Kuskokwim River Salmon Management Working Group

1 (800) 315-6338 (MEET) Code: 58756# (KUSKO)

ADF&G Bethel toll free: 1 (855) 933-2433

Meeting Agenda

Date: **06/29/2022** **Time**: **10:00 a.m.–12:00 p.m.** Place: **ADF&G Office, Bethel, AK**

Time Called to Order: Chair:

ROLL CALL TO ESTABLISH QUORUM: **QUORUM MET? Yes / No**

Upriver Elder:
Downriver Elder:
Commercial Fisher:
Lower River Subsistence:
Middle River Subsistence:
Upper River Subsistence:
Headwaters Subsistence:
Member at Large 1:
Member at Large 2:
Sport Fisher:
Western Interior RAC:
Y-K Delta RAC:
KRITFC:
ADF&G:

INTRODUCTIONS:
INVOCATION:
APPROVAL OF MINUTES: *Optional. ADF&G does not prepare official meeting minutes.*
APPROVAL OF AGENDA: *the agenda may be amended at this time.*
USFWS/KRITFC UPDATE:
ADF&G MANAGEMENT ACTIONS UNDER CONSIDERATION:
PEOPLE TO BE HEARD: *Non-Working Group Members*
CONTINUING BUSINESS:

- Subsistence Reports: Lowest River, ONC Inseason Subsistence Report, Lower River, Middle River, Upper River, Headwaters
- Inseason Harvest Report (ONC/KRITFC)
- Overview of Kuskokwim River salmon run assessment:
  a. Test Fisheries (Bethel and Aniak):
  b. Sonar/Weirs/Aerial Surveys/Other:
  c. Subsistence Division Project Update:
  d. NVN Report:
- Working Group KRITFC Representative Report:
- Commercial Catch Report: N/A
- Processor Report: N/A
- Sport Fish Report:
- Intercept Fishery Report: *optional*
- Weather Forecast:
- Discussion of ADF&G Management considerations and discussion of possible alternatives (recommendations from the Working Group):
- Motion for Discussion and Action:

OLD BUSINESS:

NEW BUSINESS:

COMMENTS FROM WORKING GROUP MEMBERS:

NEXT MEETING DATE:_____Time:_____Place:_____

Informational Packet

Information Packets *ARE*:

- **Intended to help inform Working Group discussions.**
- **To be viewed and used in context with Working Group meetings only.**

Packets *ARE NOT*:

- **To be viewed as standalone documents.**
- **A final say on fisheries management decisions.**

Please use this information responsibly:
Packet information is an incomplete snapshot of an ongoing discussion and changing conditions. Packet information should not be reproduced for any purpose other than to describe Working Group meeting discussions.

Misuse of Packet information can contribute to misunderstandings that can **cause harm to salmon users** and potentially **damage salmon resources**.

Ask Questions: ADF&G staff will be happy to answer biology and management questions. Please call **1-855-933-2433** to reach ADF&G Kuskokwim Area staff.

Attend Meetings: Each Working Group meeting is announced at least 48 hours prior to time and date of meeting. In addition, each meeting is recorded. Recordings can be found here: **http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyarea kuskokwim.kswg**

Viewing the information packet while listening to meetings/recordings will provide a better understanding of the information presented in this packet.

Thank you,
Savannah Hollingworth
Working Group Coordinator

June 29, 2022 ADF&G management actions under consideration:

Subsistence Sections 4-5 (Yukon Delta Refuge boundary near Aniak to Headwaters of Kuskokwim River):

The following subsistence fishing restrictions will go into effect for the conservation of chum salmon within subsistence sections 4 and 5 beginning 12:01 a.m. Friday, July 1, 2022, until further notice:

- **Subsistence fishing with fish wheels will be allowed until further notice**. Fish wheels are required to have a live box with no less than 45 cubic feet of water and must be checked at least every 12 hours. Any chum salmon caught must be returned alive to the water.

- **Subsistence fishing with beach seines will be allowed until further notice**. Any chum salmon caught in a beach seine must be returned immediately to the water alive.

