DRAFT AGENDA<br>PACIFIC SALMON COMMISSION<br>FRASER RIVER PANEL<br>Tuesday August 29, 2023 at 11:00 am.<br>via Zoom Webinar<br>https://psc-org.zoom.us/j/88416242194

1) Roll Call (Panel and Tech members, others please email Julie, ehrmantraut@psc.org)
2) Webinar Etiquette:
a) Mute Phone: Please mute phone unless you are asking a question
b) Chat feature: Please use for questions regarding the distribution only
3) Agenda
4) Run status of Fraser River sockeye salmon relative to forecasts and adopted run

PSC Staff sizes
5) In-season data flow for updating objectives
a) Test fishing catches and acoustics
b) Mission projected sockeye vs. Qualark sockeye comparison
c) Stock proportions
d) Environmental conditions

DFO
e) Observations from the watershed
6) Assessments and recommendations
a) Migration graphs, escapement projections, run size assessments
7) Review any decisions on staff recommendations
8) Fisheries Recommendations
a) Secretariat staff evaluation of fisheries recommendations
b) Panel decision on fisheries recommendations
9) Other Business
a) Test fishing end dates (Area 12: Sept 4; Area 20: Sept 5)
i) Area 20 - early closure?
10) Next FRP Meeting, Friday September 1, 11:00 a.m. via Zoom Webinar Next Technical Committee meeting, Thursday August 31, 1:00 p.m. via Zoom

2023 Run status of Fraser sockeye and pink salmon
Date: Aug. 29, 2023
The information presented in this distribution has been prepared by PSC Secretariat staff and should be considered preliminary until reviewed by the Fraser River Panel

| Week of: Aug. 27 - Sep. 2, 2023 |  |  | Sockeye |  |  | Pink |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Managem | nt Group |  | Total | Total |
|  | E.Stuart | E.Summer | Summer | Late | Fraser | Fraser |
| Mission passage (inclds Pitt, Alouette, Coquitlam) | 40,900 | 326,900 | 811,200 | 171,700 | 1,350,700 | 873,500 |
| Catch downstream of Mission | 200 | 3,900 | 10,800 | 4,100 | 19,000 | 209,300 |
| Accounted Run To Date | 41,100 | 330,800 | 822,000 | 175,800 | 1,369,700 | 1,082,800 |
| Run size adopted in-season ${ }^{2}$ | 41,000 | 335,000 | 950,000 | 280,000 | 1,606,000 | 17,000,000 |
| Run size forecasted pre-season | 23,000 | 186,000 | 1,167,000 | 188,000 | 1,564,000 | 6,135,000 |
| Area 20 timing adopted in-season | 2/Jul | 26/Jul | 13/Aug | 17/Aug | na | 13/Aug |
| Area 20 timing expected pre-season | 7/Jul | 6/Aug | 17/Aug | 24/Aug | 16/Aug | 25/Aug |
| Johnstone Str. Diversion Rate |  | In-season 5-day average Preseason forecast of annual rate: |  |  | 97\% | 43\% |
|  |  |  |  |  | 67\% | 62\% |

For pink salmon the accounted run-to-date is a reconstruction-based estimate.
${ }^{2}$ Run sizes are usually not adopted until after the peak of the run has passed through marine test fishery areas in Juan de Fuca and Johnstone straits.



2023 Catch-to-date by fishery
Date: Aug. 29, 2023


* Alaska data are processed post-season and so are unavailable in-season.
** Includes Qualark
*** All catches in marine areas and in the Fraser River downstream of Mission.
**** May include unauthorized directed retention or unauthorized bycatch retention in fisheries directed at other species

|  | Fraser Sockeye |  |  |  |  | Fraser Pinks |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Early Stuart | Early Summer | Summer | Lates | Total |  | Total |
| RUN STATUS, ESCAPEMENT NEEDS \& AVAILABLE SURPLUS |  |  |  |  |  |  |  |
| Pre-season or Adopted In-season Run Size | 41,000 | 335,000 | 950,000 | 280,000 | 1,606,000 |  | 17,000,000 |
| Adult Spawning Escapement Target (SET) | 41,000 | 167,500 | 950,000 | 280,000 | 1,438,500 |  | 6,000,000 |
| \%SET from TAM rules | 100\% | 50\% | 100\% | 100\% |  |  | 35\% |
| Management Adjustment (MA)* | 69,700 | 180,900 | 218,500 | 280,000 | 749,100 |  | 0 |
| Proportional MA (pMA)* | 1.70 | 1.08 | 0.23 | 1.00 |  |  | 0.00 |
| Adjusted Spawning Escapement Target (SET) ** | 41,000 | 335,000 | 950,000 | 280,000 | 1,606,000 |  | 6,000,000 |
| Test Fishing (TF)****** | 250 | 4,090 | 11,860 | 2,630 | 18,830 |  | 25,270 |
| Surplus above Adjusted SET \& Test fishing | 0 | 0 | 0 | 0 | 0 |  | 10,974,730 |
| DEDUCTIONS \& TAC FOR INTERNATIONAL SHARING |  |  |  |  |  |  |  |
| Aboriginal Fishery Exemption (AFE) | 0 | 0 | 0 | 0 | 0 |  | 0 |
| Total Deductions (Adj. SET + TF + Available AFE) | 41,250 | 339,090 | 961,860 | 282,630 | 1,624,830 |  | 6,025,270 |
| Available TAC for International Sharing | 0 | 0 | 0 | 0 | 0 |  | 10,974,730 |
| UNITED STATES (Washington) TAC |  |  |  |  |  |  |  |
| Proportionally Distributed TAC *** 16.5\% | 0 | 0 | 0 | 0 | 0 | 25.7\% | 2,820,510 |
| U.S. Payback *** 0.0\% | 0 | 0 | 0 | 0 | 0 |  | 0 |
| Proportionally Distributed TAC + Payback | 0 | 0 | 0 | 0 | 0 |  | 2,820,510 |
| Treaty Tribes Share *** 67.7\% | 0 | 0 | 0 | 0 | 0 | 50.0\% | 1,410,255 |
| All Citizen Share 32.3\% | 0 | 0 | 0 | 0 | 0 | 50.0\% | 1,410,255 |
| CANADA TAC |  |  |  |  |  |  |  |
| Aboriginal Fishery Exemption (AFE) | 0 | 0 | 0 | 0 | 0 |  | 0 |
| Canadian TAC + AFE | 0 | 0 | 0 | 0 | 0 |  | 8,154,220 |
| CATCH-TO-DATE |  |  |  |  |  |  |  |
| Test | 250 | 3,990 | 9,170 | 2,210 | 15,620 |  | 4,530 |
| Treaty Tribes (Wash.) / Ceremonial (TRB) | 0 | 30 | 1,640 | 1,680 | 3,350 |  | 161,260 |
| All Citizen (Wash.) | 0 | 0 | 0 | 0 | 0 |  | 42,800 |
| Other (Wash.) ${ }^{* * * *}$ | 0 | 20 | 190 | 150 | 360 |  |  |
| Washington | 0 | 50 | 1,830 | 1,830 | 3,710 |  | 204,060 |
| First Nations Catch (including AFE) | 0 | 0 | 0 | 0 | 0 |  | 440 |
| Planned Charter \& Recreational Shares | 20 | 180 | 400 | 40 | 651 | 0 | 500 |
| Other**** | 160 | 1,760 | 2,780 | 20 | 4,720 | 0 | 0 |
| Total Commercial (including FN EO/Demo ${ }^{* * * * * \text { ) }}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Canada | 180 | 1,940 | 3,180 | 60 | 5,370 |  | 950 |
| Total Catch in All Fisheries | 430 | 5,980 | 14,180 | 4,100 | 24,700 |  | 209,540 |
| Exploitation Rate (catch-to-date / run size) | 1.0\% | 1.8\% | 1.5\% | 1.5\% | 1.5\% |  | 1.2\% |
| Exploit. Rate with fishery-induced mortality included | 1.1\% | 1.9\% | 1.8\% | 1.7\% | 1.8\% |  |  |
| CATCH REMAINING (BALANCE) |  |  |  |  |  |  |  |
| Washington | 0 | -50 | -1,830 | -1,830 | -3,710 |  | 2,616,450 |
| Canada | -180 | -1,940 | -3,180 | -60 | -5,360 |  | 8,153,270 |
| Balance Remaining [ below share / -above share] | -180 | -1,990 | -5,010 | -1,890 | -9,070 |  | 10,769,720 |

