Gillnet	1	closed	closed	closed	closed	closed		
In-season Hail	2E	closed	closed	closed	closed	closed		
	2W	closed	closed	closed	closed	closed		
	3	closed	closed	closed	closed	closed		
	4	closed	closed	closed	closed	closed		
	5	closed	closed	closed	closed	closed		
	6	closed	closed	closed	closed	closed		
	7	closed	closed	closed	closed	closed		
	8	0	closed	0	425	1,684		
	9	closed	closed	closed	closed	closed		
	10	closed	closed	closed	closed	closed		
Total		0	closed	0	425	1,684		
	<u>Area</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Chinook</u>		
Seine	1	closed	closed	closed	closed	closed		
In-season Hail	2E	closed	closed	closed	closed	closed		
	2W	closed	closed	closed	closed	closed		
	3	closed	closed	159,017	13,925	closed		
	4	closed	closed	closed	closed	closed		
	5	closed	closed	closed	closed	closed		
	6	closed	closed	closed	closed	closed		
	7	closed	closed	closed	closed	closed		
	8	closed	closed	closed	closed	closed		
	9	closed	closed	closed	closed	closed		
	10	closed	closed	closed	closed	closed		
Total		closed	closed	159,017	13,925	closed		
	<u>Area</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Chinook</u>		
CSAF Demonstration	3	8,140	closed	13,234	70	closed		
Fisheries (North Coast)	4	closed	closed	closed	closed	closed		
	5	closed	closed	closed	closed	closed		
	6	closed	closed	closed	closed	closed		
	7,8	closed	closed	closed	178	211		
Total		8,140	closed	13,234	148	211		
<u>Sport</u>	<u>Area</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Chinook</u>	<u>Jacks</u>	<u>Steelhead</u>
Tidal	1	312	18,145	682	436	17,309		
	2E	NA	NA	NA	NA	NA		
	2W	19	4,262	176	403	9,208		
	3,4	22	38,126	1,859	10	7,383		
	5,6	NA	NA	NA	NA	NA		
	7,8,9	NA	4,589	80	16	2,329		
	10	NA	NA	NA	NA	NA		
Total		353	65,122	2,797	865	36,229	UNK	UNK
Freshwater								
Babine Lake	4	UNK	UNK	UNK	UNK	UNK	UNK	UNK
Babine River	4	UNK	UNK	UNK	UNK	UNK	UNK	UNK
Middle Skeena	4	UNK	UNK	UNK	UNK	UNK	UNK	UNK
Lower Skeena	4 ⁹	84	593	130	0	0	0	0
Total		84	593	130	UNK	UNK	UNK	UNK

9 - Skeena River from Terrace area downstream; data from LGL Limited Lower Skeena Creel Survey

2021 EXPECTATIONS & RESULTS AREAS 1 TO 10								
2. Post Season Catch (preliminary) cont'd								
<u>First Nations</u>	<u>Area</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Chinook</u>	<u>Jacks</u>	<u>Steelhead</u>
FSC*	Terminal	1	414	NA	NA	NA	NA	NA
	Interception	1	3,397	NA	1,000	NA	300	NA
	Terminal	2E	1,798	NA	NA	NA	NA	NA
	Interception	2E	NA	NA	NA	NA	NA	NA
	Terminal	2W	NA	NA	NA	NA	NA	NA
	Interception	2W	NA	NA	NA	NA	NA	NA
	Tidal	3	12,510	14	0	0	299	0
	Tidal	4,5,6	9,049	470	1,016	142	887	0
	Non-tidal	Skeena	112,238	2,535	11,480	98	4,192	1860
	Tidal	7	143	363	78	95	401	UNK
	Tidal	8	1,780	190	106	191	104	UNK
	Non-tidal	8	0	0	0	0	0	0
	Tidal	9	595	17	9	1	0	UNK
	Non-tidal	9	714	0	0	0	UNK	0
	Tidal	10	0	0	0	0	0	0
Total		142,638	3,589	13,689	527	6,183	1,860	1,923
Treaty - Nisga'a (all catch)		3	39,285	1,750	3,281	19	5,682	NA
<u>ESSR</u>	<u>Area</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Chinook</u>	<u>Jacks</u>	<u>Steelhead</u>
	2E	closed	closed	closed	closed	closed	closed	closed
	3	closed	closed	closed	closed	closed	closed	closed
Babine Lake	4	closed	closed	closed	closed	closed	0	closed
Morice town Canyon	4	closed	closed	1,427	closed	closed	closed	closed
	6	closed	closed	closed	closed	closed	closed	closed
Total		closed	closed	1,427	closed	closed	0	closed
*Data set is not complete								
2021 EXPECTATIONS & RESULTS AREAS 1 TO 10								
3. Commercial Fishery Statistics								
	<u>Area</u>	<u>Date of First Fishery</u>	<u>Date of Last Fishery</u>	<u>Closed for Balance</u>	<u>Days Fishing</u>	<u>Total Boat Days</u>		
Gillnet	1	closed	closed	closed	closed	closed		
	2E	closed	closed	closed	closed	closed		
	2W	closed	closed	closed	closed	closed		
	3	closed	closed	closed	closed	closed		
	4	closed	closed	closed	closed	closed		
	5	closed	closed	closed	closed	closed		
	6	closed	closed	closed	closed	closed		
	7	closed	closed	closed	closed	closed		
	8	June 14	July 5	October 7	4	165		
	9	closed	closed	closed	closed	closed		
	10	closed	closed	closed	closed	closed		
Seine	1	closed	closed	closed	closed	closed		
	2E	closed	closed	closed	closed	closed		
	2W	closed	closed	closed	closed	closed		
	3	July 12	July 30	July 30	4	72		
	4	closed	closed	closed	closed	closed		
	5	closed	closed	closed	closed	closed		
	6	closed	closed	closed	closed	closed		
	7	closed	closed	closed	closed	closed		
	8	closed	closed	closed	closed	closed		
	9	closed	closed	closed	closed	closed		
	10	closed	closed	closed	closed	closed		
Troll	Area F	July 1	August 12	Sept 30	92	2742		

Statistical Area Map of the North Coast

Figure 1 Statistical Area Map of the North Coast



Commercial Troll Fishery Review

2021 SALMON LICENSE AREA F TROLL SUMMARY

Coho Salmon Troll Fishery

Due to ongoing poor marine productivity and low returns observed for North coast Coho stocks from 2018 to 2020, early IFMP discussions in 2021 included a plan to delay the Area F directed Coho fishery once again with the objective of maintaining reduced harvest rates similar to those achieved in 2020. As an additional precautionary step the Central Coast limited effort Coho demonstration fishery, which was not permitted in 2020, would also not proceed in 2021.

As part of the Pacific Salmon Sustainability Initiative a full closure of the Area F Troll directed Coho fishery was announced in late June 2021. Pursuant to this directive there was no directed Coho opening in 2021, however Coho retention was permitted in the both the A-B Line Pink salmon and ITQ Chinook salmon openings. The Central Coast Limited Entry Demo Fishery did not proceed in 2021.

The total catch of Coho in 2021 was 67,360 which was approximately 75% of the reduced catch in 2020 and less than 30% of the average for the previous 10 years. DNA samples were collected from approximately 2,400 Coho in 2021 and the genetic stock identification results will be provided by NC StAD once the lab analysis is complete. In addition, approximately 30% of all Area F licenced trollers are required to retain heads from all Coho and Chinook salmon caught to facilitate CWT recovery for stock identification.

A-B Line Pink Salmon Troll Fishery

The A-B Line (Dixon Entrance) directed Pink salmon fishery started on July 1st with retention of Coho and non-retention of Chum to protect mainland and Haida Gwaii stocks. By-catch provisions for Sockeye within Dixon Entrance troll fisheries are contingent on the availability of commercial TAC of Skeena and Nass Sockeye. The 2021 pre-season forecast and early in-season estimates for Skeena Sockeye Total Return to Canada were above the commercial trigger of 1.05 M and therefore Sockeye retention was permitted in the A-B Line opening but was later closed on August 4th when in-season forecasting had remained below the threshold.

A total of 33 vessels participated over the course of the 42 day opening with an average daily participation of 11 vessels and a maximum of 23. Approximately 26,023 Coho and 69,582 Pinks were retained during the A-B Line opening from July 1st to August 11th. Although the 2021 Pink salmon catch was much lower than the 2020 catch of 136K, it was still well above the average for the previous 10 years.

In-season management measures for Northern boundary area Coho are also defined within the Canada US Pacific Salmon Treaty (Chapter 7, Schedule B). This agreement identifies CPUE thresholds within the Southeast Alaskan (SEAK) Area 6 commercial troll fishery during statistical weeks 27 to 29 that can trigger closures within the boundary area commercial Coho fisheries in both countries.

Late July in-season review by managers from both countries resulted in a consensus decision not to implement a treaty closure since average CPUE in the assessment

period was well above the threshold level and therefore Coho retention in the A-B Line opening remained in effect.

ITQ Chinook Troll Fishery

The Area F Troll Chinook ITQ fishery is a component of the Northern B.C. Aggregate Abundance Based Management (AABM) Chinook fishery, as defined in the Pacific Salmon Treaty (PST), which includes the Area F Troll fishery, in Areas 1 to 5, and the Area 1 and 2 recreational fishery. The pre-season Area F Troll Chinook total allowable catch (TAC) is determined by subtracting the expected recreational harvest for Areas 1 and 2 from the total Northern BC AABM TAC, which equated to a starting TAC of 108,700 Chinook for Area F Troll. However, based on COVID 19 related travel restrictions for Haida Gwaii in 2021 a 30% reduction in the NBC AABM Chinook recreational catch forecast was implemented, increasing the Area F TAC by 13,500 to 122,200. This resulted in a vessel quota of 563 Chinook based on 217 licences.

In addition to the maximum 3.2% exploitation objective on WCVI Chinook, further precautionary opening time restrictions designed to protect at-risk Fraser Spring 4₂, Spring 5₂ and Summer 5₂ Chinook and to provide increased availability of not-at-risk Summer 4₁ for First Nations harvest opportunities were implemented again in 2021. These actions resulted in delaying the start of the Area F Troll Chinook fishery until August 20th in 2019, August 15th in 2020 and August 12th in 2021.

Time restrictions in July are aimed primarily at protecting at risk Fraser River stream type Chinook and to allow passage of Fraser River not at risk Chinook for FSC purposes. Time restrictions in the first few days of August are also in place to limit exploitation of WCVI Chinook to a maximum 3.2% exploitation objective.

The Chinook fishery opened on August 12th with approximately 116 vessels participating in the first week with an average CPUE of approximately 50 Chinook per vessel-day and although CPUE declined slowly through August it remained well above the decadal average into early September. Less than 50 vessels remained at the beginning of September and effort declined sharply as the average CPUE dropped to less than 20 and weather conditions worsened. With the prevailing inclement weather and declining CPUE through early September only a handful of vessels remained after September 15th.

The fishery closed for the balance of the season on September 30th with 126 vessels having participated, landing a total validated catch of 64,470 Chinook or 53% of the Area F AABM TAC. The 2021 Chinook catch was a significant improvement over the previous mid-August openings in 2019 (42,801 pieces; 48% of TAC) and 2020 (30,096 pieces; 26% of TAC).

DNA samples were collected from 1,575 Chinook Salmon in 2021 and stock composition (GSI) data for the catch will be provided once the lab analysis results are made available to NC StAD. Post season estimates of WCVI exploitation will also be determined using DNA and CWTs and are expected to be available in early spring of 2022.

Table 1 Area F Troll Chinook ITQ and AABM Summary

<u>Area F Troll</u>				
Licence Summary		Allocation / Catch Summary		
No. Licences		No. Chinook		
Total Area F	217	Season Start:	<u>TAC</u> 122,200	<u>ITQ</u> 563
DFO Inventory				
Total-	21	Unavailable ITQ:	11,826	
Active Fishing	126	Available TAC:	110,374	
		Troll Catch:	64,470	
<u>AABM Review</u>			<u>Preseason</u>	<u>Catch</u>
		Area 1-2 Recreational:	31,600	26,517
		Area F Troll:	122,200	64,470
		Total AABM:	153,800	90,987

Notes:

Northern B.C. AABM Chinook Fishery includes the Area F Troll and Area 1-2 Recreational fisheries as defined in the Pacific Salmon Treaty.

The following table summarizes weekly catch and release by species. Effort values are expressed as vessel-days.

Table 2. Estimated Troll Total Catch and Releases by Species

WEEK	End Date	Effort	Chinook		Coho		Pink		Sockeye		Chum	
			Kept	Rel.	Kept	Rel.	Kept	Rel.	Kept	Rel.	Kept	Rel.
27	3-Jul	7	0	239	394	0	532	0	1	0	0	7
28	10-Jul	65	0	805	2,878	0	8,425	42	14	0	0	110
29	17-Jul	77	0	587	4,182	5	8,621	164	8	1	0	76
30	24-Jul	82	0	679	3,900	14	14,186	168	19	0	0	41
31	31-Jul	140	0	1,141	7,808	0	21,426	680	25	10	0	37
32	7-Aug	86	0	736	6,455	0	14,950	615	2	8	0	42
33	14-Aug	351	17,003	1,513	13,692	5	5,028	2,203	2	390	1	378
34	21-Aug	678	23,458	2,957	12,340	11	3,339	2,371	1	663	0	1,674
35	28-Aug	514	10,998	1,341	5,531	18	3,333	1,989	0	171	0	1,100
36	4-Sep	398	9,333	1,135	2,773	6	2,504	907	1	144	1	585
37	11-Sep	217	2,829	539	5,102	10	122	141	0	17	2	185
38	18-Sep	104	777	289	1,933	10	19	12	0	4	0	85
39	25-Sep	22	72	134	372	0	0	0	0	0	0	9
40	2-Oct	0	0	0	0	0	0	0	0	0	0	0
Total		2,742	64,470	12,095	67,360	79	82,485	9,292	73	1,408	4	4,329

Highlights of the 2021 North Coast Troll Fishery

- Dec. 22 (2020)** 2021/22 IFMP Timelines and Priorities letter outlining the ongoing commitment to a management approach designed to protect Fraser At-Risk Chinook and North Coast Coho, including highly precautionary fishery restrictions designed to protect at-risk Fraser Spring 4₂, Spring 5₂ and Summer 5₂ Chinook and to provide increased availability of not-at-risk Summer 4₁ for First Nations harvest opportunities. The interim plan included maintaining measures that were developed and implemented in 2019 and 2020.
- Jan. 19** Area F Harvest Committee – Post Season Review Meeting for 2020 and early planning for 2021.
- Jan. 29** Area F Harvest Committee submits proposal requesting July 1st A-B Line opening and August 1st opening for both Coho and Chinook as well as an expression of interest to allow the Central Coast Limited Effort Coho Demo fishery in 2021.
- Apr. 1** The Pacific Salmon Commission's (PSC) Chinook Technical Committee (CTC) completed calibration CLB2104 to determine the Abundance Indices (AI's) for the three fisheries in the Aggregate Abundance Based Management (AADM) regime. The pre-season NBC AABM Chinook AI was 1.27 with a TAC of 153,800 Chinook. The recreational forecast was 45,100 leaving 108,700 for the Area F troll TAC.
- Apr. 14** Area F Harvest Committee Spring Planning Meeting:
Due to ongoing low abundance and productivity for North Coast Coho stocks the 2021 Coho management plan discussed including August 1st start date similar to previous year.
- Apr. 20** Area F Harvest Committee submits revised proposal requesting an August 10th opening date for Chinook.
- Jun. 21** FN0600 - Area F mandatory reporting requirements.
FN0601 - Area F Chinook and Coho Head retention and delivery requirements.
FN0602 - List of Area F licence holders exempt from retaining salmon heads for Salmon Head Recovery Program.
- Jun. 29** PSSI announcement released with list of closures including Area F directed Coho opening. Coho retention permitted in the A-B Line Pink opening and Chinook ITQ opening. ITQ opening authorized for August 12th start date.
- Jul. 1** Dixon Entrance A-B Line Pink salmon opening with retention of Coho and Sockeye bycatch and non-retention of Chum bycatch (FN00616 – released Jun. 25).
Open areas:
• Subareas 101-4, 101-5, 101-8, 101-9 and that portion of Subarea 101-3 North of 54 degrees 24 minutes North latitude.

- Jul. 20** Teleconference between DFO and ADF&G:
In-season Review of Northern Boundary Coho management resulting in decision to not issue management actions in 2021. In-season management measures for Northern boundary area Coho are defined within the Pacific Salmon Treaty (Chapter 7, Attachment B).
- Aug. 4** FN0750 - A-B Line opening Sockeye Bycatch Closure
- Aug. 12** Chinook ITQ fishery opening (FN0710 released July 22) with retention of Coho and non-retention of Sockeye and Chum.
Open Areas:
- Those portions of Subareas 1-2, 1-3, 1-7 and that portion of Subarea 1-5 West of a line drawn true North from Skonun Point, outside and seaward of a line drawn one nautical mile parallel to the shorelines of Graham Island and Langara Island (defined at the mean high water mark).
 - That portion of Subarea 1-5 East of a line running true North from Skonun Point.
 - Subareas 101-4, 101-5, 101-8 to 101-10.
 - Those portions of Subareas 101-2, 101-3, 101-6 and 101-7 outside and seaward of a line drawn one nautical mile parallel to the shorelines of Graham Island and Langara Island (defined at the mean high water mark).
 - Those portions of Subareas 1-1, 101-1, 101-2 and 142-2 that lie outside the Frederick Island Rockfish Conservation Area.
 - Subareas 2-48, 2-49, 2-63, 2-68, 2-69, 2-78, 2-79, 2-86, 2-88, 2-92, 2-97 and 2-98
 - Those portions of Subareas 2-31, 2-35, 2-38 and 142-1 outside the Strict Protection Areas identified in the Gwaii Haanas Gina 'Waadluxan KilGuhlGa LandSea-People Management Plan and North of 51 degrees 57.7 minutes North latitude. That portion of Subarea 142-2 North of 53 degrees 37 minutes North latitude.
- Sept. 14** Boundary adjustment for Chinook, Coho, Pink salmon fishery (FN0881 released Sept. 2) – Removal North Graham Island ribbon boundary East of Shag Rock.
- Sept. 19** Boundary adjustment for Chinook, Coho, Pink salmon fishery (FN0937 released Sept. 14) – Removal North Graham Island ribbon boundary East of Shag Rock.
- Sept. 30** Area F Troll closed for the balance of the season. (FN0988 released Sept. 21)

Area 1

Area 1 Map

Figure 2 Area 1 Map



First Nations Fishery Review

Haida FSC

Terminal Fisheries

Sockeye - Haida traditional river fisheries in Area 1 focus on small terminal sockeye stocks such as the Yakoun, Awun and Naden Rivers. Sockeye fishery openings are managed under the direction of a Public Management Committee in Old Massett. The Haida Fisheries Program provides technical advice to the committee and Haida Fisheries Guardians monitor the fisheries to provide onsite management and to collect catch data. In 2021 the developing ARIS sonar program also generated in-season sockeye stock assessment information for the Yakoun River, which helped to inform management decisions.

Some fall FSC net effort targeting Coho did occur in the Yakoun River but no effort or catch estimates are available. There were no reports of terminal gillnetting activities to harvest Chum salmon in the fall of 2021.

Interception Hook and Line Fisheries

FSC effort targeting Chinook and Coho using hook and line gear occurs off of Massett on an annual basis. This fishery occurs during the summer months and targets mixed passing stocks.

Interception Net Fisheries

The majority of FSC Sockeye salmon have traditionally been harvested within Dixon Entrance by seine and gillnet gear in the Langara Island area. In 2021 there was marine FSC gillnet effort between Naden Harbour and Langara in late July and seine effort also occurred near Langara Island in early August.

ESSR Review

There were no ESSR licences issued in Area 1 during the 2021 season.

Recreational Review

Recreational (Tidal)

Normally the majority of Haida Gwaii based recreational effort occurs between Massett and Langara Island along the North shore of Graham Island. The majority of fishing occurs from mid-May to the mid-September with little to no effort in the winter months. In addition to a fleet made up of independent anglers and charter operators working out of Massett there are 5 fly in lodge operations (floating and land based) within Area 1, including 3 at Langara Island and 2 in Naden Harbour.

As a result of COVID related travel restrictions in 2020 and to a lesser extent in 2021 the level and distribution of recreational effort was altered in Areas 1 and 2. Effort and activity patterns for local resident anglers were similar to most years but community based lodges and major fly in lodges operated at reduced capacity and on shortened timeframes. In 2021 travel restrictions delayed lodge operations until July but operations continued through August and into the first half of September.

In 2021 the daily and possession limits for Chinook salmon in Areas 1, 2, 142, and that portion of Area 101 West of 131 degrees 40.0 minutes West Longitude were reduced to 1 and 2 from June 1 to July 10 to protect passing Skeena Chinook. The annual Chinook

limit remained at 10 across the region as a precautionary measure towards protection of Southern at-risk Chinook stocks. Due to concerns regarding poor returns of Fraser Sockeye in 2021, recreational retention of Sockeye was closed on August 6th in Areas 2W and 142, as well as in Areas 1 and 101 West of Wiah point and remained closed for the balance of the season.

The estimated Area 1 recreational harvest in 2021 was 17,309 Chinook and 18,145 Coho. Refer to Table 1 for detailed catch information. Catch estimates were generated using data from two sources including the Haida Fisheries Creel, which estimated catch by local independent anglers and community based lodges as well as the DFO Logbook catch reporting program, which records catch at the major lodges. Release estimates for Chinook and Coho are also generated by the Haida Creel Program.

Table 3 2021 Season Estimates of Area 1 and 2 Recreational Catch

Month	Area	Catch By Species									
		Coho	Coho-Rel	Chinook	Chinook-Rel	Pink	Sockeye	Chum	Halibut	Lingcod	Rockfish
June	1	544	0	1201	277	97	237	4	528	546	74
	2E	-	-	-	-	-	-	-	-	-	-
	2W	141	0	1391	562	0	0	23	282	234	0
	June Total	685	0	2592	839	97	237	27	810	780	74
July	1	10149	4359	6616	2848	137	42	82	4195	2277	2479
	2E	-	-	-	-	-	-	-	-	-	-
	2W	1504	66	2919	1699	18	1	42	667	1081	413
	July Total	11653	4425	9535	4547	155	43	124	4862	3358	2892
August	1	6714	1307	8529	3458	291	33	183	4259	1800	2689
	2E	-	-	-	-	-	-	-	-	-	-
	2W	2253	572	4563	457	102	18	157	603	1041	172
	August Total	8967	1879	13092	3915	393	51	340	4862	2841	2861
September	1	738	35	963	158	157	0	167	1354	1121	1071
	2E	-	-	-	-	-	-	-	-	-	-
	2W	364	0	335	56	56	0	181	57	195	0
	September Total	1102	35	1298	214	213	0	348	1411	1316	1071
June-September	1	18145	5701	17309	6741	682	312	436	10336	5744	6313
	2E	-	-	-	-	-	-	-	-	-	-
	2W	4262	638	9208	2774	176	19	403	1609	2551	585
	All Areas	22407	6339	26517	9515	858	331	839	11945	8295	6898

Notes: Data sources include Logbook program from fishing lodges and Haida Fisheries Program Creel.

Commercial Net Fishery

Pink salmon - Haida Gwaii stocks are primarily even year stocks with little to no returns in odd years.

Chum salmon – returns to Area 1 have been consistently at or below management targets over the past two decades. Area 1 escapement surveys conducted by the Haida Fisheries Guardians were completed under poor conditions due to prevailing high stream flows and although the reliability of the counts was low compared to most years observations indicated that the 2021 abundance was very low. No commercial fishing opportunities were identified in 2021.

Area 1 Stream Escapements

Table 4 Area 1 Stream Escapements

AREA 1 (preliminary) STREAM ESCAPEMENTS 2021

STREAM	SOCKEYE		COHO		PINK		CHUM	
	Esc.	Target*	Esc.	Target*	Esc.	Target*	Esc.	Target*
MASSET SUBAREA								
Ain River		(15,000)		(20,000)			A/P	<u>(25,000)</u>
Awun River	3,900	<u>(20,000)</u>		(8,000)			A/P	<u>(15,000)</u>
Datlmen Creek				<u>(5,000)</u>		<u>(30,000)</u>		
Mamin River				(15,000)		<u>(50,000)</u>		
McClinton Creek				<u>(*)</u>				
Yakoun River ¹	1,300	<u>(45,000)</u>		(45,000)		<u>(650,000)</u>		
NADEN SUBAREA								
Davidson Creek						(100,000)		
Lignite Creek						(50,000)		
Naden River	1,000	<u>(20,000)</u>				<u>(100,000)</u>	N/O	<u>(20,000)</u>
Stanley Creek								<u>(2,000)</u>

* - **Targets** are not a biological escapement goals. They are used as a surrogate to assist management identify harvest opportunities.

- Targets that are in bold and underlined are identified as indicators and priority for assessment.

N/O: None observed.

A/P: Adults present.

Area 2 East

Area 2 East Map

Figure 3 Area 2 East Map



First Nations Fishery Review

Haida FSC

Terminal Fisheries

Sockeye - Haida traditional fisheries focus primarily on Sockeye returning to Copper Creek during the month of May. Sockeye fishery openings are managed with input from a Community Management Committee in Skidegate. Typically, the Haida Fisheries Program provides technical advice to the committee and Haida Fisheries Guardians monitor the river fisheries and provide onsite management at Copper Bay. Copper returns are normally assessed in-season using the Copper River counting fence and data is used to inform fishery management decisions.

Interception Net Fisheries

Terminal Sockeye returns normally support only a proportion of the community requirements and in many years additional FSC Sockeye salmon have been harvested by seine but these activities occur outside of Area 2E in Dixon Entrance (Area 1 and 101) or Area 2W. As mentioned above there was some marine FSC interception net effort, in Area 1 in 2021 but no net fisheries were reported for Areas 2E or 2W.

Interception Hook and Line Fisheries

Small amounts of FSC effort occurred in Area 2E using hook and line gear to target Chinook in late winter and spring as well as Coho in late summer and fall.

ESSR Review

There were no ESSR licences issued in Area 2E during the 2021 season.

Recreational Review

The early Chinook salmon fishery in East Skidegate during late winter and early spring was reported to be average in 2021. While the harvest of Chinook in Area 2E is unknown, it is assumed to be less than 300 pieces and typically represents only a very small proportion of the overall recreational salmon catch around Haida Gwaii. In most years the vast majority of recreational effort (>99%) occurs in Area 1 and 2W.

Area 2E is most recognized for its fall Coho fisheries, which occur along the shores and in key producing streams of East Skidegate Inlet, Cumshewa Inlet, Copper Bay and Tlell. Coho abundance in 2021 was reported by most anglers to be considerably higher than the previous 3 years.

Commercial Net Fishery

Pink salmon - Haida Gwaii stocks are primarily even year stocks with little to no returns in odd years.

