



South Coast Salmon Bulletin #1 31 October, 2024 Escapement Update

All salmon species – Johnstone Straits & Strait of Georgia North Stock Assessment

SUMMARY: This bulletin details the current in-season escapement information for major river systems in the Johnstone Straits and Strait of Georgia North (JS & SGN) areas for migrating salmon species available up to the bulletin release date. Estimates reported here are preliminary and should be interpreted with caution. Finalized estimates will be made available in the months following the escapement season.

Environmental Conditions:

Over the past 9 years, DFO has been installing weather stations across the South Coast area to aid survey crews in field work, and monitor environmental conditions. Weather stations are available at (<http://www.pacfish.ca/wcviweather/Default.aspx>).

Operations: Escapement monitoring typically starts in May-June with adult sockeye monitoring at Heydon Bay Creek and Fulmore River (Video), and also at Quatse and Nimpkish Rivers (DIDSON - Dual Frequency Identification SONar). JS & SGN escapement surveys in July, August and September focus mainly on pink and summer chum. The focus in October transitions into chinook, fall chum and coho targeted surveys.

Mainland Inlet (area 12) helicopter surveys were reinstated in 2019 to assess salmon populations in that area and were continued again in 2024. Numerous streams in the Broughton Archipelago are monitored by MESSS (Mainland Enhancement Society of Salmonid Species).

The Quinsam River Hatchery monitors the Campbell and Quinsam Rivers through weekly snorkel surveys on the Campbell and fence counts on the Quinsam. Estimates in this bulletin are expert opinion based, and will be replaced post season by final estimates.

Quadra Island Salmonid Enhancement Society operates a video monitoring fence on Village Bay Creek and also monitors a number of other streams on Quadra Island.

The Black Creek (DFO wild coho indicator) fence is operated by A-Tlegay Fisheries Society. Keogh River is also a DFO wild coho indicator system where returning salmon are enumerated with a resistivity fence.

Gillard Pass Fisheries Association and Pacificus Biological Services Ltd. conduct an intensive chinook mark-recapture program on the Phillips River.

The fall counting fence at Heydon Bay Creek underwent a substantial rebuild in the summer of 2024. The new fence was not operational until mid-September and is focused on chum returns. Monitoring and fence operations are conducted by Wei Wai Kum Nation guardians.

DFO charter patrol operators (A-Tlegay Fisheries Society and Chris Bunn) conduct numerous stream inspections in both areas 12 and 13.

A mark recapture program was conducted on the Southgate River (Bute Inlet) to enumerate chinook salmon abundance in that system. The works conducted on this project is a collaborative effort between Homalco Nation, Gillard Pass Fisheries Association and DFO.

Various other groups (volunteers, First Nations, contractors and NGO's) conduct stream walks and snorkel surveys that provide data for many systems identified in this bulletin.

2024 PRE-SEASON EXPECTATIONS:

Chinook: Average to above average returns are expected in 2024 for upper Georgia Strait chinook, especially with the continuation of harvest restrictions on early timed Fraser chinook. Escapement in 2022 and 2023 to the Quinsam indicator fell below expectations, but ancillary information suggests estimates were biased low due to extremely active predation which impacted the carcasses available for the dead-pitch program. Other systems in the Northern Strait of Georgia saw above average returns suggesting marine survival had improved in the region.

No forecasts or outlooks are available for Mainland Inlet chinook due to the lack of data. However, extensive escapement programs to understand population abundance are being developed in the mainland inlets (Knight, Bute, Toba).

Coho: Expect average to above average returns in area 12 and area 13. Returns to area 12 have been improving annually since 2016 when they fell to extremely low levels. Returns to area 13 have also been improving in recent years. Notably, observations of coho salmon rearing in the Strait of Georgia in 2023 and 2024 have been made and recreational fishery interactions with coho are amongst the highest on record, suggesting marine survival and ocean conditions in this region have improved for coho. Returns are now approaching or exceeding the long term average in both areas. A strong return is expected in 2024 due to improved marine survival conditions and a high smolt outmigration in 2023. Initial indications are that the hatchery indicator in area 13 (Quinsam River) is seeing an above average return.