* Given the 2022 pre-season forecasts of abundances, fisheries decisions that could impact the Early Stuart
sockeye management group will be based on Low Abundance Exploitation Rate (LAER) limit of 10\%.
The intent of LAER is to allow for limited fisheries directed on co-migrating stocks or species, but also may permit limited harvest in some cases. The application of the LAER obviates the need for management adjustments for this group.
** The adjusted SET is the lesser of the run size or the sum of the MA + TAM - defined SET.
*** Washington sockeye and pink shares according to Annex IV of the Pacific Salmon Treaty.
Sockeye: $16.5 \%$ of the TAC - payback (maximum of $5 \%$ of share).
Pink: $25.7 \%$ of the TAC - payback (maximum of $5 \%$ of share)
**** May include unauthorized directed retention or unauthorized bycatch retention in fisheries directed at other species.
***** EO = FN Economic Opportunity fisheries; Demo = FN Demonstration fisheries.
****** The test fishing deduction was updated in-season to 42,579 on September 2, 2022.

2023 Fraser Sockeye Test Fishing \& Escapement Summary

| Area/Gear Location From A20 | Johnstone Strait |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A12 PS | A20 PS | A29-13 GN | A29-17 GN | A29-16 GN | Whon CPUE | Qualark |  |  | Mission Hydroacoustics |  |  |
|  | Blinkhorn (-1 day) | Port Renfrew (0 days) | Cottonwood (+5 days) | Brownsville Bar ${ }^{1}$ (+5 days) | Whonnock (+6 days) | Estimate <br> (+6 days) | $\begin{aligned} & \text { GN Catch } \\ & \text { (+8 days) } \end{aligned}$ | Estimate ${ }^{2}$ | Method ${ }^{3}$ | $\begin{aligned} & \text { Estimate }{ }^{4} \\ & \text { (+6 days) } \end{aligned}$ | Method ${ }^{5}$ |  |
| 8-Aug | 93 (2 sets) | 188 | 9 | 107 | 12 | 1.06 | 17 | 21,431 | $R B+L B$ | 30,600 | A1+S1+M2+A2 | 6,870 |
| 9-Aug | 5,923 | 85 (3 sets) | 19 | 116 | 9 | 0.82 | 15 | 21,271 | $R B+L B$ | 18,000 | A1+S1+M2+A2 | 6,860 |
| 10-Aug | 1,645 | 72 (3 sets) | 44 | 155 | 24 | 1.89 | 17 | 20,706 | $R B+L B$ | 32,000 | A1+S1+M2+A2 | 11,100 |
| 11-Aug | 4,017 | 1,294 | 15 | 83 | 44 | 3.42 | 19 | 11,411 | $R B+L B$ | 37,100 | A1+S1+M2+A2 | 11,620 |
| 12-Aug | 9,032 | 2,000 | 24 | 80 | 72 | 5.63 | 12 | 18,569 | RB + LB | 37,800 | A1+S1+M2+A2 | 7,060 |
| 13-Aug | 991 | 865 | 15 | 71 | 60 | 4.82 | 20 | 29,195 | $R B+L B$ | 35,200 | A1+S1+M2+A2 | 2,580 |
| 14-Aug | 763 | 1006 (5 sets) | 45 | 106 | 84 | 6.16 | 47 | 31,260 | $R B+L B$ | 26,100 | A1+S1+M2+A2 | No Count |
| 15-Aug | 4714 (5 sets) | 405 | 66 | 141 | 109 | 8.72 | 20 | 29,702 | RB +LB | 31,900 | A1+S1+M2+A2 | 14,260 |
| 16-Aug | 90 (5 sets) | 241 | 159 | 115 | 138 | 10.61 | 43 | 26,791 | $R B+L B$ | 37,500 | A1+S1+M2+A2 | 6,530 |
| 17-Aug | 36 (3 sets) | 120 (4 sets) | 93 | 146 | 178 | 14.24 | 20 | 22,449 | RB + LB | 51,300 | A1+S1+M2+A2 | 2,950 |
| 18-Aug | 3 (1 set) | 99 | 158 | 150 | 144 | 11.38 | 59 | 29,315 | $R B+L B$ | 63,200 | A1+S1+M2+A2 | No Count |
| 19-Aug | 1,212 | 37 (5 sets) | 95 | 122 | 180 | 14.40 | 28 | 28,526 | RB + LB | 56,000 | A1+S1+M2+A2 | No Count |
| 20-Aug | 432 (4 sets) | 83 | 121 | 86 | 160 | 12.80 | 35 | 56,228 | RB + LB | 85,900 | A1+S1+M2+A2 | No Count |
| 21-Aug | 553 | 35 | 72 | 197 | 43 | 3.13 | 56 | 64,944 | RB + LB | 88,200 | A1+S1+M2+A2 | No Count |
| 22-Aug | 313 | 26 | 61 | 157 | 46 | 3.68 | 42 | 49,102 | RB + LB | 86,200 | A1+S1+M2+A2 | No Count |
| 23-Aug | 58 | 50 | 29 | 222 | 50 | 4.00 | 47 | 45,533 | RB + LB | 57,900 | A1+S1+M2+A2 | 1,140 |
| 24-Aug | 552 | 15 | 33 | 207 | 51 | 3.98 | 10 (3 sets) | 41,640 | RB + LB | 62,100 | CPUE-Wh-Avg | 320 |
| 25-Aug | 1,316 | 2 (3 sets) | 6 | 72 | 63 | 4.92 | 29 | 52,053 | RB + LB | 56,700 | CPUE-Wh-Avg | No Count |
| 26-Aug | 532 | 0 | 7 | 58 | 36 | 2.88 | 58 | 72,570 | RB + LB | 47,800 | CPUE-Wh-Avg | No Count |
| 27-Aug | 417 | 1 (3 sets) | 8 | 22 | 28 | 2.13 | 27 | 43,040 | RB + LB | 30,300 | CPUE-Wh-Avg | 11,940 |
| 28-Aug | 178 | 0 | 5 | End | 16 | 1.28 |  |  |  | 24,600 | CPUE-Wh-Avg | No Count |
| $\begin{aligned} & \text { 29-Aug } \\ & \text { 30-Aug } \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |  |  |

