



YUKON RIVER SALMON UPDATE



Thursday August 10, 2023

Note: This update is intended to inform fish harvesters. Information provided in this update is preliminary and subject to change. For more information please refer to the contacts identified at the end of this update.

CHINOOK SALMON

Canadian-Origin Chinook Salmon Escapement Goals and Pre-Season Forecast:

As in 2021 and 2022, Canada's recommended management objective for Canadian-origin Chinook salmon is 55,000 fish. This objective is intended to ensure that enough salmon reach the spawning grounds each year to sustain the population and provide for current and future harvest opportunities. Both the U.S. and Canadian contingents of the Yukon River Panel agreed that the pre-season outlook estimates suggest that there would be no fishing in 2023.

The 2023 pre-season outlook was for an estimated 34,000 Canadian-origin Chinook salmon (range: 26,000 to 43,000). Uncertainty, enroute mortality and past forecast performance strongly suggests that it is highly unlikely that the run size will reach the estimate. Similar to previous years, 2019 to 2022, the return of Canadian-origin Chinook salmon will not be large enough to achieve the spawning escapement objectives, nor provide for harvest opportunities in either Alaska or Canada.

In-Season Assessment (Chinook):

Information from the Pilot Station Sonar in the lower Yukon River in Alaska provides an early-season indication of run strength of Canadian-origin Chinook salmon. There is uncertainty associated with the Pilot Station estimate due to two principal challenges: 1) co-migration of Chinook salmon with several other fish species of similar size (species apportionment uncertainty), and 2) distinction of Canadian-origin Chinook salmon from U.S.-origin Chinook salmon (stock identification uncertainty based on genetic analysis). The size of the Yukon River is also extremely large at this site (width and volume of water).

In the upper Yukon River, the estimate of the number of Chinook salmon returning to Canada is obtained from the Eagle Sonar assessment program located downstream of the international border



near Eagle, Alaska. There is a higher degree of confidence in the estimated number of Chinook salmon migrating past the Eagle Sonar assessment program as Chinook salmon are more readily differentiated from other fish species and the overall size of the River is considerably smaller at this location.

In addition to the two assessment programs (Pilot Station & Eagle Sonar) delivered by the Alaska Department of Fish & Game (ADF&G) for the 2023 season, eight programs will be operated within the Yukon. Six of these programs are directed or operated in collaboration with Yukon First Nation governments, while the remainder are operated or partnered with government, contractors or non-governmental organizations.

The following table presents the most current count available for each assessment program, the equivalent date count in 2022 and the average count of that date in the program's history.



Comparison of Current and Historical In-season Chinook Salmon Abundance Estimates for Various Projects:

Assessment Site	Date	Total Count to Date (Number of Chinook salmon estimated to have migrated past the assessment site)	Total Count to Date In 2022	10 Year Historical Average Cumulative Count to Date (Average number of salmon estimated to have migrated past the assessment site by this date)	Estimated Average % Passage Complete (avg timing based on Assessment site)	Estimated Run Size Projection Based on % Passage (avg timing)
Lower River (Pilot Station Sonar) ADFG ¹	August 7	58,487	48,439	160,162	100%	58,567
Upper River (Eagle, International Border Sonar) ADFG & DFO	August 8	12,878	11,070	47,778	95%	13,588
Porcupine River Sonar (VGG & DFO)	August 7	642	349	2,684	87%	735
Klondike River Sonar (TH)	July 30	161	166	567	80%	202
Pelly River Sonar (SFN)	August 7	1,355	3,951	5,789	82%	1647
Big Salmon Sonar (Private Contractor)	August 5	1,156	1,254	3,155	63%	1,834
Nisutlin River Sonar (TTC) ²	August 6	364	n/a	n/a	n/a	n/a
Whitehorse Fish Ladder YEC & YFGA	August 4	8	2	23	3%	300
Tatchun River Video Weir (LSCFN)		Not yet operating				
Takhini River Sonar (KDFN)	July 28	0	0	26	0%	0

¹ Pilot Station Sonar Counts (includes both Canadian and U.S origin fish)

² 2023 is the first full season for the Nisutlin River Sonar project



Run Timing (Chinook):

The first Chinook caught in the Lower Yukon Test Fishery near Emmonak was on June 8. The Pilot Station sonar enumeration program (located around 200 km from the river mouth) has been operational since June 6 and has been counting Chinook since June 10. Run timing is typically 29-30 days from Pilot Station to Eagle. This season is a slightly later run timing compared to normal.

Genetics, Age, Size (Chinook):

Chinook salmon are being sampled for age, sex, length (ASL) and mixed stock analysis (MSA) at both the Pilot Station and Eagle sonar assessment sites (however the Eagle MSA is not available in-season).

Genetic results of Chinook sampled at Pilot Station from June 7 – 25 (strata 1) and from June 26 – July 6 (strata 2) estimate Canadian-origin fish at 44% and 52% (+/- 8%), respectively. Strata 1 consisted of a lower than average Canadian-origin component while Strata 2 exceeded the average.

In-Season Chinook Salmon Information (Pilot Station and Eagle Sonar):

The pre-season outlook indicated that the 2023 return of Canadian-origin Chinook would not be of sufficient size to achieve spawning escapement goals nor provide for harvest opportunities. As Chinook pass Pilot Station Sonar, passage estimates can be used to develop in-season projections for total Canadian-origin run size. Current information collected at Pilot Station strongly suggests a run size of Chinook salmon near historical lows, that will not be sufficient to meet spawning escapement goals and as a result no harvest opportunities will be provided.