Pink (Even Year): 2022 saw improved returns throughout the South Coast with generally improved returns to systems on Vancouver Island and in the Mainland Inlets. Returns were somewhat below the long-term average for the mainland, but most systems exceeded the recent (3 cycle) generational average.

Expectations for 2024 are for a stabilization of abundance for pink salmon returning to ECVI and the mainland. Pink returns are highly variable, and confidence in the forecasted return in 2024 is low, but average returns to this region are expected in 2024.

Chum: For the 2024 return, below average parental brood abundances in both 2020 and 2021 likely mean below average return of fall chum, although with potential improvement stemming from improved marine survival. Recovery initiatives continue for the Nimpkish chum stock within this area with low thousands observed in fall 2022 and 2023.

Expect continued variability in chum returns on a North-South gradient favoring higher survival in Southern systems.

Sockeye: No formal forecasts are made for sockeye in area 12 and 13, but general expectations are provided for the Nimpkish River in area 12. For the 2024 return, the two main contributing brood years are 2019 (60,418) and 2020 (24,749), which are average and below average respectively. Sockeye returning in 2024 will have entered the ocean in 2021 and 2022. We have seen evidence of improved marine survival for these ocean entry years for pink and coho salmon returning to nearby systems. Nimpkish sockeye typically return as 4 year old fish (57%), but the 5-year component can also be strong. Given the considerations above, we anticipate that escapement will be below average but improving in 2024.

2024 OBSERVATIONS TO DATE:

Chinook: Surveys on the Salmon River is indicating an average return based on the 4 and 12 year averages. There have been extensive snorkel surveys starting in July, and occurring into October. Hatchery brood stock was collected.

Relatively low observations of chinook were noted on the Adam River, even with the extensive snorkel survey coverage.

2,546 chinook have been taken for brood or counted upstream of the Quinsam fence. The peak chinook count of the Campbell was 2,240 on September 10th. No further Campbell surveys have occurred, brood stock is complete, and the chinook carcass monitoring program is ongoing. Final estimate is not yet available.

Gillard Pass Fisheries Association again conducted an intensive mark-recapture program on Phillips River. A total of 574 chinook were tagged as part of the study. Tagging operations were limited by warm water conditions. Preliminary results are not yet available, but is believed to be an average chinook return.

On the Southgate river, a chinook mark recapture program was initiated in 2022, and continued again in 2024. This was a collaborative project including Homalco First Nation, Gillard Pass Fisheries Association and DFO. The study used wildlife radio tags applied in the marine area to monitor and track fish as they entered and migrated up the river onto the spawning grounds.

Coho: Marine coho abundance in the Strait of Georgia was considered to be exceptional in comparison to the past 20 years. Coho were observed in high numbers across the region. In general, river coho abundance appears to be above recent year averages, but coho data is still being collected.

The Black Creek fence became operational Oct 19. The number posted is the fence count plus video count, and is considered to be an accurate total escapement to date. The escapement to date is above the pre-season expectation and above the 12 year escapement average.

The Keogh River fence is operational, and fish are counted via resistivity counter, but the number of coho at this point is relatively uncertain. The estimate posted is based on expert opinion.

Quinsam/Campbell coho migration is proving to be exceptional based on counts past the fence.

Chum: Area 12 and 13 mainland inlet summer chum stocks that were monitored reported low abundance. Fall chum stocks are the big news story of 2024, with exceptional numbers of chum being reported in various streams across the region.

Pink: Pink escapements are generally better than anticipated across the region. Escapements to the Quinsam & Campbell Rivers are estimated to be 1.2 M+ (preliminary), which is significantly higher than the 2022 brood year. Surveys in the Broughton area streams have shown better than anticipated returns and are trending on par or better than the 3 year generational average escapement. Exceptional numbers of pinks were observed in Phillips, Adam, Amor De Cosmos, and Oyster Rivers.

Sockeye: Heydon Bay Creek sockeye were enumerated with a video monitoring system, and review is currently underway. Year 4 of an initiative by Tlowitsis Nation and A-Tlegay Fisheries saw the installation and operation of a sockeye video monitoring system at Fulmore River (area 12). Quatse River sockeye were monitored using a sonar counter, and is currently under review. A DIDSON sonar counter at

Nimpkish was installed to enumerate sockeye abundance in that system. Much of the sockeye data review is underway, so escapement abundances are unknown at this point.