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Alternative Lower River Test Fishery - Southern Endowment Fund Project
2}\mathrm{ Qualark escapement estimate - does not include Chilliwack, Pitt, Harrison, Birkenhead, Big Silver, Weaver, and Cultus
3 Qualark source:
    RB+LB=Right-bank (RB) + Left-bank (LB)
Mission escapement estimate - does not include Pitt
\({ }^{5}\) Mission source:
\({ }^{6}\) Daily Hells Gate abundance estimate; actual daily count has been expanded.
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## 2023 Fraser Pink Test Fishing \& Escapement Summary

| Area/Gear Location From A20 | Johnstone Strait | Juan de Fuca Strait | Fraser River |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A12 PS | A20 PSPort Renfrew(0 days) | $\begin{aligned} & \text { A29-13 GN } \\ & \text { Cottonwood } \end{aligned}$ | $\begin{gathered} \text { A29-17 GN } \\ \text { Brownsville Bar }{ }^{1} \end{gathered}$ | A29-16 GN <br> Whonnock | Whon CPUE Estimate | Qualark |  |  | Mission Hydroacoustics |  | Hell's Gate Estimates ${ }^{6}$ |
|  | Blinkhorn <br> (- 2 days) |  |  |  |  |  | GN Catch | Estimate ${ }^{2}$ | Method ${ }^{3}$ | Estimate ${ }^{4}$ | Method ${ }^{5}$ |  |
| 8-Aug | 4322 (2 sets) | 12,043 | 0 | 3 | 0 | 0.00 | 0 | 0 | RB+LB | 1,470 | A1+S1+M2+A2 | 0 |
| 9-Aug | 88,365 | 2709 (3 sets) | 1 | 0 | 0 | 0.00 | 0 | 0 | RB+LB | 2,010 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | 0 |
| 10-Aug | 51,493 | 6080 (3 sets) | 0 | 1 | 0 | 0.00 | 0 | 0 | RB+LB | 2,010 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | 0 |
| 11-Aug | 61,846 | 32,260 | 0 | 1 | 0 | 0.00 | 0 | 0 | RB+LB | 2,020 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | 0 |
| 12-Aug | 92,413 | 52,160 | 0 | 1 | 1 | 0.08 | 0 | 0 | RB+LB | 1,010 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | 0 |
| 13-Aug | 12,244 | 49,024 | 0 | 2 | 0 | 0.00 | 0 | 0 | RB+LB | 1,520 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | 0 |
| 14-Aug | 9,283 | 23431 (5 sets) | 0 | 2 | 0 | 0.00 | 0 | 0 | RB+LB | 2,020 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | No Count |
| 15-Aug | 45400 ( 5 sets) | 11,635 | 1 | 5 | 1 | 0.08 | 0 | 0 | RB+LB | 2,520 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | 0 |
| 16-Aug | 6486 (5 sets) | 3,962 | 0 | 10 | 4 | 0.30 | 1 | 623 | RB+LB | 4,540 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | 10,700 |
| 17-Aug | 385 (3 sets) | 5645 (4 sets) | 1 | 18 | 3 | 0.24 | 0 | 0 | RB+LB | 8,710 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | 12,360 |
| 18-Aug | 9 (1 set) | 3,490 | 3 | 15 | 3 | 0.23 | 2 | 994 | RB+LB | 16,820 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | No Count |
| 19-Aug | 21,942 | 3178 (5 sets) | 6 | 6 | 14 | 1.12 | 1 | 951 | RB+LB | 21,870 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | No Count |
| 20-Aug | 21017 (4 sets) | 8,613 | 13 | 26 | 28 | 2.24 | 1 | 1,607 | RB+LB | 19,720 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | No Count |
| 21-Aug | 19,820 | 7,095 | 16 | 74 | 9 | 0.65 | 0 | 0 | RB+LB | 45,010 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | No Count |
| 22-Aug | 12,092 | 5,319 | 12 | 43 | 13 | 1.04 | 6 | 7,015 | RB+LB | 108,440 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | No Count |
| 23-Aug | 2,279 | 69,700 | 6 | 70 | 31 | 2.48 | 6 | 5,692 | RB+LB | 165,320 | A1+S1+M2+A2 | 39,580 |
| 24-Aug | 14,762 | 27,272 | 34 | 78 | 17 | 1.31 | 2 (3 sets) | 7,571 | RB+LB | 120,190 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | 4,290 |
| 25-Aug | 49,249 | 1049 (3 sets) | 26 | 199 | 23 | 1.81 | 7 | 12,565 | RB+LB | 56,460 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | No Count |
| 26-Aug | 54,400 | 930 | 14 | 149 | 46 | 3.68 | 41 | 51,300 | RB+LB | 62,410 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | No Count |
| 27-Aug | 60,103 | 238 (3 sets) | 50 | 170 | 40 | 3.05 | 45 | 71,734 | RB+LB | 70,460 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | 31,780 |
| 28-Aug | 23,862 | 15 | 48 | End | 60 | 4.81 |  |  |  | 155,360 | $\mathrm{A} 1+\mathrm{S} 1+\mathrm{M} 2+\mathrm{A} 2$ | No Count |
| 29-Aug <br> 30-Aug |  |  |  |  |  |  |  |  |  |  |  |  |

${ }^{1}$ Alternative Lower River Test Fishery - Southern Endowment Fund Project
${ }^{2}$ Qualark escapement estimate - does not include Chilliwack, Pitt, Harrison, Birkenhead, Big Silver, Weaver, and Cultus
${ }^{3}$ Qualark source:
RB+LB = Right Bank (RB) + Left Bank (LB)
${ }^{4}$ Mission escapement estimate - does not include Pitt
${ }^{5}$ Mission source:
A1+S1+M2+A2 $=$ Left bank ARIS (A1) + Left bank split-beam (S1) + Mobile ARIS (M2) + Right bank ARIS (A2)
${ }^{6}$ Daily Hells Gate abundance estimate; actual daily count has been expanded.