Chum salmon – Returns over the past decade have been well below management targets with the 2020 and 2021 returns being the lowest on record. For the 34 creeks inspected from Cumshewa Inlet South to Skincuttle Inlet in 2021 there were none that reached target escapement and total escapement to the area was only 5% of the combined targets. Escapements in Skidegate Inlet, were also well below management targets in 2021. No commercial fishing opportunities for Chum Salmon were identified.

Area 2 East Stream Escapements

Table 5 Area 2 East Stream Escapements

AREA 2E (preliminary) STREAM ESCAPEMENTS 2021

STREAM	SCKEYE		COHO		PINK		CHUM	
	Esc.	Target*	Esc.	Target*	Esc.	Target*	Esc.	Target*
TLELL SUBAREA								
Tlell River				(25,000)		(25,000)		
SKIDEGATE SUBAREA								
Cameron Creek								
Deena River			-	(12,000)		(100,000)	1,200	(30,000)
Haans Creek				(2,500)		(5,000)		(2,000)
Honna River				(2,000)		(25,000)	A/P	(10,000)
Indian Cabin Creek								(8,000)
Lagins Creek				(3,000)		(3,500)	4,000	(25,000)
Mud Bay Creek								(3,000)
Outlook Creek								(2,500)
Saltspring Creek				(250)				(2,500)
Slatechuck Creek				(2,000)			1,000	(18,000)
South Bay Dump Creek								
South Bay Culvert Creek								
Tarundl Creek				(1,500)		(N/A)	1,400	(5,000)
COPPER SUBAREA								
Copper River	13,500	(10,000)		(15,000)		(75,000)		
CUMSHEWA SUBAREA								
Carmichael Creek								(N/A)
Chadsey Creek			150				425	(3,500)
Mathers Creek	N/I					(75,000)		(20,000)
Pallant Creek			500		500	(75,000)	100	(30,000)
SELWYN SUBAREA								
Big Goose Creek			10	(200)		(20,000)	310	(7,000)
Clint Creek (Sewell L/H#3)					2		35	(500)
Dana #1 Creek			20				900	(2,500)
Dana #2 Creek							8	(500)
Dana #3 Creek							20	(1000)
Dass Creek			2				2	
Lagoon Creek			135	(1,500)			3,050	(25,000)
Little Goose Creek				(150)		(5,000)	20	(4,000)
Pacofi Creek			55				160	(3,500)
Sewell Inlet Head Creek				(1,500)			125	(6,500)
Sewell Point Creek								(500)
Thorsen Creek (Sewell L/H#1)				(200)			250	(2,000)
Thurston Creek							40	(2,000)
Waterfall Creek							30	(2,000)
ATLI SUBAREA								
Beljay Bay Creeks (2)							5	
Moore Creek							0	(3,000)
Powrivco Creek							20	(5,000)
Richardson Creek							6	
Sandy Creek							60	(4,500)
Takelley Creek							1	
DARWIN SUBAREA								
Anna Inlet Creek						(10,000)		(1,500)
Cresent Creek			25	(1,000)		(30,000)	60	(6,500)
Echo Harbour Creek						(15,000)	0	
Kostan Creek							650	(1,500)
Salmon River				(750)		(100,000)	125	(25,000)
JUAN PEREZ SUBAREA								
Arrow Creek				(250)				(2,000)
Gate Creek						(20,000)		
Hutton Head Creek						(15,000)	100	(5,000)
Hutton L/H Creek							300	(3,000)
Marshall Creeks (3)						(7,000)		(3,000)
Matheson L/H Creek						(30,000)	450	(6,000)
Matheson R/H Creek			2			(5,000)	37	(3,000)
Sedgwick Creek				(250)			800	(7,000)
Windy Bay Creek				(500)		(70,000)		
SKINCUTTLE SUBAREA								
Bag Harbour Creek				(1,000)		(1,500)	925	(12,000)
George Bay Creek			100	(500)		(1,000)	450	(12,000)
Harriet Harbour Creek							65	(6,000)
Slim Inlet Creek							265	(1,500)
Tangle Creek							30	(4,000)

* - Targets are not a biological escapement goals. They are used as a surrogate to assist management identify harvest opportunities.

- **Targets** that are in bold and underlined are identified as indicators and priority for assessment.

- The Deena Creek Coho estimate is from an AUC estimate but all other coho numbers are single count observations and represent only a portion of total escapement.

N/O: None observed.

A/P: Adults present.

Area 2 West

Area 2 West Map

Figure 4 Area 2 West Map



First Nations Fishery Review

Haida FSC Review

Area 2W

Interception Hook and Line Fisheries

Haida FSC activities in Area 2W primarily target passing stocks of Chinook and Coho by hook and line from West Skidegate and Rennell Sound.

Interception Net Fisheries

FSC Sockeye salmon have traditionally been harvested within Rennell Sound with seine gear targeting passing sockeye stocks. There was no FSC seine effort in Area 2W in 2021.

ESSR Review

There were no ESSR licences issued for Area 2W during 2021.

Recreational Review

Most years the Area 2W recreational salmon fishery occurs between Englefield Bay and Port Louis. The majority of the fishery occurs between the middle of May to the middle of September with little to no effort in the winter months. The fleet is made up of independent anglers and charter operators based out of the Village of Queen Charlotte and Sandspit as well as one fly in land based lodge operation in Port Louis on the West Coast. Only minimal amounts of fishing effort occurred in Rennell Sound in 2021 due to a lack of road access caused by several land-slides.

The total Area 2W recreational harvest was 9,208 Chinook and 4,262 Coho. Refer to Table 3 for detailed catch information.

Commercial Net Fishery

Pink salmon - Haida Gwaii stocks are primarily even year stocks with little to no returns in odd years.

Chum salmon – Chum returns to Area 2W have been below management targets for the last several years and returns in both 2020 and 2021 were less than 40% of the primary brood year (2017). For the 24 creeks inspected in 2021 only one smaller Creek (Dawson Harbour Creek) reached target and combined escapements throughout the West Skidegate, Englefield and Tasu subareas were only 17% of target. No commercial fishing opportunities for Chum salmon were identified.

Area 2 West Stream Escapements

Table 6 Area 2 West Stream Escapements

AREA 2 WEST (preliminary) STREAM ESCAPEMENTS 2021

STREAM	SCKEY		COHO		PINK		CHUM	
	Esc.	Target*	Esc.	Target*	Esc.	Target*	Esc.	Target*
ATHLOW/OTARD SUBAREA								
Mace Creek				(1,500)				(5,000)
Mercer Creek		(10,000)		(2,000)		(10,000)		(5,000)
RENNELL SUBAREA								
Bonanza Creek				(1,500)		(25,000)		(1,000)
Clapp Basin Creek								(N/A)
Gregory Creek				(500)		(25,000)		(1,000)
Kano Creek (head)						(20,000)		(4,000)
Mountain Creek								(2,000)
Rennell Creek								(1,500)
Riley Creek				(2,000)		(20,000)		(4,000)
W. SKIDEGATE SUBAREA								
Buck Channel Creek #1								
Buck Channel Creek #8								
Buck Channel Creek #3								
Buck Channel Creek #2 (Nici)			0				200	(500)
Canoe Pass Creek			0				742	(2,000)
Dawson Harbour Creek			16	(300)			3,000	(3,000)
Dawson Inlet Creek			40	(200)			1,750	(1,000)
Government Creek			62	(2,000)		(60,000)	1,500	(7,500)
Trounce Creek (head)(North Arm)			0	(300)			590	(4,000)
Trounce R/H Creek (North Arm)			0				902	(3,500)
West Narrows Creek			0				300	(3,000)
ENGLEFIELD SUBAREA								
Bottle Inlet Creek			N/I	(200)			N/I	(2,000)
Douglas Inlet Creek (head)								
Douglas Inlet R/H Creek								(1,000)
Inskip Creek			0			(10,000)	50	(1,500)
Kaisun Creek			0	(500)		(30,000)	100	(1,500)
Kootenay Inlet Creek (north)			N/I	(500)			N/I	(5,000)
Kootenay Inlet Creek (south)			N/I	(500)			N/I	(5,000)
MacKenzie Cove Creek			N/I	(500)		(20,000)	N/I	(2,000)
Mitchell Inlet spillway (Gold Hbr.)			0				524	(4,000)
Mudge Creeks (3)			0				100	(1,000)
Peel Inlet Creek (head)			0	(200)			738	(3,500)
Peel Inlet L/H #1 Creek			0				30	(1,500)
Peel Inlet L/H #2 Creek			0	(200)			458	(3,500)
Security Inlet L/H Creek			110	(2,000)		(40,000)	950	(15,000)
Security Inlet R/H Creek			0	(1,000)		(20,000)	430	(5,000)
TASU SUBAREA								
Botany Inlet Creek (head)			0	(300)			260	(5,000)
Botany Inlet Creek (outer)			38				690	(4,000)
Edwards Creek			N/I				N/I	
Fairfax Inlet Creek		(2,000)	175	(1,000)			710	(3,000)
Fairfax Outer Creek			0	(1,000)			150	(3,000)
Flat Creek			125				230	(2,000)
Lomgon Creek			N/I				N/I	
Tasu Creek			90	(1,000)		(25,000)	260	(7,000)
Wilson Bay Creek			0				180	(2,000)
SOUTH SUBAREA								
Goski Bay Creek								(N/A)
Louscoone Inlet Creek							500	(N/A)

*

-Targets are not a biological escapement goals. They are used as a surrogate to assist management identify harvest opportunities.

- **Targets** that are in bold and underlined are identified as indicators and priority for assessment.

N/O: None observed.

A/P: Adults present.

Area 3

Area 3 Map

Figure 5 Area 3 Map



First Nations Fishery Review

There are 6 First Nations groups that include Area 3 and Nass watershed Food, Social and Ceremonial salmon fisheries in their communal licence:

Nisga'a Lisims Government
Gitanyow First Nation
Lax Kw'alaams First Nation
Metlakatla First Nation
Kitselas First Nation
Kitsumkalum First Nation

FSC fisheries occur throughout Area 3 in both marine and freshwater locations using a variety of gear types. The Nisga'a salmon fishery is authorized by the Nisga'a Treaty and Harvest Agreement.



Nisga'a Lisims Government

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2021 Nass River Salmon Stock Assessment – Post-Season Summary

Nass River Fishwheel Operational Summary

The Nass River test fishery fishwheels at Gitwinksihlkw (GW) operated from 31 May to 11 September for tagging and historical catch index assessments of salmon and summer-run steelhead.

Fishwheels 1 and 2 operated on the Lower Nass River in 2021 at above average water levels (2.95 m vs. 2.27 mean) based on 1994 to 2020 operations (Table 1). The fishwheels operated at ideal fish catching capability with sufficient water levels during the season; 2021 was the 2nd highest water level year experienced over 28 years of operation. High water shutdown periods occurred during high flow periods (mean flow was 3,300 m³/s and reached 5,050 m³/s) in June and early July (June 2-6 and June 21–July 3). Fish can slowly pass the GW canyon when flow rates are less than 3,000 m³/s (< 4.9 m), but typical unobstructed passage occurs below 2,000 m³/s (< 3.4 m) and high capture efficiencies occur at 1,500 m³/s (2.5 m).

The fishwheels operated at warmer water temperatures in 2021 than average (9.9°C vs. 9.2°C mean) based on 1994 to 2020 operations, primarily in July and August. The 2021 fishwheel operations represented the 8th warmest year in the 28 years of operation (Table 2).

Table 1. Mean water levels (m) on the Nass River at Gitwinksihlkw by period, 2000-2021.

Mean WL	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Mean (94-20)
June	3.37	3.51	3.97	2.98	3.18	2.93	3.61	4.76	2.81	4.05	2.56	3.50	3.79	3.10	2.62	2.63	2.13	2.86	1.80	2.03	3.12	4.45	3.16
July	3.23	3.03	2.62	2.45	2.30	2.17	2.58	4.00	2.64	2.81	1.80	2.08	3.54	1.69	2.03	1.71	1.62	1.74	1.37	1.54	2.70	2.88	2.44
Aug	2.40	1.94	2.02	1.23	1.68	1.66	1.37	1.84	2.30	1.56	1.35	1.79	1.75	1.24	1.12	1.45	1.10	1.59	1.00	1.81	3.05	1.91	1.78
Sep	2.28	1.12	1.73	1.29	0.89	1.32	1.32	1.32	1.03	1.16	0.89	3.95	0.94	0.74	0.68	0.84	1.10	1.15	0.26	1.03	1.37	1.79	1.29
Season	2.83	2.47	2.73	2.15	2.23	2.07	2.33	3.13	2.49	2.61	1.70	2.69	2.74	1.86	1.77	1.82	1.57	1.98	1.28	1.72	2.71	2.95	2.27
Rank (Lowest)	26	15	24	11	12	10	14	28	16	20	3	22	25	7	5	6	2	9	1	4	23	27	

Table 2. Mean water temperatures (°C) on the Nass River at Gitwinksihlkw by period, 2000-2021.

Mean Temp	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Mean (94-20)
June	9.4	3.9	6.4	8.6	11.3	9.1	8.8	8.1	7.0	7.4	8.4	7.5	6.7	8.4	8.1	8.9	9.5	8.6	10.1	9.3	7.0	8.4	8.4
July	10.5	5.8	9.1	10.2	12.1	9.5	10.1	8.6	8.0	9.0	10.2	8.7	8.1	10.1	9.6	10.5	10.8	10.3	11.0	10.3	8.7	11.1	9.6
Aug	10.9	7.6	9.5	10.8	10.5	10.0	10.1	9.6	9.3	10.2	9.7	9.0	8.9	10.1	10.2	9.9	9.4	10.1	9.7	9.4	8.7	10.5	9.7
Sep	9.4	5.6	8.7	8.8	8.9	8.8	9.0	8.9	8.2	9.5	8.0	8.1	8.3	10.1	8.6	8.3	8.6	9.6	8.2	9.2	8.5	8.7	8.7
Season	10.3	5.8	8.9	10.0	11.0	9.4	9.8	8.9	8.2	8.9	9.2	8.4	8.0	9.6	9.3	9.7	9.8	9.7	10.1	9.7	8.2	9.9	9.2
Rank (Highest)	2	28	22	7	1	16	9	20	25	21	18	23	26	15	17	13	10	11	5	14	24	8	

Gitwinksihlkw Fishwheels: Nass River Test Fishery (started in 1994 [28th year])

All fish caught in the GW fishwheels were released alive after tagging and/or counting. Of the 33,931 salmon (32,616 adults and 1,315 jacks), steelhead (124), Pacific Lamprey (205), and Dolly Varden (107) caught at the GW fishwheels in 2021, 12,758 were tagged or adipose fin marked.

Grease Harbour (GH) Fishwheels

Three fishwheels were operated at Grease Harbour (upstream of Ts'im Anwihlist), located approximately 16 km upstream of the GW fishwheels. Start-up dates of the upper fishwheels were 18 June (FW6), 6 July (FW3), and 7 July (FW5) and all operated to 27 August. The GH fishwheels were 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 (which was not conducted in 2021).

A total of 70,797 salmon (65,595 adults and 5,202 jacks), steelhead (113), and Pacific Lamprey (1,254) were caught and released from the GH fishwheels in 2021, including 2,235 that were tagged or fin marked.

2021 Nass Fishwheel Catch Summary

Of the 106,811 fish caught at all fishwheels in 2021, all were released (Table 3**Error! Reference source not found.**). The total Nass fishwheel catches this year were above average for Sockeye and Pacific Lamprey, and below average for Chinook, Coho, steelhead, Pink, and Chum.

A total of the 104,728 salmon (98,211 adults and 6,517 jacks), steelhead (237), Dolly Varden (104), Pacific Lamprey (1,459) were caught by the Nisga'a Lisims Government's fishwheels operated in the Nass River. All were released with 14,993 tagged or fin marked. Of the salmon tagged, 10,192 (6,478 Sockeye, 1,991 Chinook, 1,723 Coho) were tagged with a Passive Integrated Transponder (PIT) tag for detecting on antennas operated at the Meziadin fishway and Kwinageese weir, and spawning ground surveys.

The total Nass fishwheel catches this year were above average for Sockeye and Pink salmon, and Pacific Lamprey; catches were below average for Chinook, Coho and Chum salmon and steelhead. The fishwheel catches of small (jacks) salmon (< 50 cm NFL for Chinook, < 45 cm NFL for Sockeye, and < 40 cm NFL for Coho) were well above average for Chinook (2,442 vs. 755) and below average for Coho (158 vs. 445) and Sockeye (2,322 vs. 3,507) when compared to the mean catches from 1994–2019.

Other adult species and juvenile salmon catches at the fishwheels included: 36 Rainbow Trout, 104 Dolly Varden (30 tagged), 77 Peamouth Chub, 38 Mountain Whitefish, 28 Coastal Cutthroat Trout, 16

Redside Shiner, 32 sculpins, 23 suckers, 33 Northern Pikeminnow, 27 salmon smolts (14 Coho, 12 Chinook, 1 Sockeye), and 1 seal (Table 3).

Meziadin Fishway Operation and Count Summary

The Meziadin fishway was operated from 1 July to 7 October 2021. The fishway water levels and temperatures averaged 1.24 m (range: 1.07 m to 1.50 m) and 14.2°C (range: 7.5°C to 19.5°C), respectively. Water levels at the fishway were 0.1 m below average (1.25 m) when compared to historical levels from 1999 to 2020. Large fish (primarily Chinook Salmon) were observed jumping the falls in 2021. Water temperatures in 2021 were 0.1°C above average (14.2°C vs. 14.1°C).

Counts at the Meziadin Fishway in 2021 were above average for Sockeye (273,955 vs. 150,000) and Coho (4,280 vs. 4,400) when compared to mean counts from 2000 to 2020 (Table 4). Counts in 2021 were below average for Chinook (165 vs. 300), and steelhead 6 vs. 30) when compared to historical mean counts. Small salmon (jack) counts at the fishway were above average for Sockeye (13,114 vs. 5,829) and below average for Chinook (63 vs. 72) and Coho (51 vs. 73) salmon when compared with mean counts from 2000 to 2020. A total of 42 adult Bull Trout (> 20 cm NFL) were also counted at the fishway in 2021, with 26 being anchor tagged during operations. This included two Bull Trout recaptures from previous tagging. No Pink or Chum salmon were counted at the fishway.

A total of 4,750 tagged fish (35 Chinook, 4,639 Sockeye, 75 Coho and 1 steelhead) from the Nass fishwheels were counted passing through the Meziadin fishway in 2021. The PIT tag monitoring of tagged fish at the fishway detected 3,472 unique PIT tags with 3,434 (25 Chinook, 3,347 Sockeye, and 62 Coho) confirmed passing the fishway. Antennas operated on Strohn, Hanna, and Tintina creeks detected 1,100 Sockeye and Coho PIT tags that entered from Meziadin Lake.

Table 3. Nass fishwheel catches of salmon, summer-run steelhead, and non-salmon species from 1994-2021.

Year	# of FW	Start date	End date	Total Effort (days)	Total Effort (hrs)	Salmon ¹					Trout, Char, and Whitefish ¹					Non-Salmonid						
						Chinook	Sockeye	Coho	Pink	Chum	Summer-run steelhead	Dolly Varden	Coastal			Pacific Lamprey	Northern Pikeminnow	Peamouth Chub	Sucker	Sculpin	Redside Shiner	
													Trout	Trout	Whitefish							
1994	4	7-Jun	7-Sep	92	5,859	2,667	24,746	6,990	12,436	250	211	42	5	2	11	47						
1995	4	8-Jun	4-Sep	88	6,670	920	21,090	1,837	8,881	224	111	101	8	6	42	81						
1996	4	29-May	22-Sep	116	7,705	2,191	23,063	4,029	23,601	371	485	177	29	21	108	384						
1997	4	21-May	2-Sep	104	7,974	3,736	27,762	1,438	13,167	130	485	294	27	23	145	388			7			
1998	4	12-Jun	20-Sep	100	9,875	3,071	17,185	3,760	10,624	272	701	388	61	9	140	194	84		38	69		
1999	4	7-Jun	30-Sep	115	9,073	3,476	41,545	6,393	22,019	127	641	1,189	97	17	155	185	65		24	24		
2000	6	11-Jun	18-Sep	99	11,196	5,003	33,879	8,529	10,206	241	1,404	558	97	5	75	251	53		34	14		
2001	6	7-Jun	14-Sep	99	10,783	12,106	32,821	22,705	42,508	162	1,435	347	69		67	238	75		42	13		
2002	6	20-Jun	9-Sep	81	9,691	6,785	58,728	14,556	15,893	54	1,100	429	72	22	51	187	93		8	17		
2003	6	14-Jun	5-Sep	83	10,299	5,802	47,556	9,460	33,560	175	583	524	94	26	99	936	105	9	29	25		
2004	6	11-Jun	10-Sep	91	11,250	3,314	43,782	11,788	35,605	242	655	276	71	54	55	1,132	137	29	44	11		
2005	6	6-Jun	16-Sep	102	11,960	4,111	40,320	14,508	19,788	141	726	150	26	48	55	615	100	73	33	16		
2006	6	8-Jun	3-Sep	87	10,477	9,089	50,769	9,671	2,817	158	466	286	62	66	91	363	145	36	33	9		
2007	6	14-Jun	20-Sep	98	8,928	9,440	38,942	11,874	12	0	783	254	47	69	70	315	140	22	20	31		
2008	5	5-Jun	6-Sep	93	9,898	4,331	34,702	14,640	1,932	52	851	193	88	55	55	198	72	9	18	14	6	
2009	6	1-Jun	12-Sep	103	11,097	7,136	43,426	20,270	42,120	108	1,688	328	93	117	119	483	93	46	27	56	0	
2010	6	1-Jun	22-Sep	113	13,520	1,140	25,703	12,938	4,614	78	1,191	161	9	155	557	21	132	21	388	46	7	
2011	5	1-Jun	17-Sep	108	10,280	1,795	38,083	5,752	10,719	166	988	481	156	86	353	632	181	35	45	17	10	
2012	5	1-Jun	15-Sep	106	9,197	4,059	62,385	15,608	7,694	106	1,525	424	59	45	108	674	180	129	27	22	4	
2013	5	2-Jun	13-Sep	103	11,031	1,981	39,184	14,555	24,801	52	612	169	67	46	79	567	137	111	21	12	9	
2014	6	1-Jun	13-Sep	104	12,298	1,693	38,345	17,137	24,038	83	1,472	213	72	72	68	629	97	42	12	33	9	
2015	6	4-Jun	11-Sep	99	11,881	3,397	70,737	6,616	6,476	141	778	256	68	111	108	746	136	73	14	21	17	
2016	6	31-May	9-Sep	101	12,916	1,389	38,677	15,690	13,197	228	1,070	332	72	134	139	860	63	69	28	28	15	
2017	6	31-May	9-Sep	101	12,992	695	44,152	22,908	37,748	68	982	147	40	154	183	1,188	95	65	23	48	8	
2018	6	1-Jun	15-Sep	106	13,252	859	27,709	5,525	7,718	92	1,078	112	37	121	127	1,255	48	70	14	27	31	
2019	6	2-Jun	13-Sep	103	12,568	1,631	35,894	15,724	19,230	166	710	174	39	228	138	2,330	28	158	25	53	43	
2020	5	31-May	12-Sep	104	10,535	2,838	48,369	10,535	14,541	31	587	138	22	159	41	791	8	118	13	15	15	
2021	5	31-May	11-Sep	103	7,632	3,499	66,211	10,148	18,323	30	237	104	28	36	38	1,459	33	77	23	32	16	
2000 to 2021 ² :																						
Mean	6	05-Jun	12-Sep	99	11,076	4,186	43,653	13,234	23,208	117	951	275	63	86	122	721	98	63	42	25	14	
Min	5	31-May	03-Sep	81	7,632	695	25,703	5,525	12	0	237	104	9	5	38	21	8	9	8	9	0	
Max	6	20-Jun	22-Sep	113	13,520	12,106	70,737	22,908	42,508	242	1,688	558	156	228	557	2,330	181	158	388	56	43	

¹ Counts are for adult fish, defined as: Chinook ≥ 50 cm nose-fork length (NFL); Sockeye ≥ 45 cm NFL; Coho ≥ 40 cm NFL; steelhead ≥ 50 cm NFL; and trout, char, and whitefish ≥ 20 cm NFL

² Pink mean, min, and max are for odd years only

Table 4. Counts of large salmon and summer-run steelhead at the Meziadin Fishway, 2000-2021.

Meziadin Fishway (~149 km from tagging site):		Adult salmon and steelhead counted (net upstream)				Tags counted (net upstream) - not including tags missing				Mark rates (%) observed			
Year	Period of Operation	Chinook	Sockeye	Coho	Steelhead	Chinook	Sockeye	Coho	Steelhead	Chinook	Sockeye	Coho	Steelhead
2000	29 June to 13 October	416	137,042	1,423	46	30	2,964	35	2	7.2%	2.2%	2.5%	4.3%
2001	4 July to 15 October	613	116,192	5,942	72	66	2,982	173	9	10.8%	2.6%	2.9%	12.5%
2002	1 July to 15 October	464	332,442	5,082	41	21	6,027	99	2	4.5%	1.8%	1.9%	4.9%
2003	2 July to 10 October	479	196,852	3,907	30	18	4,650	91	1	3.8%	2.4%	2.3%	3.3%
2004	3 July to 3 October	490	140,923	4,172	58	20	4,417	154	12	4.1%	3.1%	3.7%	20.7%
2005	1 July to 15 October	638	142,751	7,189	85	33	3,819	259	9	5.2%	2.7%	3.6%	10.6%
2006	1 July to 12 October	721	146,954	5,466	39	37	4,694	251	1	5.1%	3.2%	4.6%	2.6%
2007	1 July to 11 October	754	104,308	2,504	27	34	4,082	67	2	4.5%	3.9%	2.7%	7.4%
2008	1 July to 9 October	518	150,396	3,861	29	17	5,016	162	2	3.3%	3.3%	4.2%	6.9%
2009	1 July to 6 October	336	168,392	5,423	18	15	4,887	96	2	4.5%	2.9%	1.8%	11.1%
2010	1 July to 23 October	315	159,120	4,138	81	3	2,670	163	7	1.0%	1.7%	3.9%	8.6%
2011	1 July to 6 October	330	167,524	2,336	12	28	4,213	44	1	8.5%	2.5%	1.9%	8.3%
2012	1 July to 4 October	255	144,923	4,980	34	42	6,112	246	5	16.5%	4.2%	4.9%	14.7%
2013	1 July to 4 October	126	170,376	5,934	23	19	3,726	128	0	15.1%	2.2%	2.2%	NA
2014	1 July to 7 October	51	144,920	7,223	28	5	2,875	268	1	9.8%	2.0%	3.7%	3.6%
2015	1 July to 8 October	95	185,917	2,713	3	14	3,859	89	0	14.7%	2.1%	3.3%	NA
2016	30 June to 5 October	36	109,868	5,051	9	2	2,015	130	0	5.6%	1.8%	2.6%	NA
2017	1 July to 5 October	38	119,088	7,556	5	2	2,482	279	0	5.3%	2.1%	3.7%	NA
2018	30 June to 5 October	36	96,827	2,145	9	1	1,676	39	0	2.8%	1.7%	1.8%	NA
2019	30 June to 7 October	111	88,128	4,334	6	5	2,021	148	0	4.5%	2.3%	3.4%	NA
2020	1 July to 8 October	156	126,468	2,047	7	14	4,011	93	3	9.0%	3.2%	4.5%	42.9%
2021	1 July to 7 October	165	273,955	4,280	6	35	4,639	75	1	21.2%	1.7%	1.8%	16.7%
Average (2000-20)		300	150,000	4,400	30	20	3,800	100	0	6.9%	2.5%	3.1%	8.5%

Escapement targets for adult large salmon at Meziadin Fishway are approximately: 160,000 Sockeye, 500 Chinook, and 3,500 Coho. Escapement targets were reached for Sockeye and Coho based on fishway counts alone, and for Chinook salmon when accounting for fish that jumped falls (604 counted in spawning areas vs. 165 that passed fishway). Harvests in the Gitanyow fishery occurred below the Meziadin fishway in 2021 that were monitored and reported separately by the Gitanyow Fisheries Authority.