ESCAPEMENT MONITORING METHODS:

Hundreds of streams in the South Coast area have records of spawning salmon populations. Only a subset of these streams is surveyed annually. These indicator stocks are used to monitor the status of populations across the area. Many groups participate in providing escapement data, including First Nations, DFO-contracted survey crews, Charter Patrols, Conservation and Protection Officers, Hatchery Staff (SEP), local stewardship groups and volunteers.

Where escapement counts or surveys are conducted, the estimates are classified to one of three categories:

1. True Abundance

Full quantitative escapement assessments of indicator streams or other complete escapement counts are classified as True Abundance meaning fish are counted as they move upstream past a fixed location. The type of count for these systems is cumulative, meaning the number reported in the tables below is the total number of fish that have migrated past the fixed point enumeration site as of the count date. These are generally assessed through counting operations at fishways or fences, using video recordings or sonar counting systems (e.g. DIDSON), although mark-recapture is an alternative method. Some indicator stocks are marked (e.g. using coded-wire tags or thermally-marked otoliths) and recovery of marks in fisheries and escapement allows survival, distribution, and exploitation rate parameters to be estimated.

True abundance estimates include Quinsam, Black Creek, Village Bay, Keogh and Heydon Bay Creek stocks. Nimpkish and Quatse sockeye stocks, as well as Phillips and Southgate River chinook are reported as true abundance.

2. Relative Abundance

Most systems that are monitored for escapement are classified as relative abundance estimates, where there is a partial quantitative escapement assessment conducted. The type of these survey assessments are periodic and include swim surveys, helicopter counts, bank or stream walks, tagging and index surveys. These are categorized by Area Under the Curve (AUC) estimates or peak live plus dead (PL+D) estimates in most cases, and sometimes mark-recapture estimates. AUC estimates are calculated when a system is surveyed with good coverage of the population, on a regular basis (from 4 to 10 surveys over the spawning season, covering the start, peak and end of the run) and PL+D estimates are used when the surveys have less frequent coverage (longer than the expected survey life of the species for that system), or there are too few surveys to calculate an AUC.

All relative abundance systems reported as PL+D include the most recent survey (e.g. in-season data). The PL+D counts are only a minimum index of abundance as the final escapement estimates may be corrected for observer efficiency and estimated "survey life" of spawners (via AUC analyses).

Relative abundance estimates in hatchery systems are often monitored more closely than other systems, and may include a mixed survey type (e.g. True Abundance fence counts mixed with estimates for below fence via swim surveys). A majority of the rivers and creeks listed in the tables fit this category.

3. Presence/Absence

This category defines the estimate when only a partial count was available, and/or the count was not representative of the entire population or habitat. These are labelled as adults present, when 1 or more adults were observed, or none observed, when no fish were observed during a survey. These systems are not detailed in this bulletin.

RESULTS:

In-season assessment results for hatchery and non-hatchery systems are reported in Tables 1 to 5, for chinook, coho, chum, sockeye, and pink respectively. These tables include the type of survey, the group conducting the surveys, total or peak count to date, date of last survey, and average escapement information. Four and 12 year average historic escapements, corresponding to roughly one and three generations for most species, are also included in these tables where available, and include adults only. Averages are total return to river, which includes total natural spawners, broodstock, and other river removals (e.g. ESSR, in-river fishing). Four year averages include years where surveys were conducted from 2020-2023. Twelve year averages include years where surveys were conducted from 2012-2023. Table 6 includes a list of the full names of enumeration participant groups.

Comparisons between current totals and average historical estimates should be interpreted with caution, especially before escapement is concluded. Also some counts are minimal counts due to weather and limited surveys during the peak of the run. Chinook escapement estimates are normally completed by December, coho escapement estimates will be complete in the New Year, chum escapement estimates are normally completed by December, but final escapement totals will be calculated in the New Year.

The data presented here are preliminary in-season estimates and will be reviewed and finalized following the escapement season. Projected totals are calculated from in-season data and run timings are projected once the run is at, or past the peak. Prior to the peak of the run the projected total will be left blank as there is insufficient data to predict a projected total.

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Table 1: **Chinook** escapement counts to date for 2024 Johnstone Straits & Strait of Georgia North salmon surveys. Averages include total return to river.