Date: 29/Aug/23

|  | All Days | Common Days |
| :---: | :---: | :---: |
| Mission projection | 1,094,058 | 1,020,048 |
| Qualark estimate | 937,377 | 937,377 |
|  | Difference | 82,671 |
|  | \%Difference | 8\% |

## Compare Qualark Passage Estimate and Mission-based Projection


——Mission-based projection of Qualark passage
—Qualark Passage Estimate
_Proportion of stocks passing Misson bound for Qualark

Difference between Qualark Passage Estimate and Mission-based Projection


Difference: Mission Projection - Qualark Estimate

2023 Fraser River Sockeye Salmon Stock identification Review
Recent stock composition estimates for sockeye salmon

|  |  |  |  |  |  |  |  |  |  | Fras | r-only S | ock Pr | portions | by Repo | ring Gr | $u^{4}$ (\%) |  |  |  |  | Age (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Early <br> Stuart |  |  | arly Summ |  |  |  |  | Summe |  |  |  | Lat |  |  | Overall Stocks |
| Area/Gear ${ }^{1}$ | Fishing <br> Sector ${ }^{2}$ | Date | Type ${ }^{3}$ | Sample Size ( n$)$ | \%Fraser | Early <br> Stuart | Chilli- <br> wack | Pitt <br> Alouette Coquitlam | Nadina <br> Bowron <br> Gates <br> Nahat- <br> latch <br> Taseko | Early <br> Thompson | Early Summer subtotal | Harri <br> son <br> Widg <br> eon |  | Chilko Quesnel | Raft <br> North <br> Thomp- <br> son | Summer subtotal | Birken- <br> head <br> Big <br> Silver | Late <br> Shuswap <br> Portage | Weaver Cultus | Late subtotal | Age-4 ${ }_{2}$ |
| Johnstone S | it \& Qu | n Charlotte | trait |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| A12 ps | tf | Aug19-20 | DNA | 158 | 99\% | 0\% |  |  |  | 1\% | 1\% |  | 15\% | 43\% |  | 58\% | 6\% | 11\% | 24\% | 41\% | 54\% |
| A12 ps | tf | Aug 22 | DNA | 100 | 100\% | 0\% |  |  |  |  | 0\% | 2\% | 9\% | 48\% |  | 59\% | 8\% | 10\% | 23\% | 41\% | 60\% |
| A12 ps | tf | Aug 24 | DNA | 92 | 98\% | 0\% |  |  | 2\% | 1\% | 3\% |  | 13\% | 50\% | 4\% | 67\% | 6\% | 4\% | 20\% | 30\% | NA |
| A12 ps | tf | Aug 26 | DNA | 95 | 100\% | 0\% |  | 1\% |  |  | 1\% |  | 15\% | 35\% | 1\% | 50\% | 10\% | 7\% | 32\% | 49\% | 48\% |
| A12 ps |  | Aug 30 | Prediction | 1 | 99\% | 0\% |  | 1\% | 1\% | 1\% | 2\% |  | 8\% | 35\% | 2\% | 44\% | 11\% | 8\% | 36\% | 54\% | NA |
| Juan de Fuc | Strait \& | ashington 8 | Other |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| A20 ps | tf | Aug18-19 | DNA | 127 | 99\% | 0\% |  | 2\% | 2\% | 2\% | 5\% | 4\% | 9\% | 35\% | 5\% | 54\% | 19\% | 8\% | 14\% | 41\% | 60\% |
| A20 ps | tf | Aug 22 | DNA | 20 | 100\% | 0\% |  |  |  |  | 0\% |  |  | 30\% | 5\% | 35\% |  | 12\% | 53\% | 65\% | 75\% |
| A20 ps | tf | Aug23-25 | DNA | 34 | 100\% | 0\% |  |  |  |  | 0\% | 6\% | 6\% | 20\% | 2\% | 34\% | 19\% | 2\% | 45\% | 66\% | NA |
| A20 ps |  | Aug 30 | Prediction | 1 | 100\% | 0\% |  |  |  |  | 0\% | 2\% | 8\% | 36\% | 2\% | 47\% | 11\% | 5\% | 37\% | 53\% | NA |
| In-river |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $A B \mathrm{gn}$ | tf | Aug24-26 | DNA | 136 | 100\% | 0\% |  | 0\% | 2\% | 3\% | 5\% | 8\% | 13\% | 44\% | 1\% | 65\% | 16\% | 5\% | 9\% | 30\% | 58\% |
| BB gn Bro | tf | Aug24-25 | DNA | 100 | 99\% | 0\% |  |  | 2\% | 4\% | 6\% | 0\% | 14\% | 42\% | 2\% | 58\% | 23\% | 7\% | 6\% | 35\% | NA |
| BB gn Bro | tf | Aug26-27 | DNA | 72 | 99\% | 0\% |  |  | 3\% |  | 3\% | 5\% | 15\% | 46\% |  | 66\% | 17\% | 4\% | 11\% | 31\% | 62\% |
| BB gn Cot | tf | Aug26-27 | DNA | 15 | 100\% | 0\% |  |  | 7\% |  | 7\% |  | 7\% | 42\% | 5\% | 53\% | 26\% |  | 14\% | 40\% | NA |

2023 Fraser River Pink Salmon Stock identification Review
Recent stock composition estimates for pink salmon

| Fishing |  |  |  Sample <br> Type $^{3}$ Size (n) |  | DNA \% Estimates by Group |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area/Gear ${ }^{1}$ | Sector ${ }^{2}$ | Date |  |  | Fraser River | Washington | Canada South Coast |
| Johnstone Strait |  |  |  |  |  |  |  |
| A12 PS | TF | Aug19 | DNA | 96 | 47\% | 8\% | 45\% |
| A12 PS | TF | Aug25 | DNA | 90 | 52\% | 27\% | 21\% |
| A12 |  | Aug30 | Prediction | 1 | 62\% | 21\% | 17\% |
| Juan de Fuca Strait |  |  |  |  |  |  |  |
| A20 PS | TF | Aug21 | DNA | 88 | 51\% | 46\% | 3\% |
| A20 PS | TF | Aug24 | DNA | 92 | 54\% | 39\% | 7\% |
| A20 |  | Aug30 | Prediction | 1 | 65\% | 28\% | 7\% |
| Washington |  |  |  |  |  |  |  |
| A7 PS | CM | Aug25 | DNA | 99 | 91\% | 4\% | 5\% |
| A7A PS | CM | Aug24-25 | DNA | 98 | 75\% | 8\% | 17\% |
| A7 |  | Aug30 | Prediction | 1 | 81\% | 11\% | 9\% |
| A7A |  | Aug30 | Prediction | 1 | 81\% | 9\% | 10\% |

Mean Pink Salmon Length in Fisheries


Fraser River Environmental Report for August 28, 2023

| Observed Fraser River Temperature at Qualark for 28-Aug | $18.7^{\circ} \mathrm{C}$ |
| :--- | :---: |
| Average (1991-2020) Historical Temperature on this day | $17.5^{\circ} \mathrm{C}$ |
| Deviation from Average | $1.2^{\circ} \mathrm{C}$ |
| Forecast Temperature for $\quad$ 03-Sep-23 | $18.4^{\circ} \mathrm{C}$ |