Kwinageese Weir Operation Summary and Net Upstream Counts

Kwinageese video-counting weir operations were conducted from 20 July to 27 September 2021. The water levels and temperatures at the weir averaged 0.28 m (ranged from 0.14 m to 1.24 m) and 14.5°C (ranged from 11°C to 18°C), respectively. Mean water level was 5.7 cm below average while mean temperature was 0.6°C above average. The weir was functional for the majority of period of monitoring in 2021. The weir was topped from high water and viewing box was pulled out of the stream bed on 27 September.

Total adult salmon net upstream counts of large fish were 1,198 Chinook, 8,478 Sockeye, and 1,312 Coho salmon through the Kwinageese River video weir (Table 5). Other net upstream counts included: 67 summer-run steelhead, 72 adult Bull Trout (> 15 cm NFL). It is uncertain how many more Coho Salmon or steelhead would subsequently pass the weir after operation and these counts should be considered minimum escapement estimates to the Upper Kwinageese River for 2021. In addition, reported video counts are preliminary until final video reviews are completed. Net upstream counts through the Kwinageese weir were above average for Chinook, Sockeye, Coho, below average for steelhead and Bull Trout when compared to the average counts from monitored years up to 2021 (Table 5). Upper stream escapement surveys in September estimated 1,149 Chinook spawners (peak count x 2) compared to 1,192 counted at the video-counting weir.

Table 5. Counts of medium/large salmon and steelhead at the Kwinageese Weir, 2002-2021

Kwinageese Weir (~208 km from tagging site)		Adult salmon and steelhead counted (net upstream)				Tags counted (net upstream)				Mark rates (%) observed			
Year	Period of Operation	Chinook	Sockeye	Coho	Steel	Chinook	Sockeye	Coho	Steel	Chinook	Sockeye	Coho	Steel
2002	17 July to 17 October	1,893	5,891	1,283	267	114	86	8	8	6.0%	1.5%	0.6%	3.0%
2005	12 August to 22 October	538	3,186	2,663	304	19	37	59	25	3.5%	1.2%	2.2%	8.2%
2006	25 August to 5 October	410	2,700	1,582	129	27	123	51	6	6.6%	4.6%	3.2%	4.7%
2009	12 July to 15 October	895	107	60	33	28	0	0	4	3.1%	0.0%	0.0%	12.1%
2010	9 July to 19 October	131	48	191	110	2	0	8	7	1.5%	0.0%	4.2%	6.4%
2011	10 July to 5 October	740	10,273	226	50	87	240	10	0	11.8%	2.3%	4.4%	0.0%
2012	19 July to 11 October	715	3,688	155	296	224	141	5	28	31.3%	3.8%	3.2%	9.5%
2013	13 July to 11 October	813	397	763	208	109	4	13	7	13.4%	1.0%	1.7%	3.4%
2014	10 July to 14 October	560	438	1,229	459	41	3	22	29	7.3%	0.7%	1.8%	6.3%
2015	3 July to 9 October	1,093	7,044	301	163	108	60	6	7	9.9%	0.9%	2.7%	4.3%
2016	11 July to 13 October	853	19,797	2,633	380	83	244	25	4	9.7%	1.2%	0.9%	1.1%
2017	9 July to 14 October	241	7,240	2,649	217	27	71	58	17	11.2%	1.0%	2.2%	7.8%
2018	6 July to 15 October	456	290	247	21	18	2	6	0	3.9%	0.7%	2.4%	0.0%
2019	6 July to 8 October	518	6,007	1,690	196	64	69	64	7	12.4%	1.1%	4.4%	3.6%
2020	6 July to 8 October	584	3,256	730	112	141	57	26	13	24.1%	1.8%	3.6%	11.6%
2021	20 July to 27 September	1,198	8,478	1,312	67	214	80	16	3	17.9%	0.9%	1.2%	4.5%
MEAN COUNT AT KWIN (2002-20)		700	4,700	1,100	200	70	80	20	10	10.4%	1.4%	2.5%	5.5%

A total of 313 tagged fish (214 Chinook, 80 Sockeye, 16 Coho and 3 steelhead) from the Nass fishwheels were counted passing through the Kwinageese weir in 2021. The PIT tag monitoring of tagged fish through the video-counting chamber detected 151 unique PIT tagged fish (91 Chinook, 49 Sockeye, and 11 Coho) that passed the weir.

2021 NFWD Salmon Escapement Survey Counts

NFWD conducted salmon escapement surveys in the Nass watershed on the following systems in 2021 (Table 6):

- **Chinook** (n = 5): Ksi Hlginx (Ishkeenickh River), Damdochax Creek, Kwinageese River, Cranberry River (mainstem and Kiteen river (aerial)), and Ksi Sgasginist (Seaskinnish Creek);
- **Sockeye** (n = 2): Gingit and Wiminasi (Damdochax) creeks
- **Chum** (n = 6): Coastal Nass: Illiance, Kshwan, Stagoo, Dak, and Wilauks; Lower Nass: Ksi Ts'oohl Ts'ap (Zolzap Creek);
- **Pink** (n = 7): Coastal Nass: Illiance, Kshwan, Stagoo, Wilauks, Dak, and Dogfish Bay; Lower Nass: Ksi Ts'oohl Ts'ap (Zolzap Creek); and
- **Coho** (n = 7): Coastal Nass: Salmon Cove Creek; Lower Nass: Ansedagan, Diskangieq, Anudol, and Ksi Ts'oohl Ts'ap (Zolzap Creek); Upper Nass: Meziadin fishway and Kwinageese weir.

Typically, three to five surveys were conducted on each system to generate an AUC or peak count escapement estimate. A total of 19 Nass Area streams were monitored by NFWD in 2021.

Table 6. Preliminary escapement estimates for Nass Area streams surveyed by NFWD in 2021. Streams are listed alphabetically.

Stream	Survey dates (2021)	Escapement estimate ^a						Method
		Sockeye	Chinook	Coho	Chum	Pink	Steelhead	
ANSEDAGAN	Oct 5, 15, 27; Nov 8	N/I	N/I	277	N/I	N/I	N/I	Coho = Peak x2
ANUDOL	Oct 28	N/I	N/I	1,273	N/I	N/I	N/I	Coho = Peak x2
CRANBERRY (mainstem)	Aug 29	AP	5,240	N/I	N/I	N/I	N/I	Chinook = Peak x2
DAMDOCHAX	Aug 29; Sep 7, 10, 14	N/I	6,107	N/I	N/I	N/I	N/I	Chinook = Peak x2
DISKANGI	Oct 6	N/I	N/I	2,398	N/I	N/I	N/I	Coho = Peak x2
DOGFISH BAY	Aug 9, 19; Sep 2	N/I	N/I	N/I	N/O	66,320	N/I	Pink = AUC (rt = 12.6d)
GINGIT	Jul 15, 24; Aug 24, 31	8,399	N/O	N/I	N/O	N/O	N/O	Sockeye = AUC (rt = 11.6d)
ILLIANCE	Jul 29; Aug 21; Sep 1	N/O	N/O	N/I	659	22,124	N/O	Chum & Pink = Peak x2
KSI HLGINX (ISHKEENICKH)	Jul 31; Aug 22	N/O	660	N/I	N/O	43,036	N/O	Chinook & Pink = Peak x2
KITEEN	Aug 29	N/O	2,370	N/I	N/I	N/I	N/I	Chinook = Peak x2
KITSAULT (Dak River)	Sep 1	AP	N/O	N/I	AP	1,943	N/O	Pink = Peak x2
KSHWAN	Sep 8	N/O	N/O	N/I	52,746	AP	N/O	Chum = Peak x2
KWINAGEESE (weir)	Jul 6 to Sep 25	8,478	1,198	1,312	DNS	DNS	67	Video weir - adults only
Kwinageese - obs	Sep 7	N/I	1,149	N/I	N/I	N/I	N/I	OE expanded count
MEZIADIN (fishway)	Jun 30 to Oct 7	273,955	165	4,396	N/O	N/O	6	Fishway counts - adults only; Coho count expanded
Meziadin-obs	Sep 14	N/I	604	N/I	N/I	N/I	N/I	Chinook = Peak x2
SALMON COVE	Oct 7, 26; Nov 6	N/I	N/I	1,163	N/I	N/I	N/I	Chinook = Peak x2
KSI SGASGINIST (SEASKINNISH CREEK)	Sep 4	AP	AP	N/I	N/O	AP	N/O	na
STAGOO	Jul 21, 29; Aug 21	N/O	N/O	N/I	10,602	13,704	N/O	Chum & Pink = Peak x2
WILAUKS	Jul 29; Sep 1	N/O	N/O	N/I	84	2,596	N/O	Chum & Pink = Peak x2
WIMINASI (Damdochax between lakes)	Aug 29; Sep 10, 14	8,224	AP	N/I	DNS	DNS	N/I	Sockeye = AUC (rt = 11.6d)
WIMINASI (upstream of Wiminasi Lake)	Aug 29; Sep 10, 14	2,834	N/O	N/I	DNS	DNS	N/I	Sockeye = AUC (rt = 11.6d)
KSI TS'OOHL T'SAP (ZOLZAP CREEK)	Oct 29			850			DNS	Coho = Peak x2

^a AP = Adults present; DNS = do not spawn; N/I = not inspected; N/O = not observed.

Preliminary Nass Salmon and Summer-Run Steelhead Run Size Estimates to Gitwinksihlkw and Net Escapement Estimates for 2021

Upper Nass Salmon and Summer-Run Steelhead Estimates

Preliminary post-season aggregate estimates for Upper Nass salmon and summer-run steelhead returns in 2021 (Table 7) were calculated from current mark-recapture data (Table 8).

Table 7. Preliminary estimates of run size to Gitwinksihlkw fishwheels and aggregate net escapement (spawners) for Upper Nass salmon and summer-run steelhead, 2021.

Post-season Estimate	Sockeye	Chinook	Coho	Steelhead
Run size estimate to GW fishwheels	382,385	14,295	107,129	5,275
<i>In-season estimate to GW fishwheels</i>	<i>391,286</i>	<i>14,227</i>	<i>73,277</i>	<i>3,398</i>
<i>% difference of in-season to post-season</i>	<i>2%</i>	<i>0%</i>	<i>-32%</i>	<i>-36%</i>
Net Escapement estimate above Gitwinksihlkw	349,333	12,542	105,777	5,135
<i>Net Escapement goal - Upper Nass only (min for steelhead)</i>	<i>200,000</i>	<i>13,000</i>	<i>60,000</i>	<i>4,000</i>

The preliminary Upper Nass escapement estimates for salmon and summer-run steelhead to Gitwinksihlkw in 2021 were based on mark-recapture results presented in Table 8. Upper Nass net escapement goals were met for all salmon species in 2021 (Table 9). The in-season population estimates were close to final estimates (within $\pm 20\%$) for Sockeye and Chinook during migrations in 2021 but were overestimated for Coho and steelhead with well above average water levels during periods of August and September (Table 7). The in-season population information uses mark-recapture information from Grease Harbour fishwheels only whereas post-season estimates are based on spawning ground mark rates. The in-season tracking of these species, particularly for Nass Sockeye and Chinook, tracked well enough to guide fisheries in 2021 to reach net aggregate escapement goals.

Table 8. Mark-recapture estimates for Nass salmon (Chinook, Sockeye, and Coho) and summer-run steelhead returns to Gitwinksihlkw and spawning grounds, 2021. Best estimates are bolded.

Species	Marked (M)	Censored	% marks removed	Net marks available (M*)	Examined (C)	Marks recovered (R)	GH estimate (N)	Catch between GH and GW	Esc between GH and GW	Population Estimate to GW (N)	SE	CV%	Catch above GH	Net escapement estimate
Chinook-stratified by size	2,271	346	15%	1,925	1,565	285	10,310	1,259	2,726	14,295	550	5.9%	494	12,542
<i>Chinook-pooled</i>	2,271	346	15%	1,925	1,565	285	10,545	1,259	2,781	14,585	563	5.9%	494	12,832
<i>Chinook-stratified by size (GW)</i>	625	120	19%	505	1,565	59	13,206	1,259	<i>no adj</i>	14,465	1,658	12.9%	494	12,712
<i>Chinook-stratified by size (GH)</i>	1,646	187	11%	1,459	1,565	223	10,206	1,259	2,726	14,191	630	6.7%	494	12,438
Sockeye-size stratified (Mez-Kwin)	9,116	2,816	31%	6,300	282,433	4,719	369,951	12,434		382,385	5,339	1.4%	20,618	349,333
<i>Sockeye-size stratified (Mez only)</i>	9,116	2,816	31%	6,300	273,955	4,639	365,040	12,434		377,474	5,335	1.5%	20,618	344,422
<i>Sockeye-pooled</i>	9,116	2,816	31%	6,300	282,433	4,719	377,036	12,434		389,470	5,441	1.5%	20,618	356,418
Coho-stratified by size (Mez-Kwin)	2,130	345	16%	1,785	5,592	91	106,052	1,078		107,129	10,865	10.3%	275	105,777
<i>Coho-stratified by size (Mez only)</i>	2,130	345	16%	1,785	4,280	75	100,603	1,078		101,680	11,362	11.5%	275	100,327
<i>Coho-pooled</i>	2,130	345	16%	1,785	5,592	91	108,576	1,078		109,654	11,166	10.4%	275	108,301
Steelhead (Coho MR index)	NA	NA	NA	NA	NA	NA	5,136	3	136	5,275	807	33.3%	1	5,135
<i>Steelhead (fin marks)</i>	193	15	8%	178	73	4	2,730	3	136	2,869	1,044	45.1%	1	2,729

* marks removed are associated with initial handling/capture induced mortality, primary tag loss if applicable, and selective removal in fisheries below Grease Harbour.

Post-season aggregate population estimates for Upper Nass Chinook, Sockeye and Coho salmon returns in 2021 (Table 7) were quite precise ($< 15\%$ CV) from mark-recapture surveys with high numbers of marks released from the fishwheels and recovered (or estimated) on the spawning grounds for Chinook ($R = 285$; $CV = 5.9\%$), Sockeye ($R = 4,719$; $CV = 1.4\%$), and Coho ($R = 91$; $CV = 10.3\%$). Genetic analyses of Upper Nass Chinook and Sockeye samples collected from the fishwheels will be conducted to determine overall stock contributions in 2021 to further evaluate run size estimates. The Upper Nass summer-run steelhead aggregate population estimate was based on a coho index method ($CV = 33.3\%$) since total steelhead mark recoveries were less than 12 (Table 8).

Nass Area Salmon and Summer-Run Steelhead Net Escapement Estimates 2021

The 2021 preliminary post-season estimates of net escapement for Nass salmon and summer-run steelhead were calculated according to methods developed by the Nisga'a-Canada-BC Joint technical committee (NCB-JTC) and preliminary results are presented in Table 9 for the Nass watershed including Coastal, Lower, and Upper Nass areas. Lower and Coastal Nass Coho escapement estimates were calculated by prorating stream specific ground survey results (Table 6) to habitat-capacity model (Bocking and Peacock 2004) aggregate area estimates. Nass Area salmon and summer-run steelhead run sizes in 2021 were above average for sockeye, pink, and coho salmon, but were below average for Chinook and chum salmon and steelhead (Table 9). However, based on preliminary results, escapement goals were reached for most Nass Area salmon

species in 2021 with Chinook being just below 15,000; and steelhead just above the goal when fishwheels were shutdown on 11 September.

Table 9. Estimates of run size to Gitwinksihlkw fishwheels and net escapement for Nass salmon and summer-run steelhead, 2000-2021 (NCB-JTC 2021 [draft]).

Year	RUN SIZE TO GITWINKSIHLKW FISHWHEELS						NET ESCAPEMENT (COASTAL, LOWER, MIDDLE AND UPPER NASS)					
	Sockeye	Pink	Chinook	Coho	Chum	Steelhead	Sockeye	Pink	Chinook	Coho	Chum	Steelhead
2000	243,584	119,000	21,617	72,175	3,200	13,431	204,407	350,455	19,348	106,136	18,561	13,317
2001	206,033	314,000	34,703	89,536	1,600	11,325	168,753	839,628	32,340	194,761	30,383	11,126
2002	470,083	191,000	16,081	167,829	700	15,213	405,498	408,969	14,804	292,323	14,753	14,948
2003	328,916	525,000	29,462	77,574	1,800	14,635	263,688	854,007	28,274	140,901	64,545	14,391
2004	283,712	197,000	17,984	60,106	2,300	4,045	215,857	493,155	16,875	98,998	49,276	3,782
2005	285,916	136,000	16,764	99,906	1,300	7,008	224,559	1,063,691	15,571	159,861	30,041	6,926
2006	296,338	20,000	28,609	54,730	1,400	4,181	250,642	118,016	28,061	101,693	51,382	4,097
2007	195,238	147,000	27,165	55,944	800	5,823	164,747	647,378	24,964	141,930	11,005	5,782
2008	235,222	17,000	21,681	84,817	700	11,732	218,105	45,476	22,138	115,477	3,055	11,660
2009	281,235	564,000	30,253	201,683	1,400	22,959	244,900	722,772	29,576	311,688	20,195	22,822
2010	261,722	31,000	20,720	92,134	1,400	19,191	229,010	179,592	20,729	148,263	8,515	18,975
2011	308,636	143,000	11,573	74,108	2,700	19,216	276,700	115,830	10,826	98,006	6,338	19,130
2012	239,400	35,000	10,785	69,383	700	12,538	203,028	231,088	9,797	114,962	15,676	12,245
2013	248,650	322,000	10,240	129,882	700	6,790	210,126	848,048	9,034	354,229	14,426	6,565
2014	301,072	222,000	14,354	123,223	1,900	19,220	260,102	346,777	12,979	231,710	20,396	19,071
2015	469,466	66,000	22,262	44,262	2,400	13,602	389,503	353,574	20,595	55,954	47,835	13,436
2016	304,135	182,000	11,009	137,214	5,100	21,395	276,413	293,507	10,192	183,234	20,762	21,238
2017	260,585	341,000	5,677	116,419	1,100	8,962	226,758	840,119	4,984	190,135	22,517	8,894
2018	248,224	127,000	16,289	58,979	1,600	25,238	224,132	222,716	16,319	72,548	45,975	25,031
2019	268,000	117,000	13,211	93,595	2,500	9,765	243,659	159,782	11,833	144,129	24,222	9,747
2020	241,090	104,000	14,931	53,896	300	3,799	202,400	736,028	14,315	96,237	102,159	3,795
2021	382,385	289,000	14,295	107,129	300	5,275	349,334	562,047	14,034	190,321	119,659	5,275
Mean 00-20	285,000	187,000	19,000	93,000	2,000	13,000	243,000	470,000	18,000	160,000	30,000	13,000
Goal-target	250,000		13,000	60,000		11,000	200,000	225,000	15,000	60,000	45,000	10,500
Goal-min							100,000	150,000	10,000	40,000	30,000	4,200

Preliminary Harvest Estimates for Adult Nass Salmon and Steelhead

2021 Alaskan Fisheries in SE Alaska (courtesy of Alaska Department of Fish and Game)

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). District 101 (Lower Clarence), District 103 (Cordova), and District 104 (Noyes/Dall) seine fisheries opened on 4 July, 18 July, and 11 July, respectively. 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 9 October 2021. Total salmon catches in the six fisheries were: 31.8 million Pink, 1.3 million Chum, 762,000 Sockeye, 377,000 Coho, and 9,000 Chinook.

The preliminary estimates of salmon caught in Alaskan net fisheries in Districts 101-106 were 34,236,000 fish which was above average (21,847,000) based on salmon catches estimated from 2000 to 2020 for the same areas (Table 10). The preliminary 2021 catch breakout by species for the two gillnet and four seine fisheries was: 762,000 Sockeye; 9,000 Chinook; 31,790,000 Pink; 1,298,000 Chum, and 377,000 Coho (Table 10).

Table 10. In-season commercial gillnet and seine catch estimates of salmon in Alaskan fisheries in Districts 101-106, 2021 (ADFG 2021).

IN-SEASON SE ALASKAN CUM. SALMON GILLNET/SEINE CATCH ESTIMATES (ADFG WEBSITE) - 2021								WEEK END:		9-Oct-21	
DISTRICTS	AREA	SOCKEYE CATCH	AVG (00-20)	CHINOOK 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	21,600	61,000	1,900	1,500	144,400	374,900	171,200	250,000	47,000	48,800
DIST 106 GN	UPP. CLAR	49,600	79,000	1,000	1,500	148,300	397,000	134,500	174,000	72,800	125,000
DIST 101 SN	LOW CLAR	95,000	54,100	0	700	9,700,000	4,969,000	197,000	251,000	59,000	34,000
DIST 102 SN	MID CLAR.	67,000	34,000	0	800	7,400,000	3,859,900	430,000	484,000	58,000	47,200
DIST 103 SN	CORDOVA	29,000	23,000	80	370	4,000,000	3,664,000	150,000	125,000	30,000	28,000
DIST 104 SN	NOYES/DALL	500,000	263,000	6,200	5,900	10,400,000	6,251,000	215,000	171,000	110,000	68,000
CUMULATIVE TOTAL		762,000	514,000	9,000	11,000	31,790,000	19,516,000	1,298,000	1,455,000	377,000	351,000

Of the total in-season Sockeye catch reported in the SE Alaskan fisheries in 2021 (762,000), approximately 13% (101,000) were estimated as Nass origin based on mean stock composition estimates from 1982 to 2020 and were just below average (108,000). 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: 57,000–488,000), and 7,000 Chum (<1,000–24,000) (Table 11; NCB-JTC 2021).

On average, harvests in Alaskan fisheries of all Nass salmon are approximately 322,000 based on preliminary total harvest and runs from 2000 to 2020 (NCB-JTC 2021) and represents approximately 19% of the average total returns. On average for total Nass salmon runs, Alaskan exploitation rates represent approximately 17% for Sockeye, 8% for Pink, 4% for Chinook, 39% for Coho, and 15% for Chum based on preliminary analyses from the NCB-JTC (2021) (Table 11).

Table 11. Preliminary estimates of Nass salmon harvests in Alaskan fisheries, total Nass salmon returns, and US exploitation rates, 2000-2021 (NCB-JTC 2021 [draft])

Year	ALASKAN HARVEST					TOTAL RUN					ALASKA EXPLOITATION RATE				
	Sock.	Pink	Chin.	Coho	Chum	Sockeye	Pink	Chinook	Coho	Chum	Sockeye	Pink	Chinook	Coho	Chum
2000	86,000	32,000	1,700	92,000	4,000	625,000	594,000	34,700	208,000	40,000	14%	5%	5%	44%	10%
2001	202,000	192,000	2,400	176,000	18,000	582,000	2,093,000	52,400	374,000	90,000	35%	9%	5%	47%	20%
2002	125,000	41,000	1,400	63,000	2,000	1,404,000	691,000	31,400	378,000	32,000	9%	6%	4%	17%	6%
2003	153,000	136,000	2,200	89,000	11,000	1,177,000	1,155,000	46,200	265,000	87,000	13%	12%	5%	34%	13%
2004	304,000	86,000	600	91,000	24,000	985,000	782,000	33,600	227,000	82,000	31%	11%	2%	40%	29%
2005	145,000	175,000	300	163,000	9,000	667,000	1,523,000	28,300	379,000	42,000	22%	11%	1%	43%	21%
2006	138,000	5,000	1,800	69,000	12,000	775,000	141,000	45,800	199,000	72,000	18%	4%	4%	35%	17%
2007	251,000	119,000	1,300	107,000	8,000	602,000	1,015,000	41,300	286,000	21,000	42%	12%	3%	37%	38%
2008	47,000	4,000	400	61,000	400	380,000	55,000	30,400	200,000	4,400	12%	7%	1%	31%	9%
2009	150,000	102,000	1,200	125,000	7,000	575,000	912,000	40,200	487,000	29,000	26%	11%	3%	26%	24%
2010	47,000	18,000	800	97,000	1,000	439,000	203,000	27,800	281,000	10,000	11%	9%	3%	35%	10%
2011	99,000	6,000	1,500	86,000	1,000	557,000	180,000	19,500	215,000	8,000	18%	3%	8%	40%	13%
2012	58,000	32,000	1,200	107,000	2,000	477,000	302,000	17,200	270,000	18,000	12%	11%	7%	40%	11%
2013	67,000	140,000	200	488,000	2,000	504,000	1,116,000	16,200	994,000	17,000	13%	13%	1%	49%	12%
2014	66,000	62,000	1,600	135,000	3,000	553,000	461,000	24,600	402,000	25,000	12%	13%	7%	34%	12%
2015	117,000	35,000	2,200	242,000	8,000	870,000	457,000	35,200	388,000	62,000	13%	8%	6%	62%	13%
2016	80,000	38,000	1,700	354,000	5,000	442,000	387,000	19,700	642,000	29,000	18%	10%	9%	55%	17%
2017	28,000	38,000	700	161,000	2,000	369,000	964,000	11,700	462,000	25,000	8%	4%	6%	35%	8%
2018	22,000	10,000	1,200	57,000	3,000	316,000	266,000	24,200	146,000	50,000	7%	4%	5%	39%	6%
2019	51,000	15,000	1,000	99,000	4,000	377,000	190,000	21,000	318,000	29,000	14%	8%	5%	31%	14%
2020	31,000	32,000	1,100	139,000	12,000	296,000	776,000	22,100	262,000	114,000	10%	4%	5%	53%	11%
2021	101,000	63,000	1,100	196,000	10,000	514,000	634,000	22,100	462,000	130,000	20%	10%	5%	42%	8%
Mean 00-20	108,000	63,000	1,000	143,000	7,000	618,000	679,000	30,000	352,000	42,000	17%	8%	4%	39%	15%

Preliminary 2021 Post-Season Net, Troll, and Recreational Catch Estimates for Nass Salmon

Commercial Catch Estimates of Nass Salmon

On 29 June, DFO announced significant commercial salmon closures throughout BC in 2021 as part of DFO's Pacific Salmon Strategy Initiative (PSSI). The salmon closures were in response to significant declines in BC salmon stocks due to recent ocean warming and poor survival conditions. As a result of DFO's PSSI announcement, the Area C Gillnet fishery did not proceed in 2021 in Area 3 and commercial fisheries targeting Nass Sockeye, Coho, and Chinook salmon were not permitted. The closures are a start to rebuild Nass Area salmon stocks to historical levels. The pre-season forecast for Nass salmon in 2021 was ranked as the 8th poorest return over a 30-year period (1992–2021).