Area	System	Survey Type/Count Type	Enumeration conducted by	Date of last count	Number of surveys	Peak Estimate	4 yr Average	12 yr Average
12	Adam River	Periodic/PL+D	A-Tlegay	9-Oct	11	70	419	261
12	Ahnuhati River	Periodic/PL+D	StAD	11-Sep	1	2	1,556	N/A
12	Kingcome River	Periodic/PL+D	StAD	11-Sep	1	70	236	132
12	Nimpkish River	AUC Estimate	Gwa'ni	25-Oct	1	650	1,945	1,880
12	Wakeman River	Periodic/PL+D	StAD	No Survey	-	-	111	72
13	Menzies Creek	Periodic/PL+D	A-Tlegay/JM	29-Oct	9	6	8	8
13	Phillips River	Periodic/Mark-Recap	A-Tlegay & GPFS	27-Oct	-	574*	2,727	2,373
13	Quinsam River/Campbell	Fence/Mark-Recap/Brood	Quinsam	27-Oct	-	2,546	6,861	6,258
13	Salmon River	Periodic/PL+D	A-Tlegay & CIP	24-Sep	8	835	1,581	812
13	Southgate River	Mark Recapture	Homalco/GPFS/DFO	11-Oct	40	1,600*	3,004	N/A
14	Oyster River	Periodic/PL+D	A-Tlegay/StAD	18-Oct	3	64	144	N/A

* Preliminary mark recapture estimate, subject to change.

Table 2: **Coho** escapement counts to date for 2024 Johnstone Straits & Strait of Georgia North salmon surveys. Estimates include combined adults and jacks, where available a breakdown is provided below the table. Averages include total return to river.

Area	System	Survey Type/Count Type	Enumeration conducted by	Date of last count	Number of surveys	Peak Estimate	4 yr Average	12 yr Average
12	Adam River	Periodic/PL+D	A-Tlegay	9-Oct	11	255/1	2,150	1,677
12	Ahnuhati River	Periodic/PL+D	StAD	11-Sep	1	-	571	1,132
12	Ahta River	Periodic/PL+D	MESSS	23-Oct	8	345/12	181	818
12	Embley Creek	Periodic/PL+D	MESSS	22-Oct	7	20/3	47	291
12	Fulmore River	Periodic/PL+D	CP	17-Oct	3	0	NO	179
12	Gilford Creek	Periodic/PL+D	MESSS	22-Oct	1	10	15	158
12	Kakweiken River	Periodic/PL+D	StAD	No Survey	-	-	451	5,376
12	Keogh River	Fence/Cumulative	StAD	4-Oct	Fence	2,000	3,600	3,142
12	Kingcome River	Periodic/PL+D	StAD	11-Sep	1	90	504	714
12	Nimpkish River	AUC	Gwa'ni	28-Oct	1	40	1,556	2,427
12	Scott Cove Creek	Periodic/PL+D	MESSS	17-Oct	7	41/27	379	572
12	Shoal Harbour Creek	Periodic/PL+D	MESSS	24-Oct	7	32	17	35
12	Tsitika River	Periodic/PL+D	BCCF/StAD	30-Aug	1	280	419	552
12	Viner River	Periodic/PL+D	MESSS	23-Oct	7	19/2	52	51
12	Wakeman River	Periodic/PL+D	StAD	No Survey	-	-	370	684
13	Amor De Cosmos Creek	Periodic/PL+D	A-Tlegay	18-Oct	5	35/1	226	127
13	Granite Bay Creek	Periodic/PL+D	QISEA	27-Oct	2	0	9	15
13	Heydon Bay Creek	Fence/Cumulative	WWKFN	No Survey	Fence	-	163	N/A
13	Menzies Creek	Periodic/PL+D	A-Tlegay/JM	29-Oct-24	9	25	58	59
13	Orford River	Periodic/PL+D	CP/Homalco	3-Oct	4	200	1,406	1,041
13	Quatam River	Periodic/PL+D	CP/Klahoose	14-Aug	1	0	615	844
13	Quinsam & Campbell Rivers	Fence/Cumulative	Quinsam	20-Oct	12	10,938/191	7,651	7,415
13	Salmon River	Periodic/PL+D	A-Tlegay	24-Sep	8	715/8	5,175	3,736
13	Simms Creek	Fence/Cumulative	Grnway	-	Fence	-	79	57
13	Village Bay Creek	Fence/Cumulative	QISEA	28-Oct	Fence	1,800	403	328
13	Willow Creek	Periodic/PL+D	A-Tlegay	25-Oct	3	1	49	45
14	Black Creek	Fence/Cumulative	A-Tlegay	25-Oct	Fence	5,615/3,979	2,822	3,815
14	Oyster River	Periodic/PL+D	A-Tlegay	16-Oct	3	5,448/107	7,055	N/A