The forecast in Kamloops is for variable air temperature for the forecast period. The forecast in Prince George is for above average air temperature.

| Observed Fraser River Discharge at Hope for 28-Aug | $2015 \mathrm{~m}^{3} \cdot \mathrm{~s}^{-1}$ |
| :--- | :---: |
| Average (1991-2020) Historical Discharge on this day | $2569 \mathrm{~m}^{3} \cdot \mathrm{~s}^{-1}$ |
| \% above or below Historical Discharge | $-22 \%$ |
| Forecast Discharge for $\quad$ 03-Sep-23 | $1730 \mathrm{~m}^{3} \cdot \mathrm{~s}^{-1}$ |
| The forecast in Kamloops is for 26 mm <br> George is precipiatation. The forecast in Prince |  |



Run timing bars represent a 31 day spread of the run centered around the Hell's Gate date. Hell's gate timing is 5 days from Mission for Early Stuart and Late run; and 4 days from Mission for Early Summer and Summer run.'pMA is the proportional increase to spawning escapement targets to help ensure targets are achieved."\%DBE is \%difference betweeen estimates of potential spawning escapement and spawning escapement.*This is the optimum temp for aerobic swimming - $\mathrm{T}_{\text {opt }}$ (Eliason et al. (2011). Science 332 : 109-112)**This is the upper range of the optimum temp for aerobic swimming - $\mathrm{T}_{\text {pejus }}$. 'Discharge threshold of 8000 cms for Early Stuart from Macdonald (2000). Can. Tech. Rep. Fish. Aquat. Sci. 2315: 120p. "Discharge threshold of 6500 cms for Early Summer run from Macdonald et al. (2010). Trans. Am. Fish. Soc. 139: 768-782. 19 days of T \& Q data are required to calculate a pMA - 15 days before the Hell's Gate Date and 3 days after. MA estimates can be calculated 4 days after the Area 20 date.

| Upriver of Slide | Map \# | Current Temperatures 27-Aug | Daily Mean | Historic Mean | Deviation from Historical Mean | Historic Year Range |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fraser River Mainstem |  |  |  |  |  |  |
|  | 1 | Fraser River @ Qualark | 18.4 | 17.5 | 0.9 | 1991-2020 |
|  | 2 | Fraser River @ Texas Creek | 17.7 | 17.0 | 0.7 | 2006-2022 |
|  | 3 | Fraser River @ Big Bar Creek | NA | NA | NA | 2019-2022 |
| - | 4 | Fraser River @ Marguerite | 16.9 | 16.9 | 0.0 | 2015-2022 |
| - | 5 | Upper Fraser @ Shelley | 15.3 | 13.7 | 1.6 | 1994-2022 |
| Fraser River Tributaries |  |  |  |  |  |  |
|  | 6 | Thompson R. @ Ashcroft | 19.6 | 18.3 | 1.3 | 1995-2022 |
|  | 7 | South Thompson @ Chase | 19.6 | 19.1 | 0.5 | 1994-2022 |
|  | 8 | North Thompson @ McLure | 17.0 | 14.8 | 2.2 | 2006-2022 |
| - | 9 | Quesnel R. @ Quesnel | 17.7 | 16.9 | 0.8 | 2000-2022 |
| - | 10 | Nechako R. @ Isle Pierre | 18.1 | 17.6 | 0.5 | 2006-2022 |
| - | 11 | Stuart R. @ Ft. St. James | 18.3 | 16.8 | 1.5 | 2000-2022 |



## 2023 Fraser River sockeye salmon daily migration Timing updated based on Timing Correlations



## 2023 Fraser River sockeye salmon daily migration Timing updated based on Timing Correlations



2023 Fraser River sockeye abundance en-route to Mission
Current date: 29-Aug

|  | Escapement past Mission through 28-Aug | Projected abundance en route to Mission based on marine test fishery data ${ }^{1,2}$ |  |  |  |  |  |  |  |  | Escapement + projections through 03-Sep |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area 20 date |  | 23-Aug | 24-Aug | 25-Aug | 26-Aug | 27-Aug | 28-Aug | Total | 80\% P1 ${ }^{3}$ |  |  |
| Mission date |  | 29-Aug | 30-Aug | 31-Aug | 01-Sep | 02-Sep | 03-Sep |  | 10p | 90p |  |
| Total Fraser | 1,350,700 | 16,700 | 3,600 | 9,200 | 21,900 | 9,100 | 7,000 | 67,500 | 40,800 | 98,400 | 1,418,200 |
| Early Summer Run | 326,900 | 0 | 0 | 600 | 800 | 200 | 300 | 1,900 | 900 | 3,900 | 328,800 |
| Summer Run | 811,200 | 8,800 | 1,900 | 5,900 | 12,500 | 4,500 | 3,200 | 36,800 | 22,400 | 53,000 | 848,000 |
| Harrison / Widgeon ${ }^{2}$ | 32,700 | 500 | 100 | 0 | 0 | 0 | 0 | 600 | 400 | 900 | 33,300 |
| Late Stuart / Stellako | 142,700 | 1,400 | 300 | 1,100 | 3,000 | 1,300 | 600 | 7,700 | 4,700 | 11,100 | 150,400 |
| Chilko | 509,700 | 5,700 | 1,100 | 3,600 | 7,600 | 2,700 | 2,100 | 22,800 | 13,900 | 32,800 | 532,500 |
| Quesnel | 108,400 | 1,100 | 300 | 700 | 1,300 | 400 | 400 | 4,200 | 2,600 | 6,000 | 112,600 |
| Raft / North Thompson | 17,700 | 100 | 100 | 500 | 600 | 100 | 100 | 1,500 | 900 | 2,200 | 19,200 |
| Late Run | 171,700 | 7,900 | 1,700 | 2,700 | 8,500 | 4,400 | 3,500 | 28,700 | 17,500 | 41,300 | 200,400 |
| Birkenhead / Big Silver | 132,700 | 1,800 | 400 | 600 | 1,700 | 900 | 700 | 6,100 | 3,700 | 8,800 | 138,800 |
| Late Shuswap / Portage ${ }^{2}$ | 16,200 | 1,300 | 200 | 300 | 1,100 | 600 | 500 | 4,000 | 2,400 | 5,800 | 20,200 |
| Weaver / Cultus ${ }^{2}$ | 22,800 | 4,800 | 1,100 | 1,800 | 5,700 | 2,900 | 2,300 | 18,600 | 11,300 | 26,800 | 41,400 |

${ }^{1}$ En route catches are incomplete: catches from present and future fisheries must be deducted from projections and added to the catches removed
${ }^{2}$ Projected abundances en route to Mission include Harrison and Late runs, an uncertain number of which are expected to delay
${ }^{3} 80 \%$ Probabability Interval: there exists an $80 \%$ chance that the true abundance lies within this interval
${ }^{4}$ Nadina / Bowron / Gates / Nahatlatch / Taseko
${ }^{5}$ Early South Thompson / North Barriere
2023 Fraser River sockeye diversion rates through Johnstone Strait