Although commercial gillnet closures were announced, DFO opened four commercial seine fisheries in outside Area 3 (Areas 3-3 and 3-7) in July (12 July, 19 July, 20 July, and 30 July) to target Pink Salmon with Chum Salmon retention allowed, and one demonstration fishery on 22 July (Pink retention only). Total harvests from the Area 3 seine fisheries were 172,251 Pinks and 13,925 Chum harvested (Table 12; Table 13).

Table 12. In-season salmon and steelhead seine catch estimates by day in DFO Area 3 commercial net fisheries, 2021 (DFO 2021).

GEAR	DATE	Vessel days	SO-harv	SO-Rel	HARV	CO-Rel	PK-HARV	PK-Rel	Chum-harv	Chum-Rel	CH-harv	CH-Rel	STEEL-Rel
SN	2021-07-12	17	0	1,120	0	227	8,422	0	4,063	0	0	76	0
	2021-07-19	18	0	1,498	0	230	64,150	0	5,463	0	0	30	50
	2021-07-20	17	0	1,045	0	137	50,403	0	4,399	0	0	31	41
	2021-07-22	2	0	639	0	102	13,234	0	0	1,297	0	25	2
	2021-07-30	20	0	483	0	410	36,042	0	0	1,798	0	22	0
SN Total		74	0	4,785	0	1,106	172,251	0	13,925	3,095	0	184	93

SN=seine; SO=sockeye; PK=pink, CO=coho, CH=Chinook; STEEL=steelhead; harv=harvested, Rel=released; Vessel days=Boat days.

Table 13. Preliminary post-season commercial net and troll catch estimates of Nass salmon in DFO commercial fisheries in Areas 1-5, 2000-2021 (NCB-JTC 2021 [draft]).

Year	COMMERCIAL (GILLNET & SEINE)					COMMERCIAL (TROLL)					TOTAL COMMERCIAL CATCH ESTIMATES				
	Sockeye	Pink	Chinook	Coho	Chum	Sockeye	Pink	Chinook	Coho	Chum	Sockeye	Pink	Chinook	Coho	Chum
2000	239,000	205,000	1,800	24,000	11,500	UNK	UNK	NA	NA	UNK	239,000	205,000	1,800	24,000	11,500
2001	132,000	982,000	900	11,000	31,200	UNK	UNK	NA	18,000	UNK	132,000	982,000	900	29,000	31,200
2002	725,000	239,000	3,800	2,000	9,800	UNK	UNK	2,100	6,000	UNK	725,000	239,000	5,900	8,000	9,800
2003	616,000	146,000	3,600	2,000	11,100	UNK	UNK	2,500	9,000	UNK	616,000	146,000	6,100	11,000	11,100
2004	318,000	192,000	6,300	3,000	7,300	UNK	UNK	400	5,000	UNK	318,000	192,000	6,700	8,000	7,300
2005	174,000	279,000	2,700	11,000	2,400	UNK	UNK	400	19,000	UNK	174,000	279,000	3,100	30,000	2,400
2006	292,000	13,000	3,200	2,000	7,900	UNK	UNK	1,300	9,000	UNK	292,000	13,000	4,500	11,000	7,900
2007	131,000	241,000	3,400	10,000	1,000	UNK	UNK	600	9,000	UNK	131,000	241,000	4,000	19,000	1,000
2008	60,000	1,000	300	2,000	200	UNK	UNK	50	5,000	UNK	60,000	1,000	350	7,000	200
2009	103,000	55,000	800	3,000	1,100	UNK	UNK	300	17,000	UNK	103,000	55,000	1,100	20,000	1,100
2010	86,000	2,000	600	2,000	200	UNK	UNK	300	14,000	UNK	86,000	2,000	900	16,000	200
2011	108,000	11,000	800	3,000	400	UNK	UNK	400	13,000	UNK	108,000	11,000	1,200	16,000	400
2012	133,000	18,000	400	3,000	400	UNK	UNK	400	27,000	UNK	133,000	18,000	800	30,000	400
2013	140,000	89,000	900	22,000	600	UNK	UNK	200	98,000	UNK	140,000	89,000	1,100	120,000	600
2014	127,000	43,000	1,600	3,000	400	UNK	UNK	100	18,000	UNK	127,000	43,000	1,700	21,000	400
2015	187,000	38,000	1,400	30,000	4,500	UNK	UNK	400	41,000	UNK	187,000	38,000	1,800	71,000	4,500
2016	17,000	35,000	700	36,000	200	UNK	UNK	100	51,000	UNK	17,000	35,000	800	87,000	200
2017	34,000	65,000	1,000	21,000	100	UNK	UNK	50	70,000	UNK	34,000	65,000	1,050	91,000	100
2018	13,000	17,000	0	2,000	600	UNK	UNK	150	7,000	UNK	13,000	17,000	150	9,000	600
2019	19,000	3,000	0	9,000	100	UNK	UNK	0	54,000	UNK	19,000	3,000	0	63,000	100
2020	50	1,000	0	5,000	0	UNK	UNK	60	16,000	UNK	50	1,000	60	21,000	0
2021	0	6,000	0	0	300	UNK	UNK	130	60,000	UNK	0	6,000	130	60,000	300
Mean 00-20	174,000	127,000	2,000	10,000	4,000	UNK	UNK	1,000	25,000	UNK	174,000	127,000	2,000	34,000	4,000

Recreational Catch Estimates of Nass Salmon

On 15 July, DFO announced the closure of recreational (sport) freshwater fishing for salmon in the Nass River watershed from 16-30 July in response to low Chinook returns to the Nass River. The sport fishery reopened on 30 July.

Limited data were available for the preliminary sport catch estimates shown here, but minimum harvest estimates of Nass salmon in recreational fisheries for 2021 are approximately: < 100 Sockeye, 1,200 Chinook, 6,700 Coho, and < 100 Pink based on preliminary data from NFWD, DFO Prince Rupert, and methods developed by the NCB-JTC (Table 14). The recreational catch estimates of Nass salmon that are shown in Table 14 are based on many assumptions (e.g., relative stock composition of Nass salmon in total recreational catches in Areas 1 to Area 4 (tidal only)). The preliminary recreational harvest estimates for Nass salmon in 2021 were below average for Nass Chinook and above average for Coho salmon when compared to mean estimates from 2000 to 2020 (Table 14).

Table 14. Preliminary post-season Nass salmon harvest estimates in recreational fisheries, 2000-2021 (NCB-JTC 2021 [draft]).

Year	IN-RIVER RECREATIONAL CATCH					MARINE (TIDAL) RECREATIONAL CATCH					TOTAL RECREATIONAL CATCH				
	Sock.	Pink	Chin.	Coho	Chum	Sock.	Pink	Chin.	Coho	Chum	Sock.	Pink	Chin.	Coho	Chum
2000	20	UNK	1,200	300	UNK	UNK	UNK	1,000	600	UNK	20	UNK	2,200	900	UNK
2001	280	UNK	1,100	600	UNK	UNK	UNK	1,700	3,600	UNK	280	UNK	2,800	4,200	UNK
2002	30	UNK	900	400	UNK	UNK	UNK	1,100	4,800	UNK	30	UNK	2,000	5,200	UNK
2003	UNK	UNK	1,200	200	UNK	UNK	UNK	1,200	4,500	UNK	UNK	UNK	2,400	4,700	UNK
2004	UNK	UNK	900	200	UNK	UNK	UNK	1,900	4,400	UNK	UNK	UNK	2,800	4,600	UNK
2005	UNK	UNK	800	500	UNK	UNK	UNK	1,500	4,800	UNK	UNK	UNK	2,300	5,300	UNK
2006	UNK	UNK	1,300	100	UNK	UNK	UNK	1,000	4,700	UNK	UNK	UNK	2,300	4,800	UNK
2007	UNK	UNK	1,500	600	UNK	UNK	UNK	1,800	3,900	UNK	UNK	UNK	3,300	4,500	UNK
2008	UNK	UNK	1,300	100	UNK	UNK	UNK	1,600	6,200	UNK	UNK	UNK	2,900	6,300	UNK
2009	UNK	UNK	1,300	1,700	UNK	UNK	UNK	1,300	7,300	UNK	UNK	UNK	2,600	9,000	UNK
2010	120	UNK	500	300	UNK	UNK	UNK	400	4,700	UNK	120	UNK	900	5,000	UNK
2011	10	0	600	300	UNK	UNK	UNK	900	5,800	UNK	10	UNK	1,500	6,100	UNK
2012	UNK	10	600	200	UNK	UNK	UNK	500	2,600	UNK	UNK	10	1,100	2,800	UNK
2013	30	20	500	300	UNK	UNK	UNK	500	6,400	UNK	30	20	1,000	6,700	UNK
2014	120	UNK	900	300	UNK	UNK	UNK	700	2,700	UNK	120	UNK	1,600	3,000	UNK
2015	20	50	600	400	UNK	UNK	UNK	700	5,200	UNK	20	50	1,300	5,600	UNK
2016	UNK	UNK	300	100	UNK	UNK	UNK	800	4,600	UNK	UNK	UNK	1,100	4,700	UNK
2017	UNK	10	200	1,500	UNK	UNK	UNK	800	3,700	UNK	UNK	10	1,000	5,200	UNK
2018	UNK	UNK	500	400	UNK	UNK	UNK	200	2,100	UNK	UNK	UNK	700	2,500	UNK
2019	UNK	UNK	400	700	UNK	UNK	UNK	900	3,800	UNK	UNK	UNK	1,300	4,500	UNK
2020	UNK	UNK	400	600	UNK	UNK	UNK	300	2,500	UNK	UNK	UNK	700	3,100	UNK
2021	UNK	UNK	400	600	UNK	UNK	UNK	800	6,100	UNK	UNK	UNK	1,200	6,700	UNK
Mean 00-20	100	20	1,000	500	UNK	UNK	UNK	1,000	4,000	UNK	100	20	2,000	4,700	UNK

Nisga'a Nation Catch Estimates of Nass Salmon and Steelhead

The 2021 Nisga'a salmon and steelhead fisheries were monitored from 3 May to 31 August as part of the NFWD's annual salmon catch monitoring program. Incidental salmon and steelhead catch before 3 May and after 31 August were also accounted for in NFWD's annual non-salmon catch monitoring program. During the salmon catch-monitoring period, estimates were expanded each week for non-reporting based on catch and fishing effort analyses. No individual sale fisheries were conducted in 2021 to support DFO's PSSI to promote more Nass salmon spawning and rebuild returns from recent low levels in the future. The Nisga'a food, social, and ceremonial (FSC) Sockeye fishery was closed for 6 days from 15–20 July with no directed harvests permitted due to very low returns of Nass Sockeye (26,000 vs. 100,000 average) and Chinook (736 vs. 14,500 average) passing to the Upper Nass River by 10 July. The closures allowed sufficient upriver passage of Sockeye, including early timed Meziadin Sockeye stocks, Hanna and Tintina creeks, that have had low returns in recent years. Although the initial closure enabled more Chinook to pass to the Upper Nass, the Nisga'a Chinook FSC fishery was closed for the season by Nisga'a Lisims Government on 15 July due the return being projected to be below the escapement goal (15,000) and reaching the preliminary harvest target of the Nisga'a in-season entitlement for Nass Chinook.

Table 15 shows the preliminary post-season Nisga'a Treaty catch potential of Nass salmon and harvest estimates of Nass salmon and steelhead in Nisga'a fisheries in 2021. Preliminary total salmon harvests in the Nisga'a fisheries include angling gear catches and preliminary estimates of release mortalities (60% from gillnets). Estimated harvests in the Nisga'a fisheries for 2021 were: 39,284 Sockeye (plus 1 release morts), 5,573 Chinook (plus 109 release morts), 1,726 Coho (plus 24 release morts), 2,301 Pink (plus 980 release morts), 12 Chum (plus 7 release morts), and 40 steelhead (plus 8 release morts). Steelhead harvests included 9 winter-run and 26 summer-run fish. Preliminary post-season Nisga'a harvest estimates for all Nass salmon and steelhead were below average based on mean harvests from 2000 to 2020 (Table 15). There is currently no defined Nisga'a entitlement for steelhead (winter or summer-run), other than

a maximum allocation for summer-run steelhead (1,000) defined in the Nisga'a Treaty; domestic harvests are permitted each year.

Table 15. Nisga'a Treaty TRTC entitlement and harvest estimates for Nass salmon and steelhead (including estimated released mortalities), 2000-2021 (NCB-JTC 2021 [draft]).

Year	NISGA'A CATCH POTENTIAL TARGETS (TREATY, DEMO, UNDERAGES, SE)					NISGA'A TOTAL CATCHES (TREATY, DEMO, UNDERAGES, REL. MORT)					
	Sockeye	Pink	Chinook	Coho	Chum	Sockeye	Pink	Chinook	Coho	Chum	Steel
2000	93,855	42,118	6,935	9,241	2,905	93,179	6,086	9,326	1,950	1,067	495
2001	63,199	257,071	8,056	23,170	17,259	77,183	79,378	11,764	14,706	1,617	403
2002	185,562	67,129	2,607	27,664	16,988	140,666	2,043	5,431	9,016	132	557
2003	171,681	124,282	6,332	26,418	32,832	140,861	18,949	6,709	14,882	318	445
2004	143,379	74,242	6,580	22,399	32,588	145,248	10,755	5,985	20,363	1,115	512
2005	87,589	174,082	6,500	19,306	30,626	113,360	4,780	6,601	14,988	728	244
2006	85,827	105	9,046	14,744	35,237	88,079	4,699	7,810	8,512	1,214	253
2007	48,309	105,229	9,130	20,541	30,399	53,886	7,438	6,814	9,520	932	116
2008	46,780	32	7,985	20,174	30,027	45,805	4,475	4,475	3,466	511	179
2009	69,139	91,835	10,515	28,294	29,720	69,449	31,759	5,518	14,104	447	266
2010	60,458	2,179	8,852	23,852	29,739	67,849	3,184	4,643	10,395	386	709
2011	68,083	343	7,536	19,380	29,537	60,445	47,331	4,605	2,655	245	193
2012	74,478	7,904	9,192	22,143	29,496	68,766	21,035	3,614	12,182	394	542
2013	81,553	117,557	11,421	29,162	29,339	73,475	38,528	4,459	19,510	243	433
2014	94,655	28,177	14,652	28,851	29,345	79,837	9,567	6,029	8,573	711	468
2015	163,923	31,660	16,793	21,327	33,267	154,206	30,189	8,335	8,002	1,382	424
2016	63,863	20,371	12,172	33,074	4,384	46,875	20,323	5,418	8,258	2,923	542
2017	66,367	109,847	8,830	33,074	2,376	58,180	20,376	3,688	10,362	744	233
2018	47,344	5,888	12,452	20,959	5,630	46,776	15,795	5,504	2,855	535	409
2019	46,806	3,441	11,201	32,782	6,184	50,281	11,590	6,682	2,374	206	95
2020	29,111	81,611	11,512	28,658	14,242	39,390	6,606	5,577	897	80	97
2021	55,078	54,829	10,918	37,989	17,294	39,285	3,281	5,682	1,750	19	48
Mean 00-20	85,000	64,000	9,000	24,000	22,000	82,000	19,000	6,000	9,000	1,000	400

Preliminary Nass Salmon Total Return to Canada (TRTC) and Total Run (TR) Estimates for 2021

Pre-season forecasts for Nass salmon and Nisga'a entitlement allocations for 2021 were calculated using pre-season forecast models based on Nass salmon return and age information from 2020. 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. The pre-season TRTC forecasts (50% probability estimates) for 2021 predicted well 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), and Nass Coho (150,000 vs. 187,000) based on mean TRTC returns from 1994 to 2020 (Table 16).

Table 16. Pre-season forecasts for Total Return to Canada and Nisga'a entitlement catch potential for Nass salmon returns, 2021.

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)	318,000	25,000	150,000	395,000	39,000
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	44,000	5,300	12,000	28,000	3,100
75% probability	17,000	4,000	7,000	1,000	<500
25% probability	78,000	6,900	19,200	104,000	5,000

The preliminary post-season TRTC estimates for determining the Nisga'a Treaty entitlements for Nass salmon in 2021 are approximately: 413,000 Sockeye, 571,000 Pink, 21,000 Chinook, 266,000 Coho, and 120,000 Chum (Table 17). These estimates were higher than the pre-season estimates for Sockeye (413,000 vs. 318,000), Coho (258,000 vs. 150,000), Pink (571,000 vs. 395,000), and Chum (120,000 vs. 38,000), and lower for Chinook (21,000 vs. 25,000). Total run data including Alaskan harvests are provided in Table 18.

Preliminary Canadian exploitation rates for 2021 were below average for Nass Sockeye (12% vs. 38%), Pink (1% vs. 17%), Chinook (33% vs. 36%), Chum (0.2% vs. 8%), and about average for Coho (16% vs 15%) when compared to the means from 2000 to 2020 (Table 17). Preliminary total run exploitation rate estimates for Nass salmon in all fisheries in 2021 were 32% Sockeye, 11% Pink, 38% Chinook, 59% Coho, and 8% Chum when combining harvests from Alaskan (Table 10) and Canadian (Table 17) fisheries (Table 18).

Table 17. Preliminary estimates of Total Return to Canada, total harvests in all Canadian fisheries, and associated exploitation rates for Nass salmon returns, 2000-2021 (NCB-JTC 2021 [draft]).

Year	TOTAL RETURN TO CANADA (TRTC)					HARVEST TOTALS (ALL CAN FISHERIES)					EXPLOITATION RATE (ALL CAN FISHERIES)				
	Sockeye	Pink	Chinook	Coho	Chum	Sockeye	Pink	Chinook	Coho	Chum	Sockeye	Pink	Chinook	Coho	Chum
2000	539,000	562,000	33,000	116,000	36,000	335,000	211,000	13,400	28,000	8,000	53.6%	35.5%	38.6%	13.5%	20.0%
2001	380,000	1,901,000	50,000	198,000	72,000	212,000	1,062,000	15,600	52,000	6,000	36.4%	50.7%	29.8%	13.9%	6.7%
2002	1,279,000	650,000	30,000	315,000	30,000	873,000	241,000	13,500	27,000	3,000	62.2%	34.9%	43.0%	7.1%	9.4%
2003	1,024,000	1,019,000	44,000	176,000	76,000	760,000	165,000	15,300	36,000	11,000	64.6%	14.3%	33.1%	13.6%	12.6%
2004	681,000	696,000	33,000	136,000	58,000	466,000	203,000	16,300	37,000	8,000	47.3%	26.0%	48.5%	16.3%	9.8%
2005	522,000	1,348,000	28,000	216,000	33,000	297,000	284,000	12,500	56,000	3,000	44.5%	18.6%	44.2%	14.8%	7.1%
2006	637,000	136,000	44,000	130,000	60,000	386,000	18,000	15,500	29,000	9,000	49.8%	12.8%	33.8%	14.6%	12.5%
2007	351,000	896,000	40,000	179,000	13,000	187,000	249,000	14,600	37,000	2,000	31.1%	24.5%	35.4%	12.9%	9.5%
2008	333,000	51,000	30,000	139,000	4,000	115,000	6,000	8,100	23,000	1,000	30.3%	10.9%	26.6%	11.5%	22.7%
2009	425,000	810,000	39,000	362,000	22,000	181,000	87,000	9,600	50,000	2,000	31.5%	9.5%	23.9%	10.3%	6.9%
2010	392,000	185,000	27,000	184,000	9,000	163,000	5,000	6,700	36,000	600	37.1%	2.5%	24.1%	12.8%	6.0%
2011	458,000	174,000	18,000	129,000	7,000	182,000	58,000	7,500	31,000	1,000	32.7%	32.2%	38.5%	14.4%	12.5%
2012	419,000	270,000	16,000	163,000	16,000	216,000	39,000	6,000	48,000	1,000	45.3%	12.9%	34.9%	17.8%	5.6%
2013	437,000	976,000	16,000	506,000	15,000	227,000	127,000	7,400	152,000	1,000	45.0%	11.4%	45.7%	15.3%	5.9%
2014	487,000	399,000	23,000	267,000	22,000	227,000	52,000	9,700	35,000	1,000	41.0%	11.3%	39.4%	8.7%	4.0%
2015	753,000	422,000	33,000	146,000	54,000	363,000	68,000	12,400	90,000	6,000	41.7%	14.9%	35.2%	23.2%	9.7%
2016	362,000	349,000	18,000	288,000	24,000	86,000	55,000	7,500	105,000	3,000	19.5%	14.2%	38.1%	16.4%	10.3%
2017	341,000	926,000	11,000	301,000	23,000	114,000	86,000	6,100	111,000	1,000	30.9%	8.9%	52.1%	24.0%	4.0%
2018	294,000	256,000	23,000	89,000	47,000	70,000	33,000	6,600	16,000	1,000	22.2%	12.4%	27.3%	11.0%	2.0%
2019	326,000	175,000	20,000	219,000	25,000	83,000	15,000	8,400	75,000	290	22.0%	7.9%	40.0%	23.6%	1.0%
2020	265,000	744,000	21,000	123,000	102,000	62,000	8,000	6,800	27,000	80	20.9%	1.0%	30.8%	10.3%	0.1%
2021	413,000	571,000	21,000	266,000	120,000	63,000	9,000	7,300	75,000	280	12.3%	1.4%	33.0%	16.2%	0.2%
Mean 00-20	510,000	616,000	28,000	209,000	36,000	267,000	146,000	10,000	52,000	3,000	38.6%	17.5%	36.3%	14.6%	8.5%

Table 18. Preliminary estimates of total run size, total harvests in all fisheries, and total run exploitation rates for Nass salmon returns, 2000-2021 (NCB-JTC 2021 [draft]).

Year	TOTAL RUN					HARVEST TOTALS (ALL FISHERIES)					TOTAL RUN EXPLOITATION RATES				
	Sockeye	Pink	Chinook	Coho	Chum	Sockeye	Pink	Chinook	Coho	Chum	Sockeye	Pink	Chinook	Coho	Chum
2000	625,000	594,000	34,700	208,000	40,000	421,000	243,000	15,100	120,000	12,000	67.4%	40.9%	43.5%	57.7%	30.0%
2001	582,000	2,093,000	52,400	374,000	90,000	414,000	1,254,000	18,000	228,000	24,000	71.1%	59.9%	34.4%	61.0%	26.7%
2002	1,404,000	691,000	31,400	378,000	32,000	998,000	282,000	14,900	90,000	5,000	71.1%	40.8%	47.5%	23.8%	15.6%
2003	1,177,000	1,155,000	46,200	265,000	87,000	913,000	301,000	17,500	125,000	22,000	77.6%	26.1%	37.9%	47.2%	25.3%
2004	985,000	782,000	33,600	227,000	82,000	770,000	289,000	16,900	128,000	32,000	78.2%	37.0%	50.3%	56.4%	39.0%
2005	667,000	1,523,000	28,300	379,000	42,000	442,000	459,000	12,800	219,000	12,000	66.3%	30.1%	45.2%	57.8%	28.6%
2006	775,000	141,000	45,800	199,000	72,000	524,000	23,000	17,300	98,000	21,000	67.6%	16.3%	37.8%	49.2%	29.2%
2007	602,000	1,015,000	41,300	286,000	21,000	438,000	368,000	15,900	144,000	10,000	72.8%	36.3%	38.5%	50.3%	47.6%
2008	380,000	55,000	30,400	200,000	4,400	162,000	10,000	8,500	84,000	1,400	42.6%	18.2%	28.0%	42.0%	31.8%
2009	575,000	912,000	40,200	487,000	29,000	331,000	189,000	10,800	175,000	9,000	57.6%	20.7%	26.9%	35.9%	31.0%
2010	439,000	203,000	27,800	281,000	10,000	210,000	23,000	7,500	133,000	1,600	47.8%	11.3%	27.0%	47.3%	16.0%
2011	557,000	180,000	19,500	215,000	8,000	281,000	64,000	9,000	117,000	2,000	50.4%	35.6%	46.2%	54.4%	25.0%
2012	477,000	302,000	17,200	270,000	18,000	274,000	71,000	7,200	155,000	3,000	57.4%	23.5%	41.9%	57.4%	16.7%
2013	504,000	1,116,000	16,200	994,000	17,000	294,000	267,000	7,600	640,000	3,000	58.3%	23.9%	46.9%	64.4%	17.6%
2014	553,000	461,000	24,600	402,000	25,000	293,000	114,000	11,300	170,000	4,000	53.0%	24.7%	45.9%	42.3%	16.0%
2015	870,000	457,000	35,200	388,000	62,000	480,000	103,000	14,600	332,000	14,000	55.2%	22.5%	41.5%	85.6%	22.6%
2016	442,000	387,000	19,700	642,000	29,000	166,000	93,000	9,200	459,000	8,000	37.6%	24.0%	46.7%	71.5%	27.6%
2017	369,000	964,000	11,700	462,000	25,000	142,000	124,000	6,800	272,000	3,000	38.5%	12.9%	58.1%	58.9%	12.0%
2018	316,000	266,000	24,200	146,000	50,000	92,000	43,000	7,800	73,000	4,000	29.1%	16.2%	32.2%	50.0%	8.0%
2019	377,000	190,000	21,000	318,000	29,000	134,000	30,000	9,400	174,000	4,290	35.5%	15.8%	44.8%	54.7%	14.8%
2020	296,000	776,000	22,100	262,000	114,000	80,000	40,000	7,800	166,000	12,080	27.0%	5.2%	35.3%	63.4%	10.6%
2021	514,000	634,000	22,100	462,000	130,000	164,000	72,000	8,400	271,000	10,280	31.9%	11.4%	38.0%	58.7%	7.9%
Mean 00-20	618,000	679,000	30,000	352,000	42,000	374,000	209,000	12,000	195,000	10,000	55.3%	25.8%	40.8%	53.9%	23.4%

Ranking the TRTC returns (Table 19) and Total Runs (Table 20) for Nass salmon and steelhead in 2021 over a 30-year return period (1992–2021), the returns in 2021 were poor for Sockeye (10th worst), Chinook (8th worst), and steelhead (6th worst); average for Pink (18th best), and good for Coho (23rd worst) and Chum (28th worst).