As of June 27, the Bethel test fishery cumulative CPUE for chum salmon was 149 and total chum salmon passage at the sonar was 3,350 fish. Bethel test fishery CPUE is the third lowest since 2008 and sonar passage is the second lowest since 2018. In 2021, 390 chum salmon were harvested between Aniak and the headwaters communities.

ONC
ORUTSARARMIUT NATIVE COUNCIL
ONC Fisheries 545-6001

Orutsararmiut Native Council (ONC) Inseason Harvest Monitoring Weekly Report
June 29, 2022

Comments from June 22, 2022 Opener:

Three fishers stated they were happy with what they caught and one said that they were done fishing for the year. Two fishers said that they wanted more openers. One person said that they wanted the June openers to be a week or longer, another said to keep the fishing open so they have time to catch and store fish for the winter time, and two said that the next opener should be sooner rather than later and that opening fishing for only a few hours is changing the fishing culture on the Kuskokwim.

Two fishers mentioned that short openers encourage combat fishing, and another mentioned the amount of people on the river made them uncomfortable. Five fishers weighed in on the amount of fish running this year; three said that there were a lot of reds this year, one said that there are more kings this year than last year, and one said that the catch rate during the 6/22 opener was high. Three people also said that the fish are tiny this year, two of them specifically said the kings are smaller. One fisher commented that the cool weather allowed for more fish to swim up and that it was a good day of fishing.

One fisher said that they saw dead salmon in the water, another fisher said that elders should be allowed to fish everyday, one person mentioned how management is doing a good job with communicating with the public, and lastly one person said they won't participate in [ONC] surveys until they figure out who is in charge of the fisheries management.

Table 1. Average fish harvest, net length, and mesh size range reported by surveyed Bethel area fish camps and Bethel boat harbor from the June 22, 2022 fishing opportunity.

Data Source	Number of Surveys Conducted	Average Chinook Salmon Harvest	Average Chum Salmon Harvest	Average Sockeye Salmon Harvest	Average other harvest	Net Length Range (ft.)	Mesh Size Range (in.)
Bethel Boat Harbor	119*	14	1	12	>1	30-300	4-6
Bethel Fish Camps	14	30	0.9	20	>1	50-300	4-6

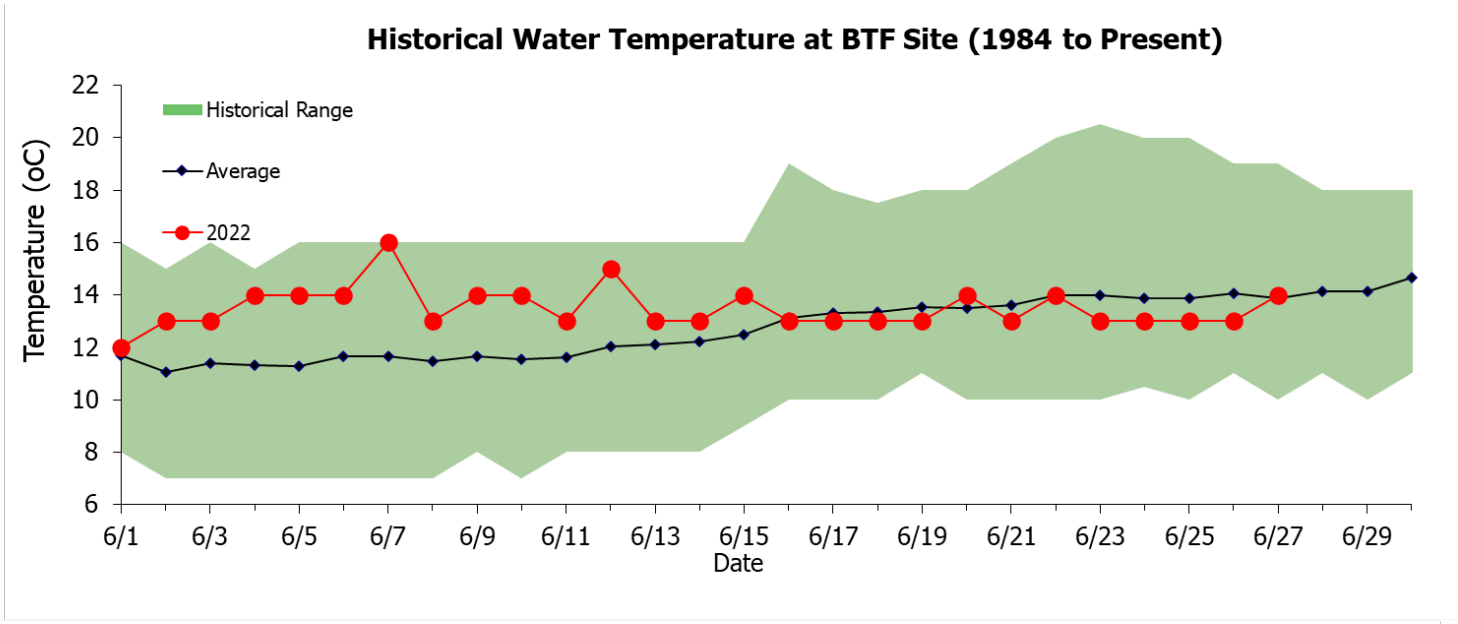
*2 of the surveys collected at Bethel Boat Harbor were not used to produce harvest estimates because the fishing was done outside of the area used in the harvest estimates program (stratum O).