2023 Fraser River Pink salmon diversion rates through Johnstone Strait

| Fraser pink salmon | 5-day-average |  |
| :--- | :--- | :--- |

* Pink forecast diversion rate updated from $53 \%$ to $62 \%$ based upon the DFO forecast received in August


## Pink In-season Update

August 29, 2023

## Current Trends

- Abundances have dropped off in Area 20
- Pink catches remain high, but variable, in Area 12 with another peak observed on August 27 (August 29 Area 20 date)
- Later-timed peaks in both approaches shifted initial perception of early timing
- Run size model currently returns a timing of August 20
- Mission passage is starting to increase, which is consistent with historical observations for this time of year. It is still too early to use Mission abundances to confirm timing or abundance of the run

Daily abundances by Area
Area 20 expansion line: 450
Area 12 expansion line: 150


Overall run size (for overlapping days only)
2-day assumed offset between Area 12 and Area 20


## Weight of Evidence Table

- Same models as displayed last week but changed categories for weight of evidence table since there were no indications of the run being $<5$ million
- Categories now read: <10 million, 10-20 million, and $>20$ million
- Weight of evidence supports a run size $>20$ million, even with a 150 expansion line


## Pink Salmon Run Size Weight of Evidence

Default Run Size Method: Time Density Model

| <10M | 10-20M | >20M |
| :---: | :---: | :---: |
| $\square \square$ | $\square$ | $\square \square$ |

Default run size estimate = Time Density Model
$\square$ Alternative run size estimate

| Models | Description | Category |  |
| :--- | :---: | :--- | :---: |
| PreSeason Forecast | $\square$ | Recruits per spawner (mean) | $<=10 \mathrm{M}$ |
| Time Density Model | $\square$ | Bayesian fit to CPUE*EL data | (300 expansion line) |
| SST Regression | $\square$ | June SST at Pine Island vs. run size | $>20 \mathrm{M}$ |
| Average CPUE | $\square$ | Short-term average CPUE vs. run size (Aug 20 Area 20 date) | $>=10 \mathrm{M}$ |
| Power(fry) forecast | $\square$ | Recruits per spawner | $10-20 \mathrm{M}$ |
| Timing-based | $\square$ | Double the CPUE* 150 EL at assumed 50\% date (Aug 20) | $>20 \mathrm{M}$ |

2023 Fraser River run size and timing estimates
taff. Al in-season estimates of run size and timing should be considered draft preliminary estimates unless adopted by the Fraser River Panel.

|  | Run Size |  |  |  |  |  |  | Run size components |  |  |  | Run Timing' |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Inseason | Preseason | Inseason estimate |  | Inseason 80\% Pls ${ }^{2}$ $10 \%$ PI $90 \%$ P |  | Method | Catch +Escapement | $\begin{gathered} \text { 6-day } \\ \text { Projection } \end{gathered}$ | $\begin{gathered} \text { Seaward } \\ \text { Abundance } \end{gathered}$ | Migration Delay | Inseason Adopted | Preseason Forecast | Inseason estimate | Inseason 80\% PIs ${ }^{2}$ |  | Method |
|  |  |  |  |  | 10\% Pl | 90\% Pr |  |  |  |  |  |  |  |  |  |
| Total Fraser sockeye | 1,606,000 | 1,564,000 | $\bigcirc$ | 1,598,000 |  |  |  |  |  | 1,370,000 | 73,000 | 48,000 | 106,000 | 08-Aug | 16-Aug | 09-Aug |  |  | Weight |
| Early Stuart Run | 41,000 | 23,000 | $\checkmark$ | 41,000 | 41,000 | 41,000 | Recon | 41,000 | 0 | 0 | 0 | 02-Jul | 07-Jul | 02-Jul | 02--ul | 02-Jul | Recon |
| Early Summer Run | 335,000 | 186,000 | $\checkmark$ | 331,000 | 332,000 | 333,000 | Sum | 331,000 | 1,000 | 0 | 0 | 26-Jul | 06-Aug | $25-\mathrm{J}$ | 25-Jul | 25-Jul | Weight |
| Chilliwack |  | 2,000 | $\checkmark$ | 32,000 | 32,000 | 32,000 | Recon | 32,000 | 0 | 0 | 0 |  | ${ }^{20-\mathrm{Jul}}$ | 05-Jul | 05-Jul | 05-uul | Recon |
| Pitt/Nadina Group ${ }^{4}$ |  | 123,000 | $\checkmark$ | 251,000 | 251,000 | 252,000 | Recon | 250,000 | 1,000 | 0 | 0 |  | 05-Aug | 26-Jul | 26--Jul | 26-ul | Recon |
| Early Thompson ${ }^{5}$ |  | 61,000 | $\checkmark$ | 49,000 | 49,000 | 49,000 | Recon(2) | 49,000 | 0 | 0 | 0 |  | 09-Aug | 05-Aug | 05-Aug | 05-Aug | Recon(2) |
| Summer Run | 950,000 | 1,167,000 | $\bullet$ | 899,000 | 850,000 | 951,000 | Sum | 822,000 | 44,000 | 33,000 | 0 | 13-Aug | 17-Aug | 13-Aug | 12-Aug | 14-Aug | Weight |
| Harrison / Widgeon |  | 51,000 | $\checkmark$ | 33,000 | 33,000 | 33,000 | Recon(2) | 33,000 | 0 | 0 | 0 |  | 12-Aug | 02-Aug | 30--ul | 05-Aug | Model |
| Late Stuart / Stellako |  | 196,000 | $\bullet$ | 167,000 | 154,000 | 178,000 | Recon(2) | 145,000 | 15,000 | 7,000 | 0 |  | 13-Aug | 13-Aug | 12-Aug | 13-Aug | Recon(2) |
| Chiko |  | 591,000 | $\bullet$ | 556,000 | 530,000 | 588,000 | Recon | 516,000 | 22,000 | 18,000 | 0 |  | 17-Aug | 14-Aug | 13-Aug | 14-Aug | Recon |
| Quesnel |  | 319,000 | $\bullet$ | 122,000 | 114,000 | 129,000 | Recon | 111,000 | 4,000 | 7,000 | 0 |  | 19-Aug | 14-Aug | 13-Aug | 14-Aug | Recon |
| Raft / North Thompson |  | 10,000 | - | 21,000 | 19,000 | 23,000 | Recon | 18,000 | 2,000 | 1,000 | 0 |  | 23-Aug | 16-Aug | 16-Aug | 16-Aug | Recon |
| Late Run | 280,000 | 188,000 | $\triangle$ | 326,000 | 194,000 | 415,000 | Sum | 176,000 | 29,000 | 15,000 | 106,000 | 17-Aug | 24-Aug | 17-Aug | 15-Aug | 18-Aug | Weight |
| Birkenhead Group |  | 92,000 | $\bullet$ | 149,000 | 139,000 | 165,000 | Recon | 135,000 | 6,000 | 8,000 | 0 |  | 24-Aug | 16-Aug | 16-Aug | 16-Aug | Recon |
| L.Shuswap / Weaver Gr. |  | 96,000 | $\stackrel{\rightharpoonup}{*}$ | 177,000 | 55,000 | 250,000 | Recon | 41,000 | 23,000 | 7,000 | 106,000 |  | 24-Aug | 17-Aug | 13-Aug | 19-Aug | Marine N |
| Fraser Pink salmon | 17,000,000 | 6,135,000 | $\stackrel{\rightharpoonup}{ }$ | 20,000,000 | 20,754,000 | 33,241,000 | Wt. of Evid. | 1,052,000 |  | 18,948,000 |  | 13-Aug | 25-Aug | 20-Aug | 17-Aug | 23-Aug | Model |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | Model | Run size asessmer | ent model (median) |  |  |  |  |  |  |  |
| ${ }^{3}$ Normall based on test fishery data. Based on Model if Method ERecon(2). |  |  |  |  |  |  |  | Recon | Cath + escapeme | ntt 6. day test fish $p$ | rojection + mode | seaward proectio |  |  |  |  |  |
| ${ }^{4}$ Pitt / Alouette / Coquitlam / Nadina / Bowron / Gates / Nahatlatch / Taseko |  |  |  |  |  |  |  | Recon(2) | Cath + escapemen | nt model projectios |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | Wt. of Evid. | Weighto fevidence | etable |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | sum | Sum of individual | grous |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | weight | Weibhted verage | of individual groups |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | Marine N | Reconstructio of | CPUE:bsaed marine | abundances |  |  |  |  |  |  |
| Run Size Uncertainty Legend ${ }^{+}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Run Size Uncertainty Legend ${ }^{\dagger}$