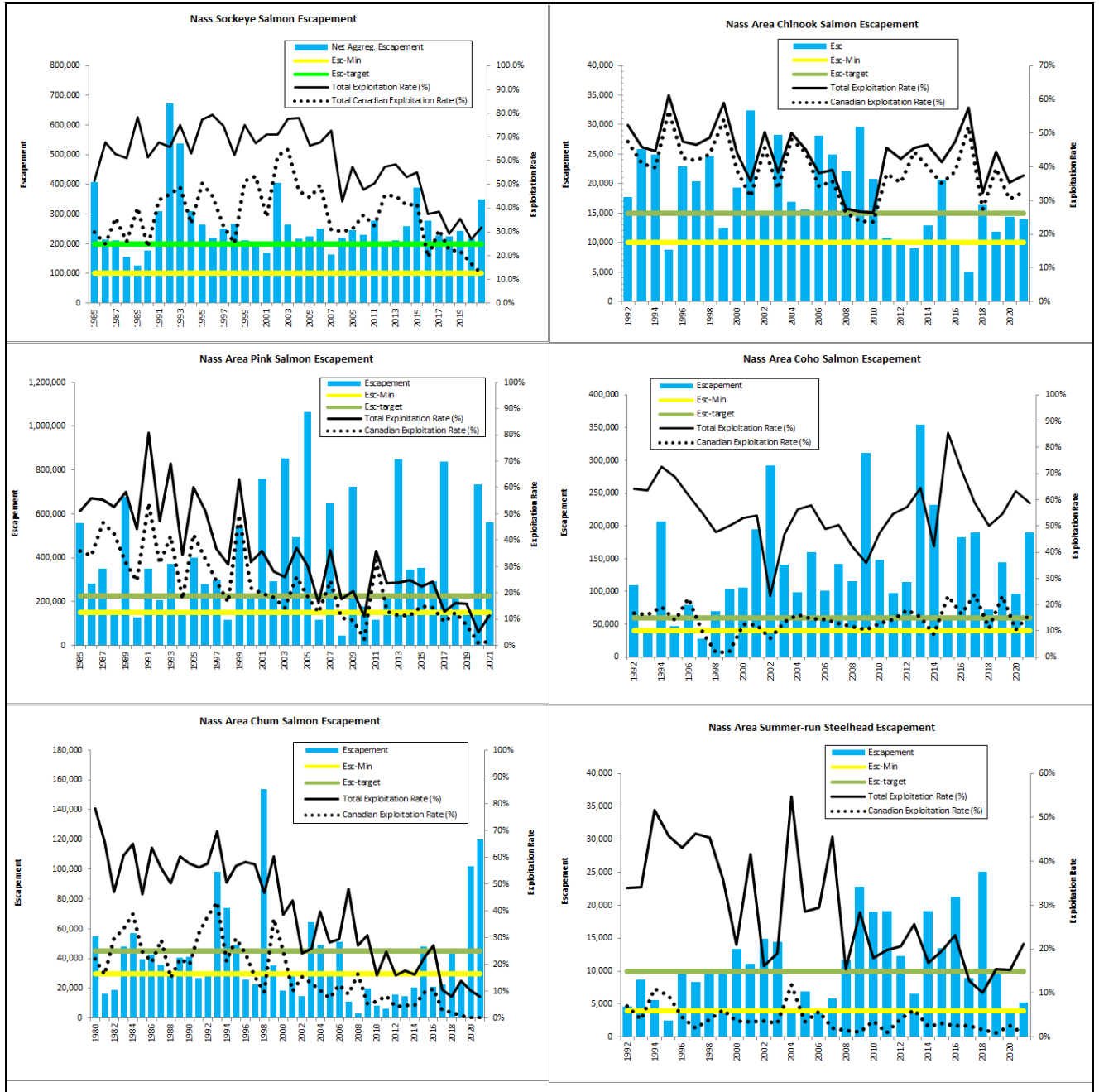
Table 19. Preliminary Total Return to Canada and rankings by year for Nass salmon and steelhead from 1992 to 2021 (NCB-JTC 2021 [draft]).

NASS SALMON & STEELHEAD TOTAL RETURN TO CANADA ESTIMATES, 1992-2021								NASS TRTC RANKING BY YEAR FOR SALMON & STEELHEAD: POOREST RETURN FROM 1 TO 30 YEARS						
Year	Sockeye	Pink	Chinook	Coho	Chum	Total Salmon	Steelhead	Sockeye	Pink	Chinook	Coho	Chum	Total Salmon	Steelhead
1992	1,572,000	328,000	35,400	160,000	54,000	2,149,400	5,000	29	11	20	15	19	28	5
1993	1,586,000	874,000	45,400	62,000	239,000	2,806,400	9,100	30	23	28	2	30	30	12
1994	590,000	184,000	42,800	351,000	105,000	1,272,800	6,200	20	6	25	28	27	14	8
1995	855,000	829,000	21,700	68,000	83,000	1,856,700	2,700	26	22	9	3	25	23	1
1996	694,000	465,000	41,600	126,000	40,000	1,366,600	10,300	24	17	24	8	17	15	15
1997	574,000	416,000	36,300	33,000	31,000	1,090,300	8,500	19	15	21	1	14	11	11
1998	446,000	143,000	45,700	72,000	182,000	888,700	10,400	14	3	29	4	29	7	17
1999	645,000	1,259,000	29,000	107,000	68,000	2,108,000	10,300	22	29	15	6	23	26	15
2000	539,000	292,000	32,800	134,000	26,000	1,023,800	13,800	18	10	17	11	13	9	21
2001	380,000	995,000	48,000	247,000	36,000	1,706,000	11,500	8	27	30	22	16	22	18
2002	1,279,000	365,000	28,400	319,000	18,000	2,009,400	15,500	28	13	14	27	7	25	24
2003	1,024,000	1,019,000	43,600	176,000	76,000	2,338,600	14,800	27	28	26	17	24	29	23
2004	681,000	696,000	33,100	136,000	58,000	1,604,100	4,300	23	19	19	12	21	20	3
2005	522,000	1,348,000	28,100	216,000	33,000	2,147,100	7,200	17	30	13	20	15	27	10
2006	637,000	136,000	43,600	130,000	60,000	1,006,600	4,400	21	2	26	10	22	8	4
2007	351,000	896,000	39,600	179,000	13,000	1,478,600	5,900	6	24	23	18	4	18	7
2008	333,000	51,000	30,200	139,000	3,800	557,000	11,800	4	1	16	13	1	1	19
2009	425,000	810,000	39,200	362,000	22,000	1,658,200	23,100	12	21	22	29	8	21	29
2010	392,000	185,000	27,400	184,000	9,000	797,400	19,700	9	7	12	19	3	5	27
2011	458,000	174,000	18,400	129,000	7,000	786,400	19,300	15	4	5	9	2	4	25
2012	419,000	270,000	15,800	163,000	16,000	883,800	12,800	11	9	2	16	6	6	20
2013	437,000	976,000	16,400	506,000	15,000	1,950,400	7,000	13	26	3	30	5	24	9
2014	487,000	399,000	22,700	267,000	22,000	1,197,700	19,500	16	14	10	24	8	12	26
2015	753,000	422,000	33,000	146,000	54,000	1,408,000	13,900	25	16	18	14	19	17	22
2016	362,000	349,000	17,700	288,000	24,000	1,040,700	21,800	7	12	4	25	11	10	28
2017	341,000	926,000	11,100	301,000	23,000	1,602,100	9,100	5	25	1	26	10	19	12
2018	294,000	256,000	22,900	89,000	47,000	708,900	25,400	2	8	11	5	18	2	30
2019	326,000	175,000	20,300	219,000	25,000	765,300	9,800	3	5	6	21	12	3	14
2020	265,000	744,000	21,100	123,000	102,000	1,255,100	3,900	1	20	7	7	26	13	2
2021	413,000	571,000	21,400	266,000	120,000	1,391,400	5,300	10	18	8	23	28	16	6
MEANS:								COLOR CODING:						
92-20	609,000	551,000	31,000	187,000	51,000	1,430,000	12,000	BEST RETURN: 30						
* 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.								WORST: 1						
								Good 21-30						
								Average 11-20						
								Poor 1-10						

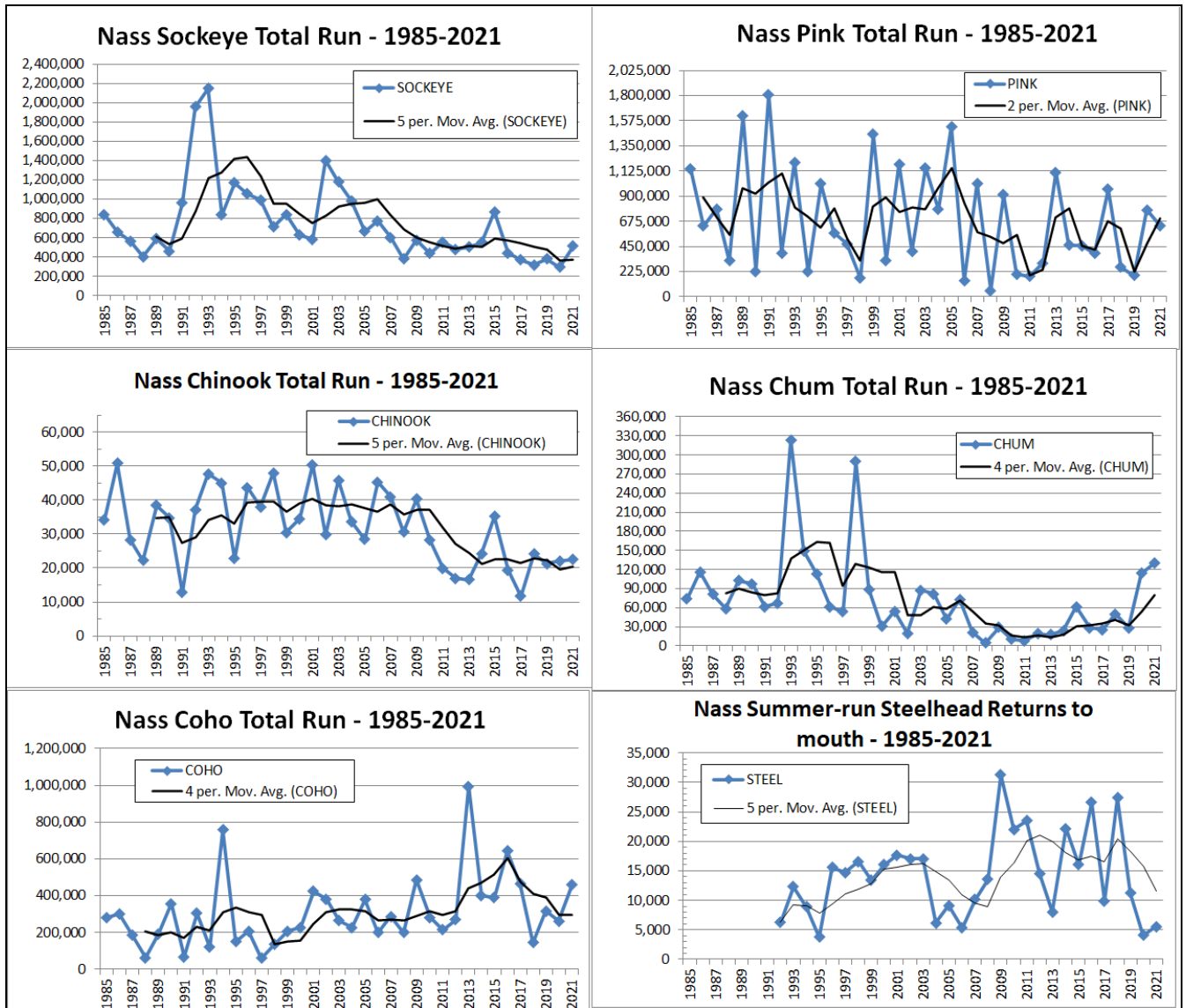
Table 20. Preliminary Total Runs and rankings by year for Nass salmon and steelhead from 1992 to 2021 (NCB-JTC 2021 [draft]).

NASS SALMON & STEELHEAD TOTAL RUN ESTIMATES, 1992-2021								NASS TOTAL RUN RANKING BY YEAR FOR SALMON & STEELHEAD: POOREST RETURN FROM 1 TO 30 YEARS						
Year	Sockeye	Pink	Chinook	Coho	Chum	Total Salmon	Steelhead	Sockeye	Pink	Chinook	Coho	Chum	Total Salmon	Steelhead
1992	1,960,000	392,000	37,200	305,000	67,000	2,761,000	6,300	29	12	20	18	20	29	6
1993	2,151,000	1,205,000	47,700	119,000	323,000	3,846,000	12,300	30	28	28	2	30	30	13
1994	837,000	222,000	45,000	759,000	149,000	2,012,000	8,900	20	7	25	29	28	19	8
1995	1,169,000	1,010,000	22,800	151,000	113,000	2,466,000	3,700	26	23	9	5	25	24	1
1996	1,055,000	570,000	43,700	208,000	61,000	1,938,000	15,600	25	17	24	9	18	17	18
1997	995,000	475,000	38,100	61,000	53,000	1,622,000	14,700	24	16	21	1	16	13	17
1998	712,000	167,000	48,000	134,000	290,000	1,351,000	16,600	18	3	29	3	29	9	21
1999	843,000	1,454,000	30,500	207,000	89,000	2,624,000	13,400	21	29	15	8	24	25	14
2000	626,000	324,000	34,500	227,000	30,000	1,242,000	16,000	16	10	18	11	13	8	19
2001	582,000	1,187,000	50,400	423,000	54,000	2,296,000	17,600	14	27	30	24	17	23	24
2002	1,404,000	406,000	29,800	381,000	19,000	2,240,000	17,000	28	13	14	21	5	22	22
2003	1,176,000	1,155,000	45,800	265,000	87,000	2,729,000	17,000	27	26	27	14	23	28	22
2004	985,000	783,000	33,700	227,000	82,000	2,111,000	6,200	23	20	17	11	22	21	5
2005	666,000	1,523,000	28,400	379,000	42,000	2,638,000	9,200	17	30	13	20	14	26	9
2006	775,000	141,000	45,300	199,000	73,000	1,233,000	5,300	19	2	26	6	21	7	3
2007	603,000	1,015,000	40,900	286,000	21,000	1,966,000	10,100	15	24	23	17	7	18	11
2008	380,000	55,000	30,600	200,000	4,000	670,000	13,500	5	1	16	7	1	1	15
2009	576,000	912,000	40,400	486,000	29,000	2,043,000	31,200	13	21	22	27	11	20	30
2010	439,000	202,000	28,200	281,000	10,000	960,000	22,000	6	6	12	16	3	4	25
2011	557,000	180,000	19,900	215,000	8,000	980,000	23,500	12	4	5	10	2	5	27
2012	477,000	303,000	17,000	270,000	19,000	1,086,000	14,500	8	9	3	15	5	6	16
2013	505,000	1,115,000	16,600	995,000	18,000	2,650,000	8,100	9	25	2	30	4	27	7
2014	553,000	461,000	24,300	402,000	24,000	1,464,000	22,200	11	15	11	23	8	10	26
2015	870,000	457,000	35,100	388,000	62,000	1,812,000	16,000	22	14	19	22	19	15	19
2016	442,000	387,000	19,400	642,000	29,000	1,519,000	26,600	7	11	4	28	11	12	28
2017	369,000	963,000	11,800	463,000	25,000	1,832,000	9,900	3	22	1	26	9	16	10
2018	316,000	266,000	24,100	145,000	50,000	801,000	27,300	2	8	10	4	15	2	29
2019	378,000	190,000	21,300	317,000	28,000	934,000	11,200	4	5	6	19	10	3	12
2020	295,000	775,000	22,200	263,000	114,000	1,469,000	4,100	1	19	7	13	26	11	2
2021	514,000	634,000	22,400	462,000	130,000	1,762,000	5,900	10	18	8	25	27	14	4
MEANS:								COLOR CODING:						
92-20	783,000	631,000	32,000	324,000	68,000	1,838,000	14,000	BEST RETURN:		30	Good		21-30	
* 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.								WORST:		1	Average		11-20	
											Poor		1-10	

Preliminary Nass Salmon & Steelhead Escapement Charts for 2021



Preliminary Nass Salmon & Steelhead Total Run Charts for 2021



Area 3 and Nass River Demonstration Fisheries

Two Pink-directed CSAF Demonstration Fisheries were implemented in Area 3 in 2021. The proponents of these fisheries are Lax Kw'alaams Band and Metlakatla First Nation (joint proposal) and North Coast Skeena First Nations Stewardship Society (NCSFNSS). Combined, these fisheries access 13.41% of commercial shares in Area 3 through Area A licences held in DFO inventory. Flexibilities within these fisheries allow for uncaught allocation to be carried over and added to subsequent allocations within the season. In 2021, these fisheries were implemented with the same fishing areas, gear types, and retention rules as the Area A fleet, but openings occur on separate days. This fishery had a 1-day opening on July 22nd, with two vessels participating.

Table 7 Area 3 Demonstration Fishery Catches

Location	<u>Retained</u>		<u>Released</u>				
	Pink	Chum	Large Sockeye	Jack Sockeye	Chinook	Coho	Chum
PFMA 3-3 & 3-7	6,671	46	158	6	16	32	172

One Sockeye-directed CSAF Demonstration Fishery was implemented on the Nass River in 2021. The proponent of this fishery is Gitanyow First Nation. Allocation for this fishery was generated as a percent share (6.30%) of available harvestable surplus, after accounting for escapement goals, Treaty Entitlements, and FSC. This share is based off of Area A and C licences held in DFO inventory. The target species for this fishery was Sockeye with non-retention Chinook, Coho, and Steelhead. This fishery occurred at sites on the Nass River mainstem and Meziadin River on August 16 – 22 and at the Meziadin River only on August 23 – 29. The fishing plan for this fishery met the Pacific Salmon Strategy Initiative's criteria for selective and sustainable fisheries and so was not included in the 2021 closures.

Table 8 Nass River Demonstration Fishery Catches

Location	<u>Retained</u>	<u>Released</u>			
	Sockeye	Large Sockeye	Jack Sockeye	Chinook	Coho
Nass River	8,108	32	10	1	14

Recreational Fishery Review

The tidal water salmon sport fishery in Area 3 begins with low effort in late April, with initial participation by local area residents launching from Prince Rupert or Port Edward. Independent and guided day charter effort increases in late May, remaining high throughout the peak season in June, July and August, and with primarily local participants again by the end of September. There were two recreational fishing lodges that operated in Area 3 in 2021, and the catch and effort numbers are included in the Area 3 & 4 Creel Program summary.

Chinook daily limits started at two (2) per day, but were reduced in Areas 3, 4, and 5 to one (1) Chinook per day from June 1, 2021 to June 18, 2021. On June 19, 2021 to July

11, 2021 the Chinook daily limit went to zero (0) and returned to one (1) Chinook per day on July 12, 2021 to July 31, 2021. After that the daily limit increased to two (2) Chinook per day for the remainder of the season. Sockeye opened to 4 per day on Aug 24th, 2021 in the tidal waters of Areas 3, 4 and 5. Other salmon species daily limits were 4 Pink and 4 Coho, with a combined daily limit of 4 salmon.

Area 3 & 4 Creel Program collects catch information from the recreational fishery surrounding Prince Rupert and Port Edward on the North Coast of B.C. It is focused in Areas 3 and 4, comprising the waters of Chatham Sound between the mouths of the Nass and Skeena Rivers. Chatham Sound is bordered by the Alaska/BC border to the North, Dundas and Stephens Island groups to the West and Porcher Island to the South, covering an area of approximately 4,200 km². The North Coast Skeena First Nations Stewardship Society (NCSFNSS), an aggregate of North Coast B.C. First Nations, was granted resources from the Pacific Salmon Commission to operate the Area 3 & 4 Creel Program and has done so using the same study design as was used by DFO during 2008-2014.

The Area 3 & 4 Creel Program operated from May 1st, 2021 to August 31st, 2021. From May 1st, 2021 to August 31st, 2021 there were approximately 12,252 vessel trips made by recreational vessels and an estimated retained catch of 7,383 chinook, 38,126 Coho, 1,859 Pink, 10 Chum, and 22 Sockeye.

There was an observed increase in vessel trips compared to May 1 to August 31, 2020 where there were approximately 9,665 vessel trips and an estimated retained catch of 8,247 Chinook, 25,599 Coho, 2,998 Pink, 7 Chum and 8 Sockeye.

Nass River

The Nass River watershed started with normal daily limits and opening times for Chinook, Coho, Pink and Sockeye.

On July 15th, 2021 the Department closed all recreational salmon fishing in the Nass River watershed to address low Chinook and Sockeye returns to-date. On July 30th, 2021, once returns improved, the Department reopened recreational fishing for Chinook, Sockeye and Coho salmon in the Nass watershed to limits and open areas in place prior to the July 15th closure.

As per the triggers set out in the 2021/22 NC Salmon IFMP, on Aug 4th, 2021 Meziadin Lake opened to one (1) Sockeye per day and then increased to two (2) per day on Aug 14th, 2021. The fishery closed on Sept 7th, 2021.

Commercial Net Fishery Review

Gill Net

Nass River Sockeye returns were forecasted pre-season to be below average with an expected total return to Canada from 217,000 (75% probability) to 469,000 (25% probability) and a point estimate of 318,000 (50% probability) based on a sibling-regression model. The season was to be managed with a below odd year average pink return while meeting a number of pre-season commitments. These commitments included managing in accordance to the Nisga'a Treaty, the Pacific Salmon Treaty, allocation policy, chum and Chinook rebuilding, and limiting impacts on steelhead. Some of the restrictions put into place to deal with these commitments were, closed areas, daylight only fisheries, non-retention steelhead for both gear types, mandatory brailing for seines, non-retention Chinook for seines and gill nets.

With the colder winter and increased snowpack the Nass river experienced a drawn out freshet early in the season slowing salmon migration up the river. As the river receded escapement numbers past the Gitwinksilhkw fishwheels steadily increased.

On June 29, 2021, Fisheries and Oceans Canada announced the Pacific Salmon Strategy Initiative (PSSI) commercial salmon harvest transformation actions. These conservation-based management actions resulted in the closure of the commercial Sockeye gillnet fishery throughout all of Area 3.

Seine

The first seine opening occurred July 12th with 17 seines participating, fishing was restricted to the outside of Area 3 Southwest of Wales Island and South of Sommerville Island.

Seines were not permitted to retain incidental sockeye due to the low sockeye escapement past the Gitwinksilhkw fishwheels during the time of the openings.

The department took a conservative approach going into the pink season due to extreme flooding events in 2017/18 that drastically affected two consecutive brood years.

Seine pink fishing started out slow showing improvement as the season progressed however continued to track below historic catches for the season. The early start to the season was taken into consideration however it was quickly evident that catches were not increasing to harvestable levels. Seine opportunities ceased on July 30th until escapement into the main pink rivers showed improvement. Unfortunately Pink escapements did not improve and no further opportunities were granted.

The season ended with a total of 4 seine Pink openings with chum retention in the outer portion of area 3 with a final chum catch of 13,925 vs. the ten even year average of 33,312. Chum catches increased July 19th and showed signs of decline during the July 30th opening.

The majority of the Pink and Chum catches were taken along the South Western shore of Wales Island, Boston Rocks, and Tracey Bay.

Final catch of 159,017 Pinks compared to the last ten odd year average 769,636 Pinks. For the season a total of 4 seine openings with 72 vessel operating days compared to the last five odd year average of 11.2 openings and 186.4 vessel operating days.

Nisga'a Fisheries continue to do an excellent job managing the Nass River fishwheel program which is critical for the management of the Area 3 commercial net fishery.