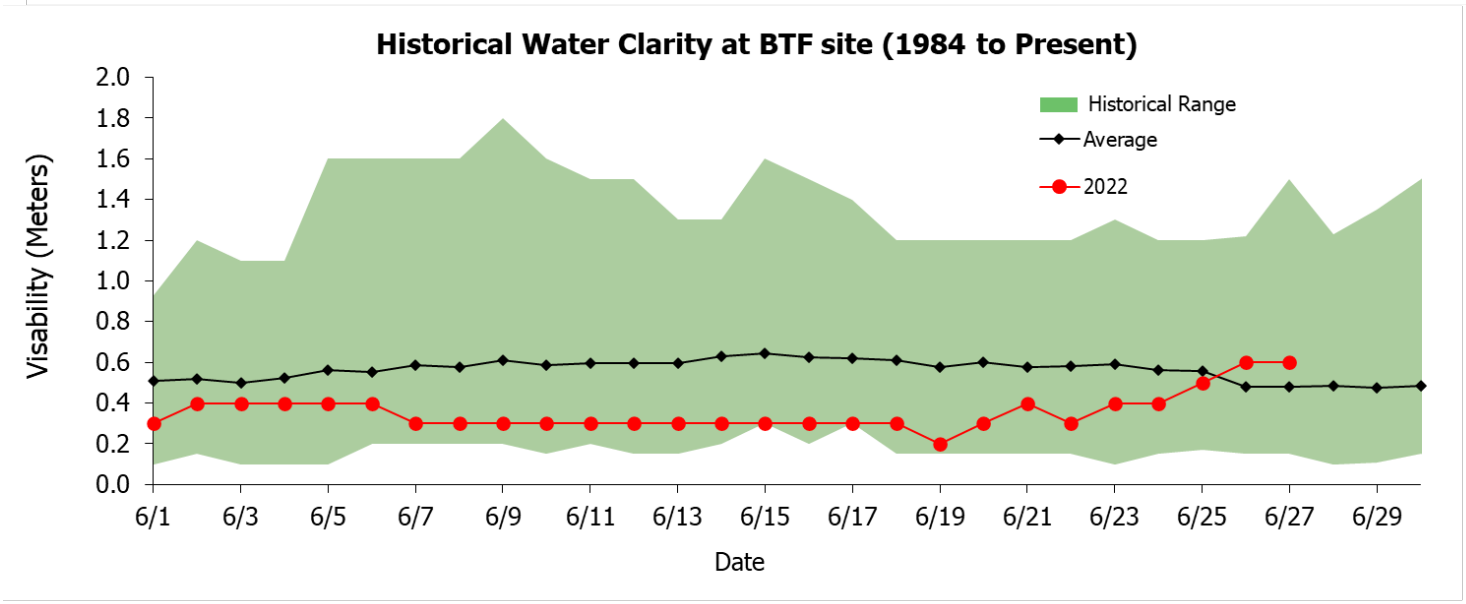
Table 2. Fishing progress data from Bethel area fish camps from 6/22 visits.