- $270 \%$ of the run size has been accounted for in catch + escapement. Good indication of fun size; peak fo the run has been observed at Mission
$\geq 50 \%$ of the run size has been accounted for in catch + escapement. Decent indciation of run size; $>50 \%$ confirmed at Mission
< 50\% of the run size has been accounted for in catch + eccapement. Uncertain or early indcition of run size based on marine datis


Historical 50\% migration date for Fraser River Pink salmon ( $\mathrm{n}=31$ )



2023 Predicted Fraser River Sockeye Mortality in Area 4B/5 Pink Directed Fisheries
The actual pink salmon catch of proposed fisheries should not exceed the available total allowable catch for pink salmon

```
Date: 2023-08-29
```

Predicted catches in Area 4B, 5, 6C

| Area $4 \mathrm{~B} / 5$ date | Daily predicted Fraser pink catch <br> Treaty Tribes | TRT harvest rate ${ }^{6}$ |  | SockeyeReleaseMortality rate ${ }^{8}$ | Predicted mortality of Sockeye <br> Total Treaty Tribes |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
|  |  | Sockeye | Pink ${ }^{\text {² }}$ |  | Retention | Non-retention |
| 24-Aug | 608 | 0.5\% | 0.05\% | 60\% | 14 | 9 |
| 25-Aug | 321 | 0.5\% | 0.05\% | 60\% | 12 | 7 |
| 26-Aug | 45 | 0.5\% | 0.05\% | 60\% | 8 | 5 |
| 27 -Aug | 20 | 0.5\% | 0.05\% | 60\% | 6 | 4 |
| 28-Aug | 10 | 0.5\% | 0.05\% | 60\% | 2 | 1 |
| 29-Aug | 15 | 0.5\% | 0.05\% | 60\% | 1 | 1 |
| 30-Aug | 20 | 0.5\% | 0.05\% | 60\% | 1 | 1 |
| 31-Aug | 20 | 0.5\% | 0.05\% | 60\% | 1 | 1 |

${ }^{6}$ Assumes fixed daily harvest rate combined over Area $4 \mathrm{~B} / 5$. TRT effort $=3$ gillnets
${ }_{8}$ Harvest rate of pink salmon is estimated to be $10 \%$ of the sockeye harvest rate
Sockeye release mortality of $60 \%$ applied to gillnet releases based on past studies

Predicted sockeye impacts of net fisheries in Area

${ }^{1}$ Assumed travel time for pink salmon from Area 20 to $\mathrm{Area} 4 \mathrm{~B} / 5$ is 0 days
${ }^{2}$ Assumed travel time for sockeye salmon from Area 20 to $\mathrm{Area} 4 \mathrm{~B} / 5$ is 0 days
${ }^{3}$ Daily abundances are based on a time-density run-size model
${ }^{4}$ Sockeye and pink salmon abundance for last 3 days is based on a 3 -day average of preceding values
${ }^{5}$ Based on purse seine test fishery projections and an expansion line of 150

2023 Predicted Fraser River Sockeye Mortality in Area 7/7A Pink Directed Net Fisheries
The actual pink salmon catch of proposed fisheries should not exceed the available total allowable catch for pink salmon

Predicted catches in Area 7/7A

|  | Purse Seine |  |  |  |  |  |  |  | Gillnet |  |  |  |  |  |  |  | Reefnet |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Daily predicted Fraser pink salmon catch ${ }^{1}$ |  | Pink salmon harvest rate ${ }^{2}$ |  | Sockeye Release Mortality rate ${ }^{3}$ | Predicted mortality of Sockeye ${ }^{5}$ <br> Treaty Tribes <br> All Citizen |  |  | Daily predicted Fraser pink salmon catch ${ }^{1}$ |  | Pink salmon harvest rate ${ }^{2,7}$ |  | Sockeye Release Mortality rate ${ }^{4}$ | Predicted mortality of Sockeye ${ }^{5}$ <br> Treaty Tribes <br> All Citizen |  |  | Daily predicted Fraser pink salmon catch ${ }^{1}$ All Citizen | Pink salmon harvest rate ${ }^{8}$ <br> AC | Sockeye <br> Release <br> Mortality rate ${ }^{4}$ | Predicted mortality <br> of Sockeve <br> All Citizen |
| Area 7 <br> date | Treaty Tribes | All Citizen | TRT | AC |  | Assuming retention | $\begin{gathered} \hline \text { Assuming } \\ \text { non- } \\ \text { retention } \\ \hline \end{gathered}$ | Assuming nonretention | Treaty Tribes | All Citizen | TRT ${ }^{6}$ | AC |  | Assuming retention | $\begin{aligned} & \hline \text { Assuming } \\ & \text { non- } \\ & \text { retention } \\ & \hline \end{aligned}$ | Assuming nonretention |  |  |  |  |
| 28-Aug | 233,061 | 193,930 | 11\% | 9\% | 25\% | 402 | 100 | 94 | 357 | 446 | 0.16\% | 0.20\% | 60\% | 40 | 24 | 32 | 2,901 | 1.30\% | 0.5\% | 0 |
| 29-Aug | 348,442 | 331,207 | 9\% | 8\% | 25\% | 286 | 71 | 67 | 4,791 | 5,989 | 0.16\% | 0.20\% | 60\% | 29 | 17 | 23 | 38,926 | 1.30\% | 0.5\% | 0 |
| 30-Aug | 537,267 | 500,411 | 9\% | 9\% | 25\% | 152 | 38 | 36 | 1,917 | 2,396 | 0.16\% | 0.20\% | 60\% | 15 | 9 | 12 | 15,573 | 1.30\% | 0.5\% | 0 |
| 31-Aug | 182,272 | 168,682 | 10\% | 9\% | 25\% | 61 | 15 | 14 | 151 | 188 | 0.16\% | 0.20\% | 60\% | 6 | 4 | 5 | 1,224 | 1.30\% | 0.5\% | 0 |
| 01-Sep | 18,279 | 17,015 | 9\% | 9\% | 25\% | 50 | 13 | 12 | 68 | 85 | 0.16\% | 0.20\% | 60\% | 5 | 3 | 4 | 553 | 1.30\% | 0.5\% | 0 |
| 02-Sep | 8,048 | 7,511 | 9\% | 9\% | 25\% | 41 | 10 | 10 | 36 | 44 | 0.16\% | 0.20\% | 60\% | 4 | 2 | 3 | 289 | 1.30\% | 0.5\% | 0 |
| 03-Sep | 3,250 | 3,005 | 10\% | 9\% | 25\% | 133 | 33 | 30 | 1 | 1 | 0.16\% | 0.20\% | 60\% | 13 | 8 | 10 | 9 | 1.30\% | 0.5\% | 0 |