Table 9 Area 3 Seine Catches

**Commercial SALMON SEINE In-Season Estimated Catch-by-Area (Pieces)
for Period 01-Apr-2021 to 17-Nov-2021**

Management Area 3			Report Details by Subarea or Portion														
Stat Week	Week of Year	Date	Effort	Sockeye Salmon		Coho Salmon		Pink Salmon		Chum Salmon		Chinook Salmon		Steelhead		Status	Last Updated
				Kept	Rel	Kept	Rel	Kept	Rel	Kept	Rel	Kept	Rel	Kept	Rel		
		12-Jul	17	0	1120	0	227	8422	0	4063	0	0	76	0	0	Final	02-Nov-2021
		Total for Week	17	0	1120	0	227	8422	0	4063	0	0	76	0	0		
		19-Jul	18	0	1498	0	230	64150	0	5463	0	0	30	0	50	Final	02-Nov-2021
		20-Jul	17	0	1045	0	137	50403	0	4399	0	0	31	0	41	Final	02-Nov-2021
		Total for Week	35	0	2543	0	367	114553	0	9862	0	0	61	0	91		
		30-Jul	20	0	483	0	410	36042	0	0	1798	0	22	0	1	Final	02-Nov-2021
		Total for Week	20	0	483	0	410	36042	0	0	1798	0	22	0	1		
Total for Management Area 3 in Period			72	0	4146	0	1004	159017	0	13925	1798	0	159	0	92		

Notes:

1. Consult the applicable Fishery Manager or Biologist as to the status of particular catch estimates.

Area 3 Stream Escapements

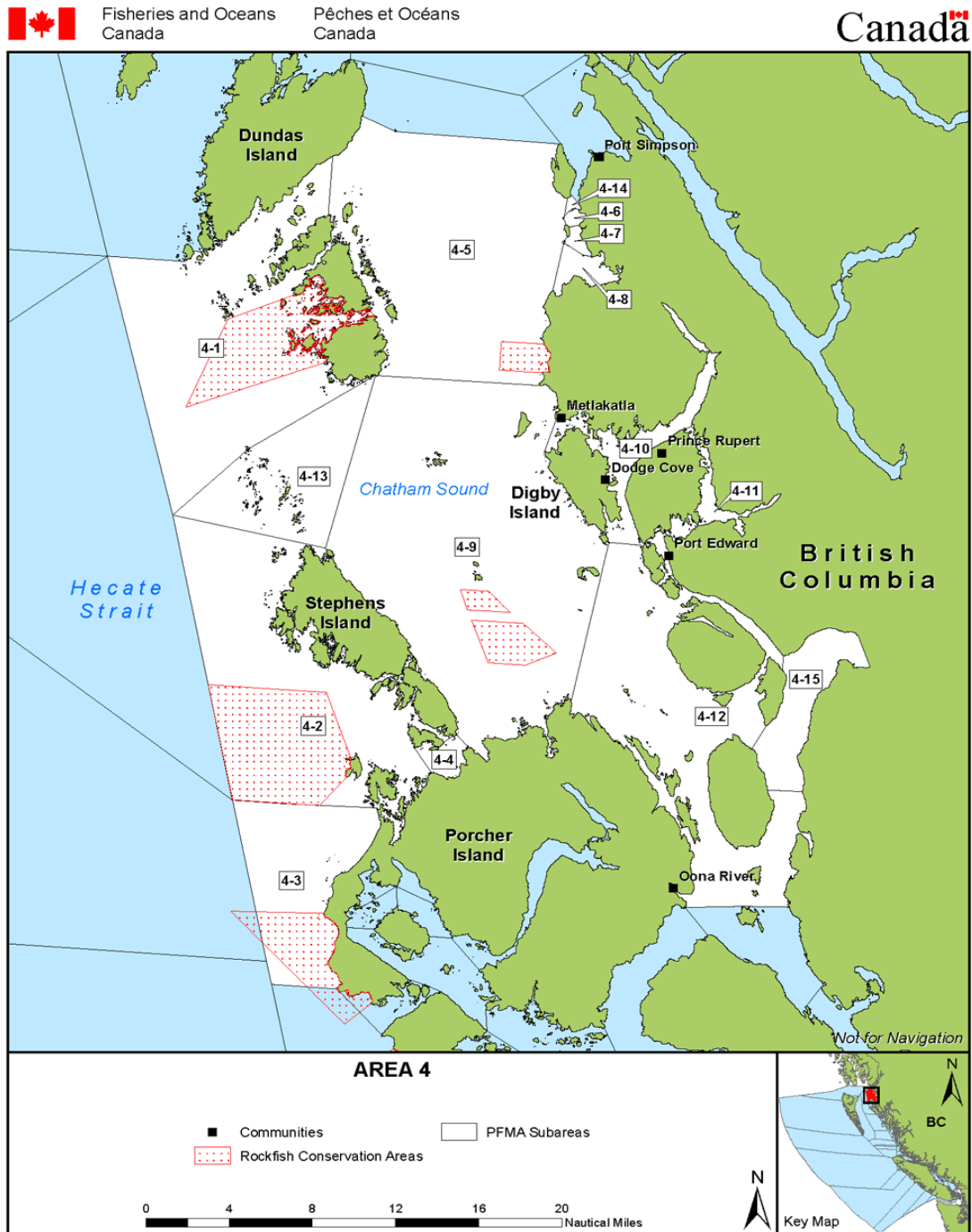
Table 10 Area 3 Stream Escapements

AREA 3 2021 PRELIMINARY ESCAPEMENT ESTIMATES							
N/O - NONE OBSERVED, N/I - NOT INSPECTED, DNS - DOES NOT SPAWN IN THIS CREEK, A/P - ADULTS PRESENT, INADEQUATE INFORMATION TO MAKE ESTIMATE							
Location	Stream Name	Sockeye	Coho	Pink	Chum	Chinook	Comments
COASTAL							
	BOAT HARBOUR CREEK	N/I	N/I	N/I	N/I	N/I	
	BRUNDIGE CREEK WEST	N/I	N/I	N/I	N/I	N/I	
	BRUNDIGE CREEK	N/I	N/I	N/I	N/I	N/I	
	SANDY BAY CREEK	N/I	N/I	N/I	N/I	N/I	
	STUMAUN CREEK	N/I	N/I	N/I	N/I	N/I	
	TRACY BAY #2 CREEK	N/I	N/I	N/O	N/I	N/I	Nisga'a Charter Patrol
	TRACY CREEK	N/I	N/I	N/O	N/I	N/I	Nisga'a Charter Patrol
	WHITLY POINT CREEK	N/I	N/I	N/I	N/I	N/I	
NASS RIVER							
	ANSEDAGAN CREEK	N/I	277	N/I	N/I	N/I	NFWD
	ANUDOL CREEK	N/I	1273	N/I	N/I	N/I	NFWD
	BROWN BEAR CREEK	N/I	N/I	N/I	N/I	N/I	
	CHAMBERS CREEK	N/I	N/I	N/I	N/I	N/I	
	CRANBERRY RIVER	A/P	N/I	N/I	N/I	5240	NFWD
	DAMDOCHAX RIVER AND LAKE	2998	N/I	N/I	N/I	6107	NFWD/Gitksan Watershel Aut
	DISKANGIEG CREEK	N/I	2398	N/I	N/I	N/I	NFWD
	GINGIT CREEK	8399	N/I	N/O	N/O	N/O	NFWD
	GITZYON CREEK	N/I	N/I	N/I	N/I	N/I	
	IKNOUK RIVER	N/I	N/I	34100	N/O	N/O	Corey Martens, DFO
	ISHKHEENICKH RIVER	N/O	N/I	43036	N/O	660	NFWD
	KINCOLITH RIVER	N/I	N/I	N/I	N/I	N/I	
	KITEEN RIVER	N/O	N/I	N/I	N/I	2370	NFWD
	KSEMAMAITH CREEK (Kseaden Creek)	N/I	N/I	N/I	N/I	N/I	
	KWINAGEESE RIVER (weir count)	8478	1309	DNS	DNS	1192	NFWD
	MEZIADIN RIVER AND LAKE	273964	4395	N/O	DNS	160	NFWD
	NASS MAIN	N/I	N/I	N/I	N/I	N/I	
	SEASKINNISH CREEK	A/P	N/I	A/P	N/O	A/P	NFWD
	TEIGEN CREEK	N/I	N/I	N/I	N/I	N/I	
	TSEAX RIVER	N/I	N/I	N/I	N/I	N/I	
	ZOLZAP CREEK	N/I	850	N/I	N/I	N/I	NFWD
OBSERVATORY INLET							
	ILLIANCE RIVER	N/O	N/I	22124	659	N/O	NFWD
	KITSAULT RIVER	A/P	N/I	1943	A/P	N/O	NFWD
	KSHWAN RIVER	N/O	N/I	A/P	52746	N/O	NFWD
	SALMON COVE CREEK	N/I	1163	N/I	N/I	N/I	NFWD
	STAGOO CREEK	N/O	N/I	13704	10602	N/O	NFWD
	WILAUKS CREEK	N/O	N/I	2596	84	N/O	NFWD
PORTLAND CANAL							
	DOGFISH BAY CREEK	N/I	N/I	66320	N/O	N/I	NFWD
PORTLAND INLET							
	CEDAR CREEK	N/I	N/I	N/I	N/I	N/I	
	CRAG CREEK	N/I	N/I	N/O	N/I	N/I	Nisga'a Charter Patrol
	CROW LAGOON CREEK	N/I	N/I	N/O	N/I	N/I	Nisga'a Charter Patrol
	KHUTZEYMATEEN RIVER	N/I	N/I	25000	1000	16	Corey Martens, DFO
	KWINAMASS RIVER	N/I	N/I	8520	A/P	18	Corey Martens, DFO
	LARCH CREEK	N/I	N/I	N/I	N/I	N/I	
	LIZARD CREEK	N/I	N/I	N/O	N/I	N/I	Nisga'a Charter Patrol
	MANZANITA COVE CREEK	N/I	N/I	N/O	N/I	N/I	Nisga'a Charter Patrol
	MOUSE CREEK	N/I	N/I	A/P	N/I	N/I	Nisga'a Charter Patrol
	PIRATE COVE CREEK	N/I	N/I	N/O	N/I	N/I	Nisga'a Charter Patrol
	TSAMSPANAKNOK BAY CREEK	N/I	N/I	N/O	N/I	N/I	Nisga'a Charter Patrol
WORK CHANNEL							
	ENSHESEHE RIVER	DNS	700	N/O	N/I	N/I	S. Hutchings & Nisga'a Charter Patrol , Charter Patrol
	LACHMACH RIVER	N/I	N/I	N/I	N/I	N/I	
	TOON RIVER	N/I	N/I	N/O	A/P	N/I	Nisga'a Charter Patrol
	TOTALS	293839	12365	217343	65091	15763	

Area 4

Area 4 Map

Figure 6 Area 4 Map



First Nations Fishery Review

There are 11 First Nations groups that include Area 4 and Skeena watershed Food, Social and Ceremonial salmon fisheries in their communal licence:

Lax Kw'alaams First Nation
Metlakatla First Nation
Gitxaala First Nation
Kitsumkalum First Nation
Kitselas First Nation
Gitksan First Nation
Gitanyow First Nation
Wet'suwet'en First Nation
Lake Babine First Nation
Takla Lake First Nation
Yekooche First Nation

FSC fisheries occur throughout Area 4 in both marine and freshwater locations using a variety of gear types.

Skeena CSAF Demonstration Fisheries

No CSAF Demonstration Fisheries were implemented in 2021 due to low returns.

ESSR Review

Two ESSR fisheries were licenced in 2021: Pink salmon at Moricetown Canyon and Jack Sockeye at Babine River Counting Fence. No harvest occurred in the Jack Sockeye fishery and the Large Sockeye ESSR was not implemented in Babine Lake in 2021.

The Pink-directed ESSR at Moricetown Canyon on the Bulkley River is implemented by the Wet'suwet'en First Nation. This fishery was opened from July 21st – August 31st using dip nets.

Table 11 Total ESSR catches

Area	Harvester	Allocation	Catch
Moricetown Canyon (Bulkley River)	Wet'suwet'en First Nation	2,500 Pink	1427 Pink
Babine River Counting Fence	Lake Babine First Nation	3,500 Jack Sockeye	0 Jack Sockeye

Recreational Fishery Review

The tidal waters salmon sport fishery in Area 4 begins with low effort in April, with initial participation by local area residents launching from Prince Rupert or Port Edward. Independent and guided day charter effort increases significantly in May, remaining high throughout the peak season in June, July and August, and with primarily local participants again by the end of September.

Chinook daily limits started at two (2) per day, but were reduced in Areas 3, 4, and 5 to one (1) Chinook per day from June 1st, 2021 to June 18th, 2021. On June 19th, 2021 to July 11th, 2021 the Chinook daily limit went to zero (0) and returned to one (1) Chinook per day on July 12th, 2021 to July 31st, 2021. After that the daily limit increased to two (2) Chinook per day for the remainder of the season. Sockeye opened to 4 per day on Aug 24th, 2021 in the tidal waters of Areas 3, 4 and 5. Other salmon species daily limits were 4 Pink and 4 Coho, with a combined daily limit of 4 salmon.

Area 3 & 4 Creel Program collects catch information from the recreational fishery surrounding Prince Rupert and Port Edward on the North Coast of B.C. It is focused in Areas 3 and 4, comprising the waters of Chatham Sound between the mouths of the Nass and Skeena Rivers. Chatham Sound is bordered by the Alaska/BC border to the North, Dundas and Stephens Island groups to the West and Porcher Island to the South, covering an area of approximately 4,200 km². The North Coast Skeena First Nations Stewardship Society (NCSFNSS), an aggregate of North Coast B.C. First Nations, was granted resources from the Pacific Salmon Commission to operate the Area 3 and 4 Creel Program and has done so using the same study design as was used by DFO during 2008-2014.

The Area 3 & 4 Creel Program operated from May 1st, 2021 to August 31st, 2021. From May 1st, 2021 to August 31st, 2021 there were approximately 12,252 vessel trips made by recreational vessels and an estimated retained catch of 7,383 Chinook, 38,126 Coho, 1,859 Pink, 10 Chum, and 22 Sockeye.

There was an observed increase in vessel trips compared to May 1 to August 31, 2020 where there were approximately 9,665 vessel trips and an estimated retained catch of 8,247 Chinook, 25,599 Coho, 2,998 Pink, 7 Chum and 8 Sockeye.

Skeena River

The Skeena River watershed started with normal daily limits and opening times for Chinook, Coho and Pink salmon in 2021.

On June 15th, 2021 the Department closed the entire Skeena River watershed and all rivers and lakes in Region 6 flowing into PFMA's 3 to 6, not including the Nass and Kitimat rivers, to fishing for Chinook salmon. Chinook fishing remained close for the remainder of the 2021 season.

Sockeye salmon started closed in 2021 as identified in the 2021/22 NC Salmon IFMP. On August 18th, 2021 the recreational Sockeye fishery opened to one (1) per day on the Skeena River watershed. On Sept 2, 2021 the Sockeye daily limit was increased to two (2) per day on the Skeena River watershed.

Lower Skeena River Angling Creel Survey 2021

This Project commenced on June 12, 2021 and ended on September 18, 2021. The focus of the project was to monitor fishing activities in three zones of the Skeena River (Terrace to the Lakelse Confluence; Lakelse to the Exstew Confluence; and Exstew to the Kwinitsa boat launch). From June 12th to September 18, 2021 there were approximately 20,747 angler-hours with an estimated retained catch of 593 Coho, 84 Sockeye, and 130 Pink.

In 2020, the program ran from July 15 to Sept 18th, 2020. During this time there were approximately 49,363 angler-hours with an estimated retained catch of 534 Large Chinook, 538 Jack Chinook, 583 Coho, 1,737 Sockeye, and 167 Pink.

Babine Lake Recreational Creel Survey

The Recreational Creel survey for Babine Lake did not take place in 2021.

Commercial Net Fishery Summary

The total Skeena Sockeye return was expected to be low to modest with a pre-season return forecast from 0.79 million (90% probability) to 3.61 million (10% probability) and a point estimate of 1.69 million (50% probability) based on the sibling model.

Gill net:

Sockeye escapement past the Skeena Tyee test fishery did not meet commercial triggers throughout the season. No commercial fisheries were opened for the 2021 season.

Seine:

No opportunities occurred for seines in Area 4 for 2021.

Area 4 Stream Escapements

Table 12 Area 4 Stream Escapements

AREA 4 2021 PRELIMINARY ESCAPEMENT ESTIMATES

N/O - NONE OBSERVED, N/I - NOT INSPECTED, DNS - DOES NOT SPAWN IN THIS CREEK, A/P - ADULTS PRESENT, INADEQUATE INFORMATION TO MAKE ESTIMATE, ? = INFORMATION EXPECTED

Location	Stream Name	Sockeye	Coho	Pink	Chum	Chinook	Comments
BABINE	BABINE FENCE COUNT	970681	5165	394067	N/I	1220	
	BABINE RIVER - SECTIONS 1, 2 AND 3	19253	N/I	N/I	N/I	272	DFO, K. Peck
	BABINE RIVER - SECTION 4	2195	N/I	N/I	N/I	560	DFO, K. Peck
	BABINE RIVER - SECTION 5	A/P	N/I	N/I	N/I	A/P	DFO, K. Peck
	BABINE UNACCOUNTED *	N/I	N/I	N/I	N/I	N/I	
	BERNANN CREEK (DEEP CR.)	N/I	N/I	N/I	N/I	N/I	
	BOUCHER CREEK	76	N/I	63	N/I	N/I	Lake Babine Nation
	FIVE MILE CREEK	11	N/I	N/O	N/I	N/I	Lake Babine Nation
	FOUR MILE CREEK	5075	DNS	N/O	DNS	DNS	Lake Babine Nation
	FULTON RIVER	N/I	N/I	N/I	N/I	N/I	
	MORRISON RIVER	1751	N/I	N/I	N/I	N/I	DFO, K. Peck
	NICHYESKWA RIVER	N/I	N/I	N/I	N/I	N/I	
	NILKITKWA RIVER	110	N/I	N/I	N/I	N/I	DFO, K. Peck
	NINE MILE CREEK	661	N/I	N/O	N/I	N/I	Lake Babine Nation
	PENDELTON CREEK (CROSS CREEK)	917	N/I	N/O	N/I	N/I	Lake Babine Nation
	PIERRE CREEK	8999	N/I	3	N/I	N/I	Lake Babine Nation
	PINKUT CREEK	N/I	N/I	N/I	N/I	N/I	
	SHASS CREEK	100	N/I	N/I	N/I	N/I	DFO, K. Peck
	SIX MILE CREEK (GULLWING CR.)	59	N/I	N/O	N/I	N/I	Lake Babine Nation
	SOCKEYE CREEK	193	N/I	N/O	N/I	N/I	Lake Babine Nation
	SUTHERLAND RIVER	2104	N/I	N/I	N/I	N/I	DFO, K. Peck
	TACHEK CREEK	602	N/I	N/O	N/I	N/I	Lake Babine Nation
	TAHLO CREEK - (LOWER)	1767	N/I	N/I	N/I	N/I	DFO, K. Peck
	TAHLO CREEK - UPPER (SALMON CR.)	N/O	N/I	N/I	N/I	N/I	DFO, K. Peck
	TSEZAKWA CREEK	680	N/I	59	N/I	N/I	Lake Babine Nation
	TWAIN CREEK	N/O	N/I	N/O	N/I	N/I	Lake Babine Nation
	WRIGHT CREEK (BIG LOON CR.)	N/I	N/I	N/I	N/I	N/I	
*Sockeye estimate is fence count minus estimates for specific systems above fence							
BEAR	ASITKA LAKE	748	N/I	N/I	N/I	N/I	DFO, K. Peck
	AZUKLOTZ CREEK	680	N/I	N/I	N/I	N/I	DFO, K. Peck
	BEAR LAKE	167	N/I	N/I	N/I	N/I	DFO, K. Peck
	BEAR RIVER	A/P	N/I	N/I	N/I	2301	DFO, K. Peck
	DAMSHILGWIT CREEK		N/I	N/I	N/I	N/I	
	MOTASE LAKE	108	N/I	N/I	N/I	N/I	DFO, K. . Peck
	SHILAHOU CREEK	N/I	N/I	N/I	N/I	N/I	
	SUSTUT RIVER AND LAKE*	N/I	N/I	N/I	N/I	N/I	
BULKLEY / MORICE	ATNA RIVER AND LAKE	N/I	N/I	N/I	N/I	N/I	
	BULKLEY RIVER - LOWER	N/I	N/I	N/I	N/I	N/I	
	BULKLEY RIVER - UPPER	N/I	N/I	N/I	N/I	N/I	
	GOSNELL CREEK	N/I	N/I	N/I	N/I	N/I	
	MORICE LAKE	N/I	N/I	N/I	N/I	N/I	
	MORICE RIVER	N/I	N/I	N/I	N/I	1555	DFO, K. Peck
	NANIKA RIVER	5952	N/I	N/I	N/I	A/P	DFO, K. Peck
	OWEN CREEK	N/I	N/I	N/I	N/I	N/I	
	STATION CREEK	N/I	N/I	N/I	N/I	N/I	
	TELKWA RIVER	N/I	N/I	N/I	N/I	N/I	
	TOBOGGAN CREEK	N/I	N/I	N/I	N/I	N/I	
	TOUHY CREEK	N/I	N/I	N/I	N/I	N/I	

Location	Stream Name	Sockeye	Coho	Pink	Chum	Chinook	Comments
COASTAL	DENISE CREEK	N/I	N/I	N/I	N/I	N/I	
	DIANA CREEK	N/I	N/I	N/I	N/I	N/I	
	ECSTALL RIVER	N/O	1330	375	135	600	S. Hutchings, CP/ DFO STAD
	HAYS CREEK	N/I	N/I	N/I	N/I	N/I	
	JOHNSTONE CREEK	N/O	120	N/O	N/O	N/O	S. Hutchings, CP/ DFO STAD
	JOHNSTONE LAKE	150	N/O	N/O	N/O	N/O	S. Hutchings, CP/ DFO STAD
	KHYEX RIVER	DNS	100	9950	10	5	S. Hutchings, CP/ DFO STAD
	KLOIYA RIVER	N/I	N/I	N/I	N/I	N/I	
	LA HOU CREEK	N/I	N/I	N/I	N/I	N/I	
	MCNICHOL CREEK	N/I	N/I	N/I	N/I	N/I	
	OLDFIELD CREEK	N/I	N/I	N/I	N/I	N/I	
	OONA RIVER	N/I	N/I	N/I	N/I	N/I	
	PRUDHOMME CREEK	N/I	N/I	N/I	N/I	N/I	
	SHAWATLAN RIVER	N/I	N/I	N/I	N/I	N/I	
	SILVER CREEK	N/I	N/I	N/I	N/I	N/I	
	SPILLER RIVER	N/I	N/I	N/I	N/I	N/I	
KISPIOX	BARNES CREEK	289	N/I	DNS	DNS	DNS	Gitksan Watershe Auth.
	BEAVERLODGE CREEK	DNS	A/P	DNS	DNS	DNS	Gitksan Watershe Auth.
	CLIFFORD CREEK	N/I	A/P	N/I	DNS	DNS	Gitksan Watershe Auth.
	CLUB CREEK (LOWER)	2428	N/I	DNS	DNS	N/I	Gitksan Watershe Auth.
	CLUB CREEK (UPPER)	A/P	N/I	DNS	DNS	N/I	Gitksan Watershe Auth.
	CULLON CREEK	N/I	552	N/I	N/I	N/I	Gitksan Watershe Auth.
	DATE CREEK	A/P	A/P	A/P	40	NI	Gitksan Watershe Auth.
	FALLS CREEK	432	A/P	DNS	DNS	DNS	Gitksan Watershe Auth.
	FOOTSORE CREEK	N/I	N/I	N/I	N/I	N/I	
	FOOTSORE CREEK UPPER	N/I	N/I	N/I	N/I	N/I	
	HODDER CREEK	N/I	N/I	N/I	N/I	N/I	
	IRONSIDE CREEK	DNS	A/P	N/I	DNS	DNS	Gitksan Watershe Auth.
	JACKSON CREEK	133	N/I	DNS	DNS	DNS	Gitksan Watershe Auth.
	KISPIOX RIVER	A/P	A/P	A/P	A/P	1534	Gitksan Watershe Auth.
	MCCULLY CREEK	N/I	N/I	N/I	N/I	N/I	
	MURDER CREEK	N/I	N/I	N/I	N/I	N/I	
	NANGESE RIVER	A/P	1225	A/P	A/P	A/P	Gitksan Watershe Auth.
	SLAMGEESH	N/I	N/I	N/I	N/I	N/I	
	SKUNSNAT CREEK	N/I	A/P	N/I	DNS	DNS	Gitksan Watershe Auth.
	STEEP CANYON CREEK	N/I	A/P	N/I	N/I	N/I	Gitksan Watershe Auth.
	SWEETIN RIVER	N/I	N/I	N/I	N/I	A/P	Gitksan Watershe Auth.
	UNNAMED SWAN LAKE CREEK						
KITSUMKALUM	CEDAR RIVER	N/I	N/I	N/I	N/I	N/I	
	CLEAR CREEK	N/I	N/I	N/I	N/I	N/I	
	DRY CREEK	N/I	N/I	N/I	N/I	N/I	
	KITSUMKALUM LAKE	N/I	N/I	N/I	N/I	N/I	
	KITSUMKALUM RIVER - LOWER	N/I	N/I	N/I	N/I	N/I	
	KITSUMKALUM RIVER - UPPER	N/I	N/I	N/I	N/I	N/I	
	SPRING CREEK	N/I	10	N/I	N/I	N/I	Westland Resources, M. Drewes
LAKELSE	CLEARWATER CREEK	N/I	N/I	N/I	N/I	N/I	
	DASQUE CREEK	0	0	2402	0	0	Kitselas First Nation
	GAINEY CREEK	N/I	N/I	N/I	N/I	N/I	
	HATCHERY CREEK (GRANITE CREEK)	N/I	N/I	N/I	N/I	N/I	
	LAKELSE RIVER	N/O	A/P	338000	N/O	A/P	S. Hutchings, CP/DFO STAD
	SALMON CREEK (N. GRANITE CREEK)	N/I	N/I	N/I	N/I	N/I	
							Westland Resources, M.
	SCHULBUCKHAND CREEK	N/I	N/I	N/I	N/I	N/I	Drewes,Data coming next week.
	SOCKEYE CREEK	N/I	N/I	N/I	N/I	N/I	
	WILLIAMS CREEK	6487	0	0	0	0	Kitselas First Nation

Location	Stream Name	Sockeye	Coho	Pink	Chum	Chinook	Comments
OTHER LOWER SKEENA							
	ALASTAIR LAKE	3080	N/I	DNS	DNS	DNS	S. Hutchings, CP/DFO STAD
	ANDESITE CREEK	N/I	N/I	N/I	N/I	N/I	
	DOG TAG CREEK	N/I	N/I	N/I	N/I	N/I	
	ERLANDSEN CREEK	DNS	A/P	N/O	N/O	N/O	S. Hutchings, CP/DFO STAD
	EXCHAMSIKS RIVER	DNS	1180	600	N/O	27	S. Hutchings, CP/DFO STAD/DEEP CR. HATCHERY
	EXSTEW RIVER AND SLOUGH	DNS	1760	1400	27	30	S. Hutchings, CP/DFO STAD/DEEP CR. HATCHERY
	GITNADOIX RIVER	N/O	A/P	2100	55	N/O	S. Hutchings, CP/DFO STAD
	KADEEN CREEK	N/O	200	N/O	N/O	N/O	S. Hutchings, CP/DFO
	KASIKS RIVER	DNS	1025	4100	120	105	S. Hutchings, CP/DFO STAD/DEEP CR. HATCHERY
	MAGAR CREEK	N/I	N/I	N/I	N/I	N/I	
	MIDDLE CREEK	N/I	N/I	N/I	N/I	N/I	
	MOLYBDENUM CREEK	N/I	N/I	N/I	N/I	N/I	
	SHAMES RIVER	N/I	N/I	N/I	N/I	N/I	
	SOUTHEND CREEK	2620	45	N/O	N/O	N/O	S. Hutchings, CP/DFO STAD
	ZYMAGOTITZ RIVER	DNS	490	25	N/O	N/O	S. Hutchings, CP/DFO STAD/DEEP CR. HATCHERY
OTHER MIDDLE SKEENA							
	KITSEGUECLA RIVER	N/I	N/I	N/I	N/I	N/I	
	KITWANGA RIVER (fence count)	N/I	N/I	N/I	N/I	N/I	
	KLEANZA CREEK	N/I	N/I	N/I	N/I	N/I	
	SALMON RUN CREEK	N/I	N/I	N/I	N/I	N/I	
	SIMPSON CREEK	N/I	N/I	N/I	N/I	N/I	
	SINGLEHURST CREEK	N/I	55	N/I	N/I	N/I	Westland Resources, M. Drewes
	THOMAS CREEK	N/I	N/I	N/I	N/I	N/I	
	ZYMOETZ RIVER - LOWER	N/I	N/I	N/I	N/I	N/I	
	ZYMOETZ RIVER - UPPER	2724	A/P	DNS	DNS	N/I	Gitksan Watershe Auth.
TOTAL ALL AREAS		1041232	13257	753144	387	8209	

Area 5

Area 5 Map

Figure 7 Area 5 Map



First Nations Fisheries Review

There are 5 First Nations groups that include Area 5 Food, Social and Ceremonial salmon fisheries in their communal licence:

Lax Kw'alaams First Nation
Metlakatla First Nation
Gitxaala First Nation
Kitsumkalum First Nation
Kitselas First Nation

FSC fisheries occur throughout Area 5 in both marine and freshwater locations using a variety of gear types.