Adults/Jacks

Table 3: **Chum** escapement counts to date for 2024 Johnstone Straits & Strait of Georgia North salmon surveys.

Area	System	Survey Type/Count Type	Enumeration conducted by	Date of last count	Number of surveys	Peak Estimate	4 yr Average	12 yr Average
12	Adam River	Periodic/PL+D	A-Tlegay	9-Oct	11	3	9	27
12	Ahnuhati River	Periodic/PL+D	StAD	11-Sep	1	25	368	8,863
12	Ahta River	Periodic/PL+D	MESSS	23-Oct	8	543	204	622
12	Embley Creek	Periodic/PL+D	MESSS	22-Oct	7	93	8	45
12	Fulmore River	Periodic/PL+D	Tlowitsis	17-Oct	3	56	291	436
12	Kingcome River	Periodic/PL+D	StAD	11-Sep	1	700	93	683
12	Nimpkish River	Periodic/PL+D	Gwa'ni & StAD	25-Oct	1	12,761	N/A	N/A
12	Scott Cove Creek	Periodic/PL+D	MESSS	17-Oct	7	0	NO	15
12	Shoal Harbour Creek	Periodic/PL+D	MESSS	24-Oct	7	1,713	92	129
12	Viner River	Periodic/PL+D	MESSS	23-Oct	7	5,277	237	6,391
12	Wahkana Bay Creek	Periodic/PL+D	MESSS	23-Oct	7	8	3	15
12	Wakeman River	Periodic/PL+D	StAD	No Survey	-	-	574	1,402
13	Amor De Cosmos Creek	Periodic/PL+D	A-Tlegay	18-Oct	5	3	36	274
13	Campbell/Quinsam River	Periodic/PL+D	Quinsam	25-Oct	12	5,000	2,570	11,508
13	Frazer Creek	Periodic/PL+D	A-Tlegay	11-Oct	2	10	2	78
13	Granite Bay Creek	Periodic/PL+D	QISES	27-Oct	2	900	720	679
13	Heydon Bay Creek	Fence/Cumulative	WWKFN	-	Fence	-	4,530	N/A
13	Hyacinthe Creek	Periodic/PL+D	QISES	27-Oct	2	10,498	4,085	2,677
13	Menzies Creek	Periodic/PL+D	A-Tlegay/JM	29-Oct	9	451	53	37
13	Open Bay Creek	Periodic/PL+D	QISES	27-Oct	2	1,924	3,160	3,820
13	Orford River	Periodic/PL+D	CP/Homalco	3-Oct	4	1,100	7,719	12,233
13	Read Creek	Periodic/PL+D	A-Tlegay	15-Oct	3	5	13	59
13	Village Bay Creek	Fence/Cumulative	QISES	20-Oct	2	40	473	883
13	Wortley Creek	Periodic/PL+D	A-Tlegay	15-Oct	2	115	NO	622
14	Oyster River	Periodic/PL+D	A-Tlegay/OREC	18-Oct	3	1,500	900	N/A
15	Basil Creek (Store)	Periodic/PL+D	FOCI/Klahoose	27-Oct	3	2,000	253	183

Table 4: **Sockeye** escapement counts to date or 2024 Johnstone Straits & Strait of Georgia North salmon surveys.