Current Management Summary (Chinook):

Chinook Total Allowable Catch is zero (0) which results in a zero (0) harvest share for Canadian (and U.S.) Fisheries:

- First Nation Fishery: No harvest opportunities
- Public Angling Fishery: Closed
 - July 1 through November 30:
 - Yukon River from Robert Campbell Bridge downstream to Canada/USA boundary
 - Porcupine River and all tributaries
 - Yukon River upstream of Whitehorse Dam
 - Yukon River from Whitehorse Dam downstream to Robert Campbell bridge
- Commercial Fishery: Closed
- Domestic Fishery: Closed



CHUM SALMON

Canadian-Origin Fall Chum Salmon Escapement Goals and Revised Projection:

The spawning escapement goal for Canadian-origin fall Chum for the Yukon River mainstem is **70,000 – 104,000** fish. The escapement goal for Fishing Branch Chum (Porcupine drainage) is **22,000 to 49,000** fish. These goals were set by the Yukon River Panel and are intended to ensure that enough salmon reach the spawning grounds each year to sustain the population.

This year's U.S. summer chum run came in above the preseason outlook and was stronger than it has been in recent years. It was below the historical average but exceeded the lower end of the drainage wide escapement goal. Based on this, openings for summer chum subsistence fishing with selective gear types were announced. The U.S. has updated the fall chum salmon run size estimate based on the summer chum to fall chum salmon relationship. Approximately 425,000 fall chum salmon are expected to enter the mouth of the Yukon River in Alaska. The U.S. operated an early fall chum 10 day salmon fishery, as the initial pulse of chum during the fall chum season typically consists largely of summer chum. Genetic testing verified a low percentage of fall chum salmon were present. Currently the fall chum run is very low, (approximately 37,000 vs a historical average of 237,000) so no additional U.S fall chum fishery openings are expected at this time. Subsistence fishing for fall chum salmon remains closed until in-season estimates of abundance indicate a harvestable surplus of fall chum salmon is available.

In-season estimates for Canadian-origin chum salmon have been revised based on the relationship between summer chum and fall chum salmon with an estimate of 106,000 fish for the Yukon River and 17,000 fish for Fishing Branch River. While the Yukon River revision is now above the minimum escapement goal, Genetic results from the initial fall chum assessment will provide a more accurate in-season forecast and help guide management decisions moving forward. Given the state of the recent year declines, the YSSC recommendations and inaccuracies in early season estimates, no harvest opportunities are expected at this time.

Comparison of Current and Historical In-season Chum Salmon Abundance Estimates (US and Canada) for Various Projects:

Assessment Site	Date	Total Count to Date (Number of fall Chum estimated to have migrated past the assessment site)	Total Count to Date in 2022	Average Historical Cumulative Count to Date (Average number of fall Chum estimated to have migrated past the assessment site by this date)
Lower River (Pilot Station Sonar ADF&G)	August 8	141,714*	104,788	310,328
Upper River (Eagle, International Border Sonar ADF&G & DFO)		Season not yet started		
Porcupine River (Old Crow Sonar VGG & DFO)		Season not yet started		
Fishing Branch River		Season not yet started		

**Contains high portion of summer chum, this value will be later quantified through genetic apportionment*



Run Timing (Chum):

Chum salmon that enter the mouth of the Yukon River after July 16th are considered to be fall Chum and may later be confirmed and adjusted with the use of genetics. Chum typically take 39 days to travel from the mouth of the river to the international border. Chum are expected to start arriving at the international border in late August.

Genetics, Age, Size (Chum):

As the run progresses the run will be sampled for age, sex, length and stock composition. The results will be updated and provided here.

Anticipated Management Summary (Chum)*:

Canadian Chum salmon fishery management measures may be adjusted during the season as additional information becomes available from in-season assessment and monitoring programs. Chum fisheries opportunities are not available and closures will be maintained until further notice.

Current Management Summary (chum):

- First Nation Fishery: Harvest opportunities are not anticipated
- Public Angling Fishery: Closed
 - July 1 through November 30:
 - Yukon River from Robert Campbell Bridge downstream to Canada/USA boundary
 - Porcupine River and all tributaries
 - Yukon River upstream of Whitehorse Dam
 - Yukon River from Whitehorse Dam downstream to Robert Campbell bridge
- Commercial Fishery: Closed
- Domestic Fishery: Closed

Information Links and Notifications About Fishery Management Actions

Yukon River Panel (Pacific Salmon Treaty) – the Yukon River Salmon Agreement can be found at: <https://www.yukonriverpanel.com/>

Canadian First Nation Subsistence Fisheries – Fisheries and Oceans Canada communicates directly with Yukon River First Nation Governments by way of pre-season, in-season and post-season meetings.

Canadian Recreational, Domestic, and Commercial Fisheries – Information is available via the Fishery Notification System at: <http://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm>
Fishers are encouraged to subscribe to receive automatic notifications on fisheries of interest via email at: http://www-ops2.pac.dfo-mpo.gc.ca/fns-sap/index-eng.cfm?pg=pub_reg



U.S. Fisheries – Information on fisheries in U.S. portion of the Yukon River is available at:
<http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareayukon.salmon>

Joint Technical Committee (of the Yukon River Panel) - Further information on Canadian-Origin salmon escapement goals and preseason forecasts may be found in the Yukon River Salmon 2022 Season Summary and 2023 Season Outlook Report at:
<https://www.yukonriverpanel.com/publications/yukon-river-joint-technical-committee-reports/>

Contacts

For questions about the information provided in this update or additional information please contact:

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