Recreational Fishery Review

The tidal water interception salmon sport fishery begins in late April, with effort increasing significantly in late May and continuing to mid-September. Initial effort is mostly by local anglers out of Prince Rupert and Port Edward, and then with a significant fleet made up of independent anglers and charter operators.

Chinook daily limits started at two (2) per day, but were reduced in Areas 3, 4, and 5 to one (1) Chinook per day from June 1, 2021 to June 18, 2021. On June 19, 2021 to July 11, 2021 the Chinook daily limit went to zero (0) and returned to one (1) Chinook per day on July 12, 2021 to July 31, 2021. After that the daily limit increased to two (2) Chinook per day for the remainder of the season. Sockeye opened to 4 per day on Aug 24th, 2021 in the tidal waters of Areas 3, 4 and 5. Other salmon species daily limits were 4 Pink and 4 Coho, with a combined daily limit of 4 salmon.

Recreational catch data is not provided for Area 5 at this time, but the internet recreational fishing effort and catch survey (iREC) could provide catch estimates in future years.

Commercial Net Fishery Summary

Area 5 was not opened to gill nets for 2021.

Charter patrol observations throughout the season suggested low returns of pinks to Area 5 indicator systems, therefore no seine fisheries were opened in Area 5 for 2021.

Area 5 Stream Escapements

Table 13 Area 5 Stream Escapements

AREA 5 2021 PRELIMINARY ESCAPEMENT ESTIMATES

N/O - NONE OBSERVED, N/I - NOT INSPECTED, DNS - DOES NOT SPAWN IN THIS CREEK, A/P - ADULTS PRESENT,
INADEQUATE INFORMATION TO MAKE ESTIMATE

Location	Stream Name	Sockeye	Coho	Pink	Chum	Chinook	Comments
LOWER GRENVILLE							
	BELOWE CREEK	N/O	45	A/P	N/O		DNS S. Hutchings, CP
	DEER CREEK	850	A/P	7	N/O		DNS S. Hutchings, CP/Gitga'at
	LOWE INLET SYSTEM	5,500	N/I	DNS	DNS		DNS S. Hutchings, CP/Gitga'at
	RED BLUFF CREEK	DNS	N/I	N/O	N/O		DNS S. Hutchings, CP
	STEWART CREEK	N/I	N/I	N/I	N/I		N/I
	SYLVIA CREEK	DNS	22	N/O	DNS		DNS S. Hutchings, CP
	TSIM CREEK	N/I	N/I	N/I	N/I		DNS S Hutchings, CP/Gitga'at
	TSIMTACK LAKE SYSTEM	950	N/I	A/P	A/P		DNS S Hutchings, CP/Gitga'at
LOWER PRINCIPE							
	BOLTON CREEK	N/I	N/I	N/I	N/I		N/I
	CURTIS CREEK	N/I	N/I	N/I	N/I		N/I
	DEVON LAKE SYSTEM	N/I	N/I	N/I	N/I		N/I
	KOORYET CREEK	N/I	N/I	N/I	N/I		N/I
	MIKADO LAKE SYSTEM	N/I	N/I	N/I	N/I		N/I
	SHENEEZA CREEK	N/I	N/I	N/I	N/I		N/I
	KEECHA CREEK	N/I	N/I	N/I	N/I		N/I
UPPER PRINCIPE							
	HANKIN CREEK	N/I	N/I	N/I	N/I		N/I
OGDEN / KITKATLA							
	ALPHA CREEK	N/I	N/I	N/I	N/I		N/I
	CAPTAIN COVE CREEK	N/I	N/I	N/I	N/I		N/I
PETREL CHANNEL / ALA PASS							
	HEVENOR INLET CREEKS	N/I	N/I	N/I	N/I		N/I
	MARKLE INLET CREEK	N/I	N/I	N/I	N/I		N/I
	NEWCOMBE HARBOUR CREEKS (3)	N/I	N/I	N/I	N/I		N/I
	RYAN CREEK	N/I	N/I	N/I	N/I		N/I
	SHAW CREEK	N/I	N/I	N/I	N/I		N/I
	WILSON INLET CREEK	N/I	N/I	N/I	N/I		N/I
PORCHER INLET							
	HEAD CREEK	N/I	N/I	N/I	N/I		N/I
	SALT LAGOON CREEK	N/I	N/I	N/I	N/I		N/I
	WOLF CREEK	N/I	N/I	N/I	N/I		N/I
	KITKATLA CREEK	N/I	N/I	N/I	N/I		N/I
	PORCHER CREEK	N/I	N/I	N/I	N/I		N/I
UPPER GRENVILLE							
	FALSE STEWART CREEK	N/I	N/I	N/I	N/I		N/I
	KLEWNUGGIT INLET CREEKS	N/I	N/I	N/I	N/I		N/I
	KUBAS CREEK	N/I	N/I	N/I	N/I		N/I
	KUMEALON CREEK	N/I	N/I	N/I	N/I		N/I
	KXNGEAL CREEK	N/I	N/I	N/I	N/I		N/I
	PA-AAT RIVER	N/I	N/I	N/I	N/I		N/I
AREA 5 TOTAL		7,300	67	7	0	0	

Area 6

Area 6 Map

Figure 8 Area 6 Map



First Nations Fishery Review

There are 4 First Nations groups that include Area 6 Food, Social and Ceremonial salmon fisheries in their communal licence:

Gitxaala First Nation
Gitga'at First Nation
Haisla First Nation
Kitasoo First Nation

FSC fisheries occur throughout Area 6 in both marine and freshwater locations using a variety of gear types.

Recreational Fishery Review

The tidal water interception salmon sport fishery begins in late April, with effort increasing significantly in late May and continuing to mid-September. Initial effort is mostly by local anglers out of Kitimat, and then with a significant fleet made up of independent anglers and charter operators. One lodge operated in Area 6 in 2021.

Salmon species daily limits in Area 6 were 2 Chinook, 4 Pink, 4 Coho, 4 Chum and 4 Sockeye, with a combined daily limit of 4 salmon.

Recreational catch data is not provided for Area 6 at this time, but the internet recreational fishing effort and catch survey (iREC) and lodge data could provide catch estimates in future years.

Commercial Net Fishery Review

Early hatchery and charter patrol inspections of the Kitimat river suggested poor Pink and Chum returns. As the season progressed Pink and Chum escapement continued to track poorly.

Due to poor Kitimat hatchery Chum returns the inside of Area 6 did not open to gill nets for 2021.

Due to poor pink returns in Area 6 no seine opportunities occurred for 2021.

Area 6 Stream Escapements

Table 14 Area 6 Stream Escapements

AREA 6 2020 PRELIMINARY ESCAPEMENT ESTIMATES

N/O - NONE OBSERVED, N/I - NOT INSPECTED, DNS - DOES NOT SPAWN IN THIS CREEK, A/P - ADULTS PRESENT, INADEQUATE INFORMATION TO MAKE ESTIMATE

Location	Stream Name	Sockeye	Coho	Pink	Chum	Chinook	Comments
ARISTAZABAL ISLAND WEST							
	BORROWMAN CREEK	N/I	N/I	N/I	N/I	N/I	
	CLIFFORD CREEK	N/I	N/I	N/I	N/I	N/I	
	DEVIL CREEK	N/I	N/I	N/I	N/I	N/I	
	DON CREEK	N/I	N/I	N/I	N/I	N/I	
	DUFFEY CREEK	N/I	N/I	N/I	N/I	N/I	
	EAGLE CREEK	N/I	N/I	N/I	N/I	N/I	
	FLUX CREEK	N/I	N/I	N/I	N/I	N/I	
	KDELMASHAN CREEK	N/I	N/I	N/I	N/I	N/I	
	LINNEA CREEK	N/I	N/I	N/I	N/I	N/I	
	LITTLE KETTLE CREEK	N/I	N/I	N/I	N/I	N/I	
	MCDONALD CREEK	N/I	N/I	N/I	N/I	N/I	
	NOBLE CREEK	N/I	N/I	N/I	N/I	N/I	
	SALMON CREEK	N/I	N/I	N/I	N/I	N/I	
	SENTINEL CREEK	N/I	N/I	N/I	N/I	N/I	
	STANNARD CREEK	N/I	N/I	N/I	N/I	N/I	
	TRENAMAN CREEK	N/I	N/I	N/I	N/I	N/I	
	WEST CREEK	N/I	N/I	N/I	N/I	N/I	
	WEST CREEK AND LAKE	N/I	N/I	N/I	N/I	N/I	
DOUGLAS-URSULA-DEVASTATION CHANNELS							
	ANGLER COVE CREEK	N/I	N/I	N/I	N/I	N/I	STAN
	BIG TILLHORNE RIVER	DNS	NO	10,500	4	DNS	STAN
	EVELYN CREEK	920	115	14,700	120	DNS	STAN/HFC
	FISHTRAP BAY CREEK	DNS	NI	490	NO	DNS	STAN
	FOCH RIVER	15	1,450	10,700	8,300	DNS	STAN/HFC
	GILTTOYES CREEK	DNS	NI	AP	AP	AP	STAN
	GOAT RIVER	DNS	NI	NI	NI	DNS	STAN
	GRIBBLE ISLAND CREEK	DNS	NI	4,350	2	DNS	STAN
	HARTLEY BAY CREEK	475	AP	AP	AP	DNS	STAN
	HAWKSURRY ISLAND CREEK	DNS	NO	21,875	NO	DNS	STAN
	HUGH CREEK	2	640	9,900	10	DNS	STAN
	KEESIL CREEK	NI	NI	NI	NI	DNS	
	KIHES CREEK	DNS	NI	85	NO	DNS	STAN
	KISKOSH CREEK	7	75	15,000	36	DNS	STAN
	KITKIATA CREEK	2,975	AP	15,000	AP	DNS	STAN/GOLD
	LITTLE TILLHORNE RIVER	DNS	NI	700	4	DNS	STAN
	MISSED CREEK	NI	NI	NI	NI	DNS	STAN
	PIKE CREEK	DNS	NI	NI	NI	DNS	
	QUAAL RIVER	20	2,650	173,000	665	3	STAN/GOLD
	RIORDAN RIVER	1	125	2,450	10	DNS	STAN
	VERNEY PASSAGE CREEK	NO	NI	640	NO	DNS	STAN/HFC
	WEEWANIE CREEK	DNS	AP	4,050	2	DNS	STAN
FRASER - GRAHAM REACH							
	AALTANHASH RIVER	DNS	AP	5,400	16	NO	STAN
	CANOONA RIVER	5,700	AP	5,000	NO	DNS	STAN
	DOVE CREEK (HEAD CR.)	DNS	NI	550	12	DNS	STAN
	GREEN RIVER	NO	2,050	42,000	1,670	DNS	STAN
	KHUTZE RIVER	DNS	750	78,300	730	NO	STAN
	KLEKANE RIVER	N/I	NI	NI	NI	N/I	STAN
	MARMOT COVE CREEK	N/I	N/I	N/I	N/I	N/I	
	MARSHALL CREEK	DNS	AP	530	5	DNS	STAN
	MCKAY CREEK	N/I	N/I	N/I	N/I	N/I	
	MEYERS PASS CREEK	N/I	N/I	N/I	N/I	N/I	
	SCOW BAY CREEK	DNS	NI	3,400	65	DNS	STAN
	SODA CREEK	N/I	N/I	N/I	N/I	N/I	
	TAYLOR CREEK	N/I	N/I	N/I	N/I	N/I	

Location	Stream Name	Sockeye	Coho	Pink	Chum	Chinook	Comments
GARDNER CHANNEL							
	BRIM RIVER	DNS	1,450	9,400	100	NO	STAN/HFC
	CRAB RIVER	DNS	NI	1,650	30	DNS	STAN
	HOTSPRING CREEK	DNS	4	205	60	DNS	STAN
	KEMANO RIVER	AP	5,800	45,100	3,000	AP	STAN/HFC
	KILTUIH RIVER	AP	400	2,000	380	NO	STAN
	KITLOPE RIVER	9,940	AP	AP	AP	AP	STAN/HFC
	KOWESAS RIVER	DNS	NI	AP	NI	NI	STAN/HFC
	PARIL RIVER	DNS	300	220	NO	DNS	STAN/HFC
	TSAYTIS RIVER	N/I	NI	NI	NI	NI	
	WAHOO CREEK	DNS	1,500	100	80	75	STAN/HFC
KITIMAT ARM							
	BEAVER CREEK	N/I	N/I	N/I	N/I	N/I	
	BISH CREEK	DNS	AP	55,200	85	DNS	STAN/HFC
	BOLTON CREEK	N/I	N/I	N/I	N/I	N/I	
	BOWBEYES CREEK	N/I	N/I	N/I	N/I	N/I	
	CORDELLA CREEK	N/I	N/I	N/I	N/I	N/I	
	DALA RIVER	5	3,940	18,100	2,700	17	STAN/HFC
	EAGLE BAY RIVER	DNS	AP	2,700	25	DNS	STAN
	EMSLEY CREEK	DNS	NI	NI	NI	DNS	
	FALLS RIVER	DNS	NI	NI	NI	DNS	
	GOBEIL BAY CREEK	DNS	NI	NI	NI	DNS	
	KILDALA RIVER	DNS	2,520	3,825	600	135	STAN/HFC
	KITIMAT RIVER (Estimates include the	1,180	10,000	77,000	8,200	AP	STAN/HFC
	ANDERSON CREEK	10	320	2,525	4	DNS	STAN/HFC
	CECIL CREEK	DNS	NI	NI	NI	DNS	
	CHIST CREEK	5	240	5,800	320	96	STAN/HFC
	HUMPHRYS CREEK	NO	NI	1,035	92	440	STAN
	HIRSCH CREEK	DNS	30	1,500	400	78	STAN
	LITTLE WEDEENE RIVER	3,100	NI	2,570	375	5	HFC/STAN
	HUNTER CREEK	DNS	315	6,000	550	220	STAN/HFC
	TETLOCK CREEK	N/I	N/I	N/I	N/I	N/I	
	M.E.S.S. CREEK	N/I	N/I	N/I	N/I	N/I	
	MOORE CREEK	N/I	N/I	N/I	N/I	N/I	
	PINE CREEK	N/I	N/I	N/I	N/I	N/I	
	WATHL CREEK	DNS	70	1,200	150	DNS	HFC
	WATHLSTO CREEK	DNS	NI	300	NO	DNS	HFC

Location	Stream Name	Sockeye	Coho	Pink	Chum	Chinook	Comments
LAREDO CHANNEL - CAMPANIA SOUND							
	ARGYH CREEK	N/I	N/I	N/I	N/I	N/I	
	BARNARD CREEK	5	12	6,300	220	DNS	STAN
	BLACKROCK CREEK	N/I	N/I	N/I	N/I	N/I	
	CAMPANIA ISLAND CREEK	N/I	N/I	N/I	N/I	N/I	
	CARTWRIGHT CREEK	N/I	N/I	N/I	N/I	N/I	
	CHAPPLE CREEK	N/I	N/I	N/I	N/I	N/I	
	CHERRY CREEK	N/I	N/I	N/I	N/I	N/I	
	CRANE BAY CREEK	DNS	NI	320	NO	DNS	STAN
	CRIDGE INLET CREEK	N/I	N/I	N/I	N/I	N/I	
	DOUGLAS CREEK	N/I	N/I	N/I	N/I	N/I	
	EAST ARM CREEK	10	AP	3,000	10	DNS	STAN
	EVINRUDE CREEK	N/I	N/I	N/I	N/I	N/I	
	FURY CREEK	N/I	N/I	N/I	N/I	N/I	
	GIL CREEK	DNS	NI	8,100	6	DNS	STAN
	HOME BAY CREEKS	N/I	N/I	N/I	N/I	N/I	
	KENT INLET LAGOON CREEK	N/I	N/I	N/I	N/I	N/I	
	LAEDKIN CREEK/RIVERS BIGHT CR	DNS	NI	565	NO	DNS	STAN
	LIMESTONE CREEK	N/I	N/I	N/I	N/I	N/I	
	MCMICKLING CREEK	N/I	N/I	N/I	N/I	N/I	
	PENN CREEK	N/I	N/I	N/I	N/I	N/I	
	RIVERS BIGHT CREEK	N/I	N/I	N/I	N/I	N/I	
	ROLAND CREEK	N/I	N/I	N/I	N/I	N/I	
	TALAMOOSA CREEK	N/I	N/I	N/I	N/I	N/I	
	TURN CREEK	DNS	NI	2,750	NO	DNS	STAN
	TURTLE CREEK	DNS	NI	16,000	AP	DNS	STAN
	TUWARTZ CREEK	N/I	N/I	N/I	N/I	N/I	
	WALE CREEK	N/I	N/I	N/I	N/I	N/I	
	WEST ARM CREEK	24	380	8,800	450	DNS	STAN
	WHALEN LAKE CREEK	NO	NO	670	2	DNS	STAN
	WINDY ISLAND CREEK	N/I	N/I	N/I	N/I	N/I	
LAREDO SOUND							
	ARNOUP CREEK	N/I	N/I	N/I	N/I	N/I	
	BLEE CREEK	N/I	N/I	N/I	N/I	N/I	
	BLOOMFIELD CREEK	N/I	N/I	N/I	N/I	N/I	
	BUSEY CREEK	N/I	N/I	N/I	N/I	N/I	
	DALLAIN CREEK	N/I	N/I	N/I	N/I	N/I	
	DALLY CREEK	N/I	N/I	N/I	N/I	N/I	
	FIFER CREEK	N/I	N/I	N/I	N/I	N/I	
	GOIN CREEK	N/I	N/I	N/I	N/I	N/I	
	KAMIN CREEK	N/I	N/I	N/I	N/I	N/I	
	KWAKWA CREEK	N/I	N/I	N/I	N/I	N/I	
	NIAS CREEK	N/I	N/I	N/I	N/I	N/I	
	OSMENT CREEK	N/I	N/I	N/I	N/I	N/I	
	PACKE CREEK	N/I	N/I	N/I	N/I	N/I	
	POWLES CREEK	N/I	N/I	N/I	N/I	N/I	
	PRICE CREEK	N/I	N/I	N/I	N/I	N/I	
	PYNE CREEK	N/I	N/I	N/I	N/I	N/I	
	QUIGLEY CREEK	N/I	N/I	N/I	N/I	N/I	
	RONALD CREEK	N/I	N/I	N/I	N/I	N/I	
	STEEP CREEK	N/I	N/I	N/I	N/I	N/I	
	TRAHEY CREEK	N/I	N/I	N/I	N/I	N/I	
	TYLER CREEK	N/I	N/I	N/I	N/I	N/I	
	AREA 6 TOTAL	24,394	35,136	701,555	29,490	1,069	

North Coast C&P 2021 Salmon Post Season Summary



TO CONSERVE AND PROTECT

Conservation & Protection Post Season Salmon Summary - 2021

Pacific Region - North Coast Area

April 1ST – November 1ST

C&P Area Chief – Terry Jackson

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North Coast Area - C&P - 2021 Post Season Salmon Summary

North Coast C&P Area Summary

The post season salmon summary is intended to provide a description of the compliance and enforcement effort the North Coast Area Conservation and Protection (C&P) staff directed toward numerous commercial, recreational and First Nations salmon fisheries during the period of April 1, 2020 to November 1, 2020. It also includes a short description of other activities that C&P is involved in other than salmon related efforts. The North Coast Area includes Fishery Management Areas 1 -10 and extends north along the West Coast of British Columbia from Cape Caution to Stewart, and from Haida Gwaii east to the land break between the Upper Bulkley River (Tam Creek) and the Fraser watershed (Rose Lake) located approximately mid-way between Burns Lake and Houston BC.

C&P has offices located in Bella Bella (3 Fishery Officers), Bella Coola (3 Fishery Officers), Queen Charlotte City (2 Fishery Officers), Masset (3 Fishery Officers), Prince Rupert (4 Fishery Officers), Terrace/New Aiyansh/Kitimat (7 Fishery Officers), Smithers (3 Fishery Officers). Previously, North Coast Area C&P was responsible for the Marine Patrol Program (MPP) based out of Prince Rupert, however, the program is now managed regionally with the vessels based out of Nanaimo. The MPP continues to patrol the North Coast Area.

These Fishery Officers are responsible for all C&P program delivery in this very large and diverse area. In all locations C&P staff try and work closely with Resource Management, Stock Assessment, Oceans, Habitat and Enhancement Branch staff as well as the public and industry to develop and implement Operational Work Plans that reflect National, Regional, Area and local priority issues.

COVID 19 continued to pose challenges for Fishery Officers as they adjusted their approaches to their work to keep themselves and users of the resource safe while protecting the fisheries resource. Fishery Officers are designated as critical employees and continued to work in a changed environment and to deliver on our mandate. Equipped with an array of personal protective equipment Officers continued to ensure that orderly, sustainable fisheries were delivered in the North Coast salmon season. Officers worked closely with our enforcement partners like the RCMP, Conservation Officers, CCG and First Nations to deliver the C&P program. Compliance for the various salmon closures overall was excellent. Staffing continues to be a challenge that will persist but active recruitment for the North Coast is a priority.

If you have any questions please don't hesitate to contact the Detachment Commander listed for each Detachment.



Conservation & Protection Post Season Salmon Summary - 2021

Bella Coola (Central Coast) Detachment

April 1st – November 1st

Prepared by:

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North Coast Area - C&P - 2021 Post Season Salmon Summary

Detachment Narrative

- The Bella Coola (Central Coast) Detachment area consists of Pacific Fishery Management Areas 7 -10 (Area 7 – Bella Bella; Area 8 – Bella Coola; Area 9 – Rivers Inlet; Area 10 – Smith Inlet). It encompasses that portion of the Central Coast of British Columbia from Cape Caution in the south to Kitasoo Bay in the north, 130 nautical miles. The marine and land base together covers an area of approximately 52,000 square kilometers.
- There are 180 salmon streams, creeks and rivers in Areas 7-10. Of those, 29 would be considered significant salmon producers. Major systems would be the Roscoe and Kainet Rivers in area 7, Bella Coola, Atnarko, Dean, Kimsquit, Kwatna and Koeve Rivers in Area 8, Chuckwalla, Kilbella, Wannock Rivers as well as the Owikeno Lake sockeye rivers in Area 9, and the Docee River sockeye and chinook system in Area 10. Commercial salmon fishing typically occurs from late May into mid-October annually. There is world class recreational salmon fishing across the entire Central Coast, particularly in the Hakai Pass and Rivers Inlet areas, and on the Dean River.
- There are six small communities in Areas 7-10. They are Klemtu, Bella Bella, Bella Coola, Ocean Falls, Anahim Lake and Oweekeno. The total resident population is approximately 6500 people.
- There are six First Nations in the Detachment area - Kitasoo Xai'xais First Nation (pop. 500), Heiltsuk First Nation (pop. 2200), Nuxalk First Nation (pop. 1470), Ulkatcho First Nation (pop. 900), Wui'Kinuxv First Nation (pop. 280), and the Gwa'sala Nakwaxda'xw First Nation (pop. 980) which is based in Port Hardy. First Nations persons are actively involved in subsistence fisheries for many finfish and shellfish species, and form a large component of commercial salmon licence holders in the Central Coast. C&P Fishery Officers are increasingly engaged with the Coastal Guardian Watchmen network in the Central Coast. The CGW are employed by their First Nations and provide increased monitoring and ORR capacity in the vast Central Coast environment.
- There are six C&P Fishery Officer positions in the Central Coast Detachment - one PM-05 Detachment Commander in Bella Coola, two GT-05 Field Supervisors, one in Bella Coola and one in Bella Bella, one GT-04 Fishery Officer in Bella Coola and Bella Bella and one GT-02 Fishery Officer in Bella Bella.
- The Bella Coola Detachment also operates out of a field camp in Dawson's Landing (Rivers Inlet – Area 9) for a portion of the spring and summer months.

The Bella Coola Detachment consists of two Field Unit offices and a seasonal field camp:

Bella Coola Field Unit – The Bella Coola Field Unit area of environmental enforcement responsibility is marine PFMA Area 8 and portions of non-tidal Management Unit 5. The Field Supervisor and Fishery Officer positions are filled. The Detachment Commander is currently acting from Terrace.

Bella Bella Field Unit - The Bella Bella Field Unit area of environmental enforcement responsibility is marine PFMA Area 7 and the southernmost portions of Area 6. Bella Bella fishery officers also take the lead role in responding to issues and occurrences in marine Areas 9 and 10. Bella Bella currently has 3 Fishery Officers, one of which has taken on the role of Field Supervisor.

Dawson's Landing (Rivers Inlet) - In 2021, the Dawson's Landing field camp site was operational for the season.

Commercial Fisheries

Gill Net

- Four chinook directed fisheries occurred – June 14, 21, 28 and July 5. The first gillnet fishery was delayed by one week. The participation effort ranged from 33 to 47 vessels per opening.
- Officers conducted pre-fishery hold and licence inspections along with patrols during the opening and post fishery. The gillnet openings were attended by staff from both field offices.
- C&P encountered 6 violations in the four commercial gillnet openings attended. The violations were all related to licence conditions. The new contraventions act tickets were utilized to address some of the violations.
- Prior to the first gillnet opening the Nuxalk First Nation expressed concern that a commercial fishery would increase the spread of COVID 19. There were rumours of protest but nothing materialized. The RCMP were notified. The provincial chief medical officer lifted many of the travel restrictions and the fisheries proceeded.

North Coast Area - C&P - 2021 Post Season Salmon Summary

- A PSSI announcement advised the commercial industry that there would be no chum directed gillnet fisheries occurring during the 2021 central coast salmon season and no further chinook openings. Many gillnet skippers voiced their concerns and vented frustrations on F/O's as they patrolled the final commercial openings.

Seine

- No commercial seine fisheries occurred over the 2021 season due to low abundance.

Troll

- No commercial troll fisheries occurred over the 2021 season.

Recreational Fisheries

Tidal

- COVID 19 resulted in a late start for the central coast lodges. International travel restrictions eased in the second week of August and lodge traffic increased as a result.
- Two Rivers Inlet patrol "blitzes" occurred in early August 2021. These projects were based out of the Dawson's Landing facility. Timing of these projects coincided with peak recreational traffic in Rivers Inlet. During the patrol blitz 19 violations were encountered resulting in 9 VPT / contraventions act tickets and 5 written warnings.
- The main patrol vessel based out of Bella Bella was down for the season as a result of a problematic motor refit.
- With salmon closures in many other areas it is believed that recreational traffic to the central coast may be increasing.

Non-Tidal

- Inspections occurred throughout the area including the Bella Coola, Atnarko and Dean River Watersheds. High water maintained into June and therefore limited access for the early portions of the recreational salmon season.
- Common violations encountered on the rivers include use of prohibited gear, angle without a licence or applicable conservation stamp and failing to produce licence.