Assumes fishing on 3 days (or blocks) of pink salmon. Does not account for any depletion effects.
${ }^{2}$ Assumes TRT effort $=8$ PS and 4 gillnets; AC effort $=7$ PS and 5 gillnets and 5 reefnet gears
Sockeye release mortality of $25 \%$ applied to purse seine catches based on past studies
Sockeye release mortality of $60 \%$ applies to gillnet catches based on past studies
${ }^{5}$ Assumes Treaty Tribes and All Citizen fisheries will take place on different days
Based on average annual catchability of pink (harvest rate/vessel) in U.S. Area 67,7 a gill net fisheries
${ }_{8}^{7}$ Catchability of sockeye in marine gillnets is approximately $10 x$ the catchability of pink salmon. Independently verified with test fishing data.
Harvest rate derived from historical analysis of reef net catches and pink salmon reconstructions

Predicted abundances in Area 7/7A

| Area 7 <br> date | Predicted Pink Salmon Abundance ${ }^{1}$ |  | Fraser River Sockeye Salmon ${ }^{2,5}$ |  |  |  | \% Sockeye Abundance$S /(S+P)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fraser ${ }^{3}$ | Non-Fraser ${ }^{4}$ | Total | E. Summers | Summer | Lates |  |
| 28-Aug | 223,181 | 59,992 | 2,652 | 14 | 1,850 | 788 | 0.9\% |
| 29-Aug | 2,994,312 | 757,438 | 1,735 | 8 | 1,205 | 522 | 0.0\% |
| 30-Aug | 1,197,930 | 285,559 | 1,361 | 5 | 942 | 414 | 0.1\% |
| 31-Aug | 94,127 | 21,187 | 357 | 1 | 246 | 109 | 0.3\% |
| 01-Sep | 42,566 | 9,061 | 298 | 1 | 205 | 92 | 0.6\% |
| 02-Sep | 22,200 | 4,472 | 247 | 0 | 170 | 76 | 0.9\% |
| 03-Sep | 712 | 136 | 202 | 0 | 139 | 63 | 19.2\% |

Assumed travel time for pink salmon from Area 20 to Area 7 is 6 days
${ }^{2}$ Assumed travel time for sockeye salmon from Area 20 to Area 7 is 3 days
${ }^{3}$ Based on purse seine test fishery projections and an expansion line of 150
${ }^{4}$ Based on stock identification projections of non-Fraser pinks in Area 7
${ }^{5}$ Based on a time-density run-size model

## Predicted and Reported Fraser Sockeye and Pink Impacts

2023-08-29

| Date | Proposed Fishery |  | Observed |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Daily predicted Fraser pink catch | Daily predicted Fraser sockeye mortality ${ }^{1}$ | Daily observed Fraser pink catch | Daily observed Fraser sockeye mortality |
| 19-Aug | 269 | 108 | 0 | 0 |
| 20-Aug | 269 | 103 | 0 | 0 |
| 21-Aug | 269 | 97 | 0 | 0 |
| 22-Aug | 249 | 7 | 0 | 0 |
| 23-Aug | 242 | 6 | 0 | 0 |
| 24-Aug | 242 | 6 | 0 | 0 |
| 25-Aug | 1,262 | 9 | 0 | 0 |
| 26-Aug | 1,324 | 8 | 0 | 0 |
| 27-Aug | 1,324 | 7 | 0 | 0 |

Predicted vs. Observed Treaty Tribe catches in Areas 6, 7, 7A

| Date | Proposed Fishery |  | Observed ${ }^{2}$ |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Daily predicted Fraser pink catch | Daily predicted Fraser sockeye mortality | Daily observed Fraser pink catch | Daily observed Fraser sockeye mortality |
|  | 279,311 | 5,525 | 51,198 | 3,324 |
| $\begin{gathered} 22-A u g \\ 23-A u g \end{gathered}$ | 47,670 | 236 | 34,639 | 431 |
| 24-Aug |  |  | 3,122 | 6 |
| 25-Aug | 47,423 | 169 | 38,060 | 166 |
| 26-Aug | 63,945 | 152 | 13,795 | 59 |
| 27-Aug | 82,950 | 136 | 20,228 | 86 |

Predicted vs. Observed All Citizen catches in Areas 6, 7, 7A

| Date | Proposed <br> Dishery <br> Daily predicted <br> Fraser pink catch | Daily predicted <br> Fraser sockeye <br> mortality | Daily observed Fraser |  |
| :---: | :---: | :---: | :---: | :---: |
| pink catch ${ }^{1}$ | Daily observed Fraser <br> sockeye mortality ${ }^{2}$ |  |  |  |
| 23-Aug | 4,150 | 0 | 1,880 | NA |
| 24-Aug | 57,410 | 177 | 7,503 | NA |
| 25-Aug | 47,764 | 149 | 1,891 | NA |
| 26-Aug | 66,577 | 136 | 23,018 | NA |
| 27-Aug | 84,275 | 121 | 165 | NA |
| 28-Aug | 197,293 | 107 | 8,348 | NA |

[^0]${ }^{2}$ Total of 81 sockeye released from purse seines for from August 24-28

Prediction of the proportion of sockeye:(sockeye + pink salmon) in 2023 test fisheries



[^0]:    Reef nets only on Aug 23