Area	System	Survey Type/Count Type	Enumeration conducted by	Date of last count	Number of surveys	Peak Count	4 yr Average	12 yr Average
12	Fulmore River	Fence/Video	Tlowisis Nation	-	Fence	-	1,510	N/A
12	Nimpkish River	Snorkel	Gwa'ni	-	DIDSON	60,000	24,220	65,010
12	Quatse River	DIDSON/Cumulative	StAD	-	Fence	-	N/A	2,185
13	Phillips River/Clearwater	Periodic/PL+D	A-Tlegay	16-Oct	6	323	1,555	2,082
13	Heydon Creek	Fence/Video	WWKFN/StAD	-	Fence	-	7,838	N/A

Table 5: **Pink** escapement counts to date for 2024 Johnstone Straits & Strait of Georgia North salmon surveys.

Area	System	Survey Type/Count Type	Enumeration conducted by	Date of last count	Number of surveys	Peak Estimate	Even-year 3 Generation Average
12	Adam River	Periodic/PL+D	A-Tlegay	9-Oct	11	589,721	292,956
12	Ahnuhati River	Periodic/PL+D	StAD	11-Sep	1	106,453	11,879
12	Ahta River	Periodic/PL+D	MESSS	23-Oct	8	20,964	11,004
12	Embley Creek	Periodic/PL+D	MESSS	22-Oct	7	2,241	283
12	Glendale River	Periodic/PL+D	StAD	11-Sep	1	77,528	32,768
12	Kakwiken River	Periodic/PL+D	StAD	25-Aug	2	30,000	21,657
12	Keogh River	Fence/Cumulative	StAD	4-Oct	Fence	100,000	27,213
12	Kingcome River	Periodic/PL+D	StAD	11-Sep	1	5,600	941
12	Shoal Harbour Creek	Periodic/PL+D	MESSS	24-Oct	7	20	5
12	Viner River	Periodic/PL+D	MESSS	23-Oct	7	424	6
12	Wakeman River	Periodic/PL+D	StAD	No Survey	-	-	1,119
13	Amor De Cosmos Creek	Periodic/PL+D	A-Tlegay	18-Oct	5	160,911	112,751
13	Frazer Creek	Periodic/PL+D	A-Tlegay	11-Oct	2	1,041	1,229
13	Gray Creek	Periodic/PL+D	A-Tlegay	11-Oct	2	640	2,567
13	Heydon Bay Creek	Fence/Cumulative	WWKFN	25-Oct	Fence	25,000	2,581
13	Menzies Creek	Periodic/PL+D	A-Tlegay & JM	29-Oct	9	1,000	662
13	Orford River	Periodic/PL+D	CP/Homalco	3-Oct	4	2,500	113
13	Phillips River*	Periodic/PL+D	A-Tlegay/GPFS	16-Oct	6	600,000	166,950
13	Quatam River	Periodic/PL+D	CP/Klahoose	14-Aug	2	0	0
13	Quinsam & Campbell Rivers**	Fence/Cumulative	Quinsam	20-Oct	Fence	1,275,933	450,985
13	Read Creek	Periodic/PL+D	A-Tlegay	15-Oct	3	2	3,227
13	Salmon River	Periodic/PL+D	A-Tlegay	24-Sep	8	137,415	58,649
13	Wortley Creek	Periodic/PL+D	A-Tlegay	15-Oct	2	4,368	28
14	Oyster River	Periodic/PL+D	A-Tlegay & StAD	18-Oct	3	245,277	26,551

*included Clearwater Creek

Avg includeds: 2022, 2020, 2018

**includes brood stock, recreational catch, ESSR and in river.

Table 6: List of Enumeration Participant Groups

Acronym	Enumeration Participant Group	Acronym	Enumeration Participant Group
A-Tlegay	A-Tlegay Fisheries Society	SEP/CIP	DFO Community Involvement Program
Tlowitsis	Tlowitsis Nation Guardians	Quinsam	DFO Quinsam Hatchery
MESSS	Mainland Enhancement of Salmonid Species Society	BCCF	British Columbia Conservation Foundation
CP	Charter Patrol (Chris Bunn)	ORES	Oyster River Enhancement Society
QISES	Quadra Island Salmon Enhancement Society	Homalco	Homalco Nation Guardians
FOCI	Friends of Cortes Island Society	Gwa'ni	Gwa'ni Hatchery (Nimpkish)
Grnway	Greenways Land Trust	GPFA	Gillard Pass Fisheries Association
StAD	DFO Stock Assessment Division	JM	Jeremy Maynard, volunteer stream walker
		WWKFN	Wei Wai Kum First Nations