North Coast Area - C&P - 2021 Post Season Salmon Summary

- Several multi-agency patrols / check stops occurred where FO's worked with RCMP, Parks, COS and several different guardian groups.
- FO's investigated numerous ORR's including several from the Nuxalk Guardians. The snagging issue on the Atnarko River continued again this season.

First Nations Fisheries

Marine Fisheries

- First Nation marine fisheries for salmon are varied and widespread. All gear types are used and all salmon species are targeted throughout the year.
- One Nuxalk demonstration gillnet fishery occurred July 8 & 9.
- FO's investigated a complaint of FSC harvest outside of territory. The situation involved a Heiltsuk FSC seine vessel setting / harvesting in claimed Wuikinuxv territory.

Inland Fisheries

- First Nation salmon fisheries occur on the Bella Coola River by members of the Nuxalk First Nation using drift and set gill nets. They target Chinook and Coho salmon with a small amount of effort directed at Chum salmon. The fishery is monitored by the First Nation Guardian Watchman program, and information on catches and biological samples are provided to Stock Assessment and Resource Management.
- Efforts in the early portions of the Nuxalk FSC fishery were hampered by high water but improved into June.
- Where possible FO's attempted to work with the Nuxalk Guardians, in 2021 COVID 19 continued to hamper this initiative.

North Coast Area - C&P - 2021 Post Season Salmon Summary

Unlicensed / Closed Area / Closed Time Patrols (UCAT)

- FO's investigated numerous ORR's including several from the Nuxalk Guardians. The snagging issue on the Atnarko River continued again this season.
- Central Coast officers altered days of rest and hours to address areas and times of concern.
- The Atnarko River chinook recreational fishery was closed on July 23.

National Enforcement Tracking System (N.E.T.S.)

Comparison of Fishery Officer Enforcement effort on salmon fisheries - FEATS Data/N.E.T.S. for April 1 – November 1 2017-2021

Year	Patrol Hours	Fishery Officer Hours	Vessels Checked	Vehicles Checked	Persons Checked	Gear Checked
2021	416.75	1263	376	23	1077	728
2020	304	521	356	14	533	413
2019	169.75	323.5	86	2	212	156
2018	823.75	1451.75	219	9	654	355
2017	407.0	766	181	4	499	404

The statistical summary represents the activities described throughout this post season document. The totals are an accumulation of effort across the work elements UCAT Salmon, Rec Salmon Tidal & Non-Tidal, Aboriginal Special Licence, Aboriginal Salmon and Commercial Salmon Net. For 2021 a new system of was introduced, N.E.T.S., to capture effort. The data may be captured in different ways thus some information may not be directly comparable. As the system is still in development reporting my take some time to align with previous years information.

Pillar 1 (Public Education and Stewardship) Projects

- Participation with SFAB meetings.
- Foster working relationships with RCMP, COS, Parks and Dean River Guardians with joint operations.
- Working with Community advisor on salmonids in the classroom program. School talks and education.
- Work with First Nation Guardians on numerous topics. Detachment visit to the Wui'Kinuxv First Nation.

Staffing

- There are six C&P Fishery Officer positions in the Central Coast Detachment - one PM-05 Detachment Commander in Bella Coola (Acting from Terrace), two GT-05 Field Supervisors, one in Bella Coola and one in Bella Bella, one GT-04 Fishery Officer in Bella Coola and Bella Bella and one GT-02 Fishery Officer in Bella Bella.



TO CONSERVE AND PROTECT

Conservation & Protection

Post Season Salmon Summary - 2021

Haida Gwaii Detachment

April 1ST – November 1ST

Prepared by:

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North Coast Area - C&P - 2021 Post Season Salmon Summary

Detachment Narrative

The Islands are separated from the British Columbia mainland to the east by Hecate Strait. Vancouver Island lies to the south, across Queen Charlotte Sound, while the U.S. state of Alaska is to the north, across the disputed Dixon Entrance.

Some of the islands are protected under federal legislation as Gwaii Haanas National Park Reserve and Haida Heritage Site, which is mostly Moresby Island and adjoining islands and islets (Gwaii Haanas is the Haida name for Moresby Island).

On January 30, 1993 the Gwaii Haanas Marine Agreement was signed, as represented by the Minister of the Environment for Parks Canada and the Minister of Fisheries and Oceans, the Haida Nation as represented by the Council of the Haida Nation “CHN”.

This agreement created the “Gwaii Haanas National Marine Conservation Area Reserve of Canada” as described in Schedule 2 of the Canada National Marine Conservation Area Act. This agreement established the Archipelago Management Board (AMB) as a means for the Government of Canada as represented by DFO and Parks Canada and the CHN to work cooperatively in the planning, operation, management and use of Gwaii Haanas Marine Conservation Area Reserve.

- The Northern boundary of the detachment is the international border to Alaska.
- There are about 300 Salmon streams on the Islands. 100 of these are major systems (key streams). The largest of these are Yakoun, Deena, Pallant, Lagon, Salmon, Government, Awun-Ain. They provide for terminal fisheries for Chum, Pink, Coho, Sockeye, Chinook, and Steelhead trout.
- The total Islands population is approximately 6,500. The main centers are Masset, Old Masset, Port Clements, Tlell, Skidegate, Queen Charlotte City, and Sandspit.
- There are two First Nation communities, Old Masset and Skidegate, with a population of about 3,500. The Council of Haida Nations (CHN) Fisheries Program is operating in co-operation with DFO on most fisheries issues.
- DFO office locations are in Masset and the Village of Queen Charlotte. Masset has one GT-05 Field Supervisor (currently not backfilled) and two GT-04 Fishery Officers. The Village of Queen Charlotte City has one GT-05 Field Supervisor and one GT-04 Fishery Officer as well as the PM-05 Detachment Supervisor working from this location (currently reporting from Masset).

North Coast Area - C&P - 2021 Post Season Salmon Summary

- There is a significant recreational fishery on Haida Gwaii. Over 26 lodges and fish guiding companies can accommodate over 800-1000 vessels recreationally fishing in the HG Detachment area. This year, with ongoing Covid restrictions, this fishery was reduced significantly though not as significantly as the 2020 season.
- First Nations Fisheries include FSC for salmon, ground fish, prawns, crab, urchins, razor clams, etc. These activities are year round and include tidal and non-tidal waters. CSSP/Aquaculture activities are also on the increase. Recreational fisheries occur year round in tidal (Areas 1 and 2) as well as non-tidal waters. Primary species includes Chinook, Coho, razor clams, ground fish, prawns, crab, etc.
- Commercial fisheries operate throughout Areas 1 and 2 and include salmon (Seine/Gill Net/Troll), urchins, geoduck, cucumbers, crab, prawn, ground fish (halibut/sablefish) and razor clams (currently closed due to population declines). Rockfish Conservation Areas (RCAs) and Marine Protected Areas (MPAs) are also patrolled.
- Habitat related activities include forestry (roads, foreshore, harvest activities and silviculture prescriptions), road development/maintenance, industrial and rural foreshore destruction.

Salmon Fisheries Enforcement

Commercial Fisheries

Troll

- Compliance checks of the troll fleet engaged in fishing in Areas 1 and 2 were conducted with no violations noted.

Recreational Fisheries

Tidal

- During the course of conducting patrols and investigations, there was an improvement from the previous seasons with typical infractions such as barbed hooks, fail to record species such as Chinook and Halibut and non-compliance with the packaging. Pre-season lodge patrols and other normal pillar one activities were conducted to educate and remind those fishing of the more common infractions that should be avoided.

• ***Non-Tidal***

- Recreational salmon enforcement patrols continue to occur throughout the fall months. Fishery officer patrol efforts have been directed to focus on conservation occurrences and concerns.
- Overall compliance remains good.

Lodges

- Haida Gwaii has 12 destination, fly-in lodges and approximately 14 shore based fishing lodges and resorts operating in the detachment area. Activities this year continued to be impacted by the Corona 19 virus, most lodges did operate this season, some at full capacity, others more limited, and some did not open again this season.
- Overall compliance was good with the majority of violations being self-reported by the lodges as a result of un-guided guests.

First Nations Fisheries

Marine Fisheries

First Nation marine fisheries for salmon are varied and widespread. All gear types are used and all salmon species are targeted throughout the year.

North Coast Area - C&P - 2021 Post Season Salmon Summary

Inland Fisheries

Inland First Nation gill net fisheries occur on the Copper, Naden, Awun and Yakoun Rivers. Sockeye fishery openings were managed under the direction of and Haida FSC Advisory Committee. Target species are Sockeye, Chinook and Coho salmon. There is minimal salmon compliance issues associated with this fishery; however, the Skidegate Band Council had reported early access issues on the Copper River by some members of their community, as well as fish traps being broken into with fish being stolen during the assessment period. This required a more significant C&P presence this year and expect the same next year. Nets being left unattended and unchecked for long periods of time causes wastage. The fishing effort on these sockeye rivers is managed by the Haida. Joint patrols are done by Fishery Officers and Guardians.

C&P has taken a strategic approach and focused efforts on priorities such as Canadian Sanitary Shell Fish Programme (CSSP), stocks of concern (salmon) and on files that will have a major impact on the resource.

National Enforcement Tracking System (N.E.T.S.)

Comparison of Fishery Officer Enforcement effort on salmon fisheries from FEATS Data/N.E.T.S. for April 1 – November 1 2017-2021

Year	Patrols	Patrol hours	FO hours	Vessels Checked	Vehicles Checked	Persons Checked	Gear Checked
2021		84.5	91.5	50	11	100	15
2020	37	202	396	74	4	134	113
2019	33	111.50	210.50	70	5	231	73
2018	53	242	401	98	6	249	105
2017	63	345.75	580	171	27	940	366

North Coast Area - C&P - 2021 Post Season Salmon Summary

The statistical summary represents the activities from previous years. For 2021 a new system of was introduced, N.E.T.S., to effort. The data may be captured in different ways thus some information may not be directly comparable. As the system is still in development reporting my take some time to align with previous years information.

Pillar 1 (Public Education and Stewardship) Projects

- Most public events have been limited by COVID-19; however, the following activities were able to be conducted this year:
 - Detachment Supervisor and C&P Field Supervisors meet with Fishery Guardians on a regular basis to address specific concerns and arrange joint C&P/Haida Guardian patrols.
 - Joint vessel patrols conducted with Parks Canada and COS throughout the summer.
 - C&P Fishery Officers continue to meet with all recreational lodges and resorts pre and post season. Officers perform pre-season as well as in-season inspections at the lodges. Inspections are sometimes done in coordination with provincial officials who are inspecting for compliance with provincial regulations.
 - Food fish processing and delivery completed in conjunction with the Haida Guardian Program.
 - Assistance to SEP in regard to fry releases and brood stock collection.
 - Participated in the totem pole raising at the Queen Charlotte City RCMP detachment.
 - Participated in the RCMP “Stuff the Cruiser” Event at the Masset Co-Op.
 - Planning phase for a canoe journey in the 2022 field season.
 - Remembrance Day celebrations in Masset and QCC.
 - Provided assistance to the Guardian training which occurred at Hiellen and facilitated by Vancouver Island University.

North Coast Area - C&P - 2021 Post Season Salmon Summary

Staffing

- The Haida Gwaii Detachment Supervisor position has been filled by way of a long-term acting assignment. There has been some stability in both Masset and QCC with all Fishery Officer positions currently filled. Currently, the only vacant position is the Masset GT-05 position, which has been left vacant to provide some flexibility in future staffing.



Conservation & Protection

Post Season Salmon Summary - 2021

Prince Rupert Detachment

April 1ST – November 1ST

Prepared by:
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Detachment Narrative

- The Detachment area covers approximately 2 degrees latitude (120 miles) of the northern mainland coast, from the Canada/Alaska border to Hartley Bay. This area includes several hundred miles of shoreline and a large archipelago of islands and numerous passages.
- The detachment area includes the Skeena River (up to and including the Khyex River), the marine portion of the Nass River, and several smaller and medium sized rivers and tributaries.
- The detachment area currently includes the eastern portions of Hecate Strait and Dixon Entrance, which are highly valuable marine fish habitat and include numerous identified Rockfish Protection Areas.
- Prince Rupert is the major centre of the detachment area. The port of Prince Rupert is a significant fish landing port in British Columbia, where large numbers of fish landings occur year round. Several smaller communities are in the detachment area, including Port Edward and the First Nations communities of Lax Kw'alaams, Gitxaala (Kitkatla), Metlakatla, and Gingolx (Kincolith). Many of these communities depend on marine resources.
- The detachment is located in a single office in downtown Prince Rupert. The 2021 compliment of C&P enforcement staff was 3 field officers comprised of one Field Supervisor, one trained Fishery Officer, one Fishery Officer in training working under the guidance of trained staff. The detachment was also supplemented for a few weeks during the summer months by another trained Fishery Officer, from the Smithers detachment. This season the detachment was supported by the two CCGC mid-shore Marine Patrol Program (C&P Enforcement) ships, which in 2021 was moved to a regional reporting structure providing for a flexible coast wide response. Within the Prince Rupert detachment area, the ships provided a marine presence throughout the summer months.
- The management of most of the detachment's fisheries has become increasingly more complex in recent years. This has resulted in C&P taking on a larger auditing function to ensure catch record requirements and fish slip data are properly captured and submitted and that traceability exists within the fishery.
- Aerial Surveillance Program: fishery officer patrols Prince Rupert detachment area by air

Salmon Fisheries Enforcement

Commercial Fisheries

Gill Net

- There were no commercial salmon gillnet fishing days in in 2021.

Seine

- There was only 5 Area 3 seine fishery in 2021.
- No commercial seine fisheries in Area 4 or 5 in 2021.
- There was also 1 Aboriginal Economic Seine Fishery in Area 3

Troll

- The Prince Rupert detachment provided marine enforcement coverage for this fishery on an opportunistic basis. When possible, officers attended offloads to address head retention concerns. The detachment has a current investigation ongoing for failure to retain heads from the Area F troll fishery.

Recreational Fisheries

Tidal

- In-season salmon species limit reductions were implemented this season to address lower returns of Skeena River chinook salmon. Chinook Salmon recreational limits were reduced in 2021 to 1 per day (June 1st-18th) and zero (June 19th -August 1st), during the prime Skeena River chinook run timing windows. On August 1st, 2021 the limits for Chinook salmon were

North Coast Area - C&P - 2021 Post Season Salmon Summary

increased back to two per day. Compliance inspections were conducted opportunistically and active investigations were conducted throughout the season where non-compliance was detected. There were few violations encountered during inspections involving salmon. Fishery Officers conducted both vessel and roadside checks of recreational fishers harvesting salmon from areas 3-5.

Non-Tidal

- Recreational salmon in the Skeena River Watershed, for the most part of 2021, had fishing restrictions and reduced limits implemented. On August 18th, the Skeena River was opened to 1 sockeye a day, and increased to 2 per day on September 2nd. There were several reports received by the Prince Rupert detachment in 2021, from the public, indicating illegal fishing was occurring at Kloiya Creek for salmon during closed time. Note: fishing by Indigenous fishers is permitted on Kloiya Creek, and it is believed that some of the fishing related occurrences was related to authorized fishing. Enforcement effort was limited given the detachments staffing limitations, and focus on marine based fishing priorities.

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Charters

- There are many independent charter operators in the Prince Rupert Detachment area with a wide range of compliance histories. In 2021, with the rebound from Covid 19 travel restrictions, there was a big increase in the number of persons travelling to Prince Rupert to fish from 2020.

Lodges

- There were 2 recreational fishing lodges in operation during the 2021 season in the Prince Rupert Detachment area. Covid 19 played a major factor in operations of fishing lodges in 2021.

First Nations Fisheries

Marine Fisheries

In response to low returns of salmon this season, the Department continued to work collaboratively with local First Nations to implement a cautious approach to Food, Social, and Ceremonial (FSC) harvests due to concerns about Skeena River sockeye returns. In total, the Prince Rupert Area has six First Nations Bands with communal Access to Areas 3, 4, and 5. Conservation and Protection conducted area vessel and aerial patrols ensuring only authorized First Nations were harvesting.

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National Enforcement Tracking System (N.E.T.S.)

Comparison of Fishery Officer Enforcement effort on salmon fisheries - FEATS Data/N.E.T.S. for April 1 – November 1 2017-2021

Year	Patrols	Patrol hours	FO hours	Vessels Checked	Vehicles Checked	Persons Checked	Gear Checked
2021		81.50	538.5	110	3	197	
2020	32	172	225	147	18	207	82
2019	77	402.25	602.5	334	25	719	233
2018	66	354.0	632.75	375	5	682	300
2017	44	294	378.5	190	125	445	78

The statistical summary represents the activities from previous years. For 2021 a new system of was introduced, N.E.T.S., to capture effort. The data may be captured in different ways thus some information may not be directly comparable. As the system is still in development reporting my take some time to align with previous years information.

Salmon is only one aspect of the Prince Rupert C&P Detachment workload. In addition, groundfish, shellfish, invertebrate, Species at Risk (Abalone), marine mammals, herring, and the Canadian Sanitary Shellfish Program are monitored for compliance and enforcement where required. It is important to consider the Prince Rupert General Duty Detachment data in conjunction with the Marine Patrol Program data. During peak commercial harvest times, the MPP typically provides a supporting presence in the detachment area and augments marine enforcement effort.

During the season, officers also spend considerable time conducting office based compliance audits of FOS reporting and fish slips. This decreases total patrol hours but yields significant violations and provides an excellent tool for officers to target enforcement efforts where vessels demonstrate poor compliance.

Pillar 1 (Public Education and Stewardship) Projects

- Detachment and Field Supervisors meet with the local First Nation Fisheries Managers and addresses specific enforcement concerns as they arise.
- Fishery Officers participated in Joint Agency road checks with other Federal agencies in the Prince Rupert area.
- Fishery Officers continue to meet with all recreational lodges and SFAC representatives throughout the course of the year using virtual meeting options.

Major Case Audit

- Forensic Audit of Provincially licenced processor, within the Prince Rupert Area. Large scale audit utilizing forensic investigative techniques, forensic accountants, and DNA analysis. Traceability of fish is ongoing, ensuring fish was legally harvested and sold in compliance with Fisheries Act and Regulations.

Staffing

- There were 3 field fishery officers, 1 of which was a trainee, in the Prince Rupert Detachment area in 2021 that impacted operations and coverage. The detachment was supported throughout the season by the CCG Marine Patrol Program fishery officers, providing at sea enforcement presence throughout the North Coast. Staffing is underway to try to fill current vacancies, however, staffing is challenging in Prince Rupert given it's remote location, desirability, and cost of living.



Conservation & Protection

Post Season Salmon Summary - 2021

SKEENA / NASS / COASTAL AREA 6

April 1ST – November 1ST

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Detachment Narrative

The Skeena/ Nass / Coastal Area 6 Detachment encompass three distinct geographical areas, the Skeena River Watershed, the Nass River Watershed and Area 6, BC North Coast Area. The Detachment Supervisor is stationed in Terrace. For operational purposes the Detachment is divided into three field units.

Terrace/New Aiyansh Field Unit

- This Field Unit covers a portion of the Skeena River and numerous tributaries from the Kasiks River upstream to Legate Creek. Population centers include Terrace, Thornhill, Usk, Rosswood, Kitselas and Kitsumkalum, and the watershed of the Nass River drainage and numerous tributaries, including the town of Stewart BC (Canada/U.S. border). The area has a scattered population within the communities in: Greenville, Canyon City, New Aiyansh, Meziadin, Bell Irving and Stewart. First Nations fisheries include Inland Economic Opportunity Fisheries, FSC for salmon.
- Five Fishery Officers are assigned to this area; one Field Supervisor (GT05) and four Fishery Officers (GT04). Of the four, two officers were identified to deal with Canada's commitment related to the Nisga'a Treaty. Nisga'a Treaty implementation (FSC, Individual and Communal Sales Fisheries and ESSR), Gitanyow (FSC and ESSR) Interim Measures/Treaty and Gitsksan (FSC and overlap claims) are the primary focus related to First Nations activities. Recreation, both tidal and non-tidal opportunities are available year round (weather permitting), with concentrated efforts on Chinook, Coho, Steelhead, crab, ground fish, prawns etc. The area is vast and access to recreational opportunities is increasing. Habitat related activity includes forestry (roads, foreshore, harvest activities and silviculture prescriptions), mining, road development (highways expansion) and residential expansion.

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The Kitimat Field Unit

- The Kitimat Field Unit includes the Kitimat River drainage and tributaries, Statistical Area 6 and numerous tributaries. Population centers include Kitimat, Haisla, Kemano and Hartley Bay. First Nations Fisheries include FSC for salmon, ground fish, prawns, crab, urchins etc. These activities are year round and include tidal and non-tidal waters. CSSP/Aquaculture activities are also on the increase. Proposed FSC harvest for bi-valves on a limited scale for First nations is underway. Recreational fisheries occur year round in tidal (Area 6) and non-tidal waters. Primary species include Chinook, Coho, Chum, ground fish, prawns, crab etc.
- Three Fishery Officers are assigned to this area; one Field Supervisor (GT05), one Fishery Officers (GT04) and one legacy funded Fishery Officer. Recreational fisheries are available year round (weather permitting), but are concentrated during the months of April to November. Chinook, Sockeye, Coho and Steelhead are the primary species targeted by fishers.
- Habitat related activities include forestry (roads, foreshore, harvest activities and silviculture), mining, pipeline development, road development/maintenance, industrial & rural expansion.
- Commercial fisheries operate throughout Area 6 and include salmon (Seine / Gill Net / Troll), shellfish (urchins, cucumbers, crab, prawn, shrimp trawl), ground fish (halibut/sablefish). An average of 6 sport fish lodges and 25 shore based charter operator's work in Area 6 year round with peak activity from May to November. Area 6 also has Rockfish Conservation closed areas, CSSP issues and contamination closures.
- SARA and Aquatic invasive species will be a larger role in the area as priorities shift.

North Coast Area - C&P - 2021 Post Season Salmon Summary

The Smithers Field Unit

- The Smithers Field Unit encompasses a vast area. Currently there is one GT-05 and two GT-04 Fishery Officer for this unit.
- The Smithers area includes the Babine, Morice, Bulkley and Sustat River watersheds. This is the most geographically challenging area within the detachment. The main center of population is Smithers and other communities include Telkwa, Houston, Burns Lake, Topley and Granisle. The main First Nations communities are Witset (Morice Town), Burns Lake, Takla, Tachet and Ft. Babine with a few other very small communities. Recreational effort focus on Sockeye, Chinook, Coho, and Steelhead. The Babine Lake Sockeye Fishery has been growing and will require further attention. Habitat related activity include forestry (roads, harvest activities and silviculture prescriptions), mining, road development (highways expansion), agriculture and residential expansion. First Nations fisheries include Inland Economic Opportunity Fisheries, ESSR and FSC for salmon.
- This Field Unit also includes the Hazelton's which includes the Upper/Mid Skeena, Lower Babine and Lower Bulkley River watersheds and tributaries which include the Kispiox, Kitwanga, Kitsegukla and Suskwa Rivers. The area has a scattered population with communities in Hazelton, South Hazelton, New Hazelton, Cedarvale, Gitanyow, Kitwanga, Kitsegukla, Hagwilget, Gitanmaax, Glen Vowell and Kispiox.

Salmon Fisheries Enforcement

Commercial Salmon Fisheries

Gill Net

- NIL

Seine

- NIL

North Coast Area - C&P - 2021 Post Season Salmon Summary

Troll

- No effort on troll in Area 6 due to vessel out of service time, Skeena River closure priority resourcing. Nothing significant to report on this fishery.

Recreational Fisheries

For 2021 there were 6 highway joint operations with BCCOS/Terrace RCMP and Terrace CVSE. These were large-scale highway check stops targeting all traffic including ocean vessels, non-tidal vessels and anglers returning from guided trips. These resulted in 65 violations found. There were 12 small scale patrols with BCCOS and RCMP that were truck or vessel based which saw a total of 26 violations.

Tidal

- C&P efforts on this fishery were greatly reduced due to a vessel break down for a significant period. Joint agency highway inspections became the focus while vessel was out of service.

Non-Tidal

- Increased patrol activity saw good compliance overall for closed area and species conservation objectives for Skeena and Nass water sheds due to good public education efforts. A series of high water events greatly curtailed any fishing which might have otherwise occurred.

Lodges

- For 2021 there was one floating recreational Lodge operating Area 6. Kitimat field unit and MPP conducted inspections throughout the season.

North Coast Area - C&P - 2021 Post Season Salmon Summary

First Nations Fisheries

Nisga'a

- A small in river domestic fishery occurred this year. C&P worked with NLG resource enforcement staff on a regular basis patrolling the fisheries and closed time in the Treaty area as well as addressing occurrences of alleged illegal sales. Minimal recreational fishing occurred in the area as there were significant periods of high water. There was a late season surge in effort for Coho as water levels came down.

ESSR

- In 2021 a small fishery took place on the Bulkley River by the Wet'suwet'en for Pinks. Lake Babine Nation conducted a small fishery for Sockeye Jacks at the Babine River weir. No particular issues from these fisheries.

Inland Fisheries

- Gitanyow Huwilp conducted fishing operations at the Meziadin in 2021. The Meziadin River saw a good return for Sockeye for the season.

National Enforcement Tracking System (N.E.T.S.)

Comparison of Fishery Officer Enforcement effort on salmon fisheries from FEATS Data/N.E.T.S. for April 1 – November 1 2017-2021

Year	Patrols	Patrol hours	FO hours	Vessels Checked	Vehicles Checked	Persons Checked	Gear Checked
2021	-----	1025.00	-----	238	93	1598	151
2020	433	1482.0	2281.75	480	213	2445	388
2019	323	1506	2223.5	234	159	1575	543
2018	408	2039	2407.75	69	15	545	50
2017	350	2034.75	2538.0	263	225	1466	150

North Coast Area - C&P - 2021 Post Season Salmon Summary

The statistical summary represents the activities from previous years. For 2021 a new system of was introduced, N.E.T.S., to capture effort. The data may be captured in different ways thus some information may not be directly comparable. As the system is still in development reporting my take some time to align with previous years information.

Pillar 1 (Public Education and Stewardship) Projects

- Participation SFAB meetings.
- Foster working relationships with RCMP. Joint operations on highway 16 were conducted and a fisheries presentation was given to the RCMP to assist in information sharing.
- Working with Community advisor on Salmonids in the classroom program. Field assistance for brood collection.

Staffing

- In 2021, there were 10 Fishery Officer positions in SNC6; however, the Kitimat Field Supervisor was on acting assignment for the region and NCA in other capacities and one GT04 position remains vacant. The long term acting and vacancy created difficulties arising from a single field supervisor managing 3 trainees, two senior staff and a Fishery Officer assigned to other duties. Effort was further curtailed as SNC6 staff were assisting MPP for the region and the Prince Rupert detachment for approximately 4 weeks due to lack of staff. These challenges created significant logistical problems to effect the C&P program at previous levels. On a positive note for 2021, our 3 trainees progressed well and hope to complete their training by the beginning of the 2022 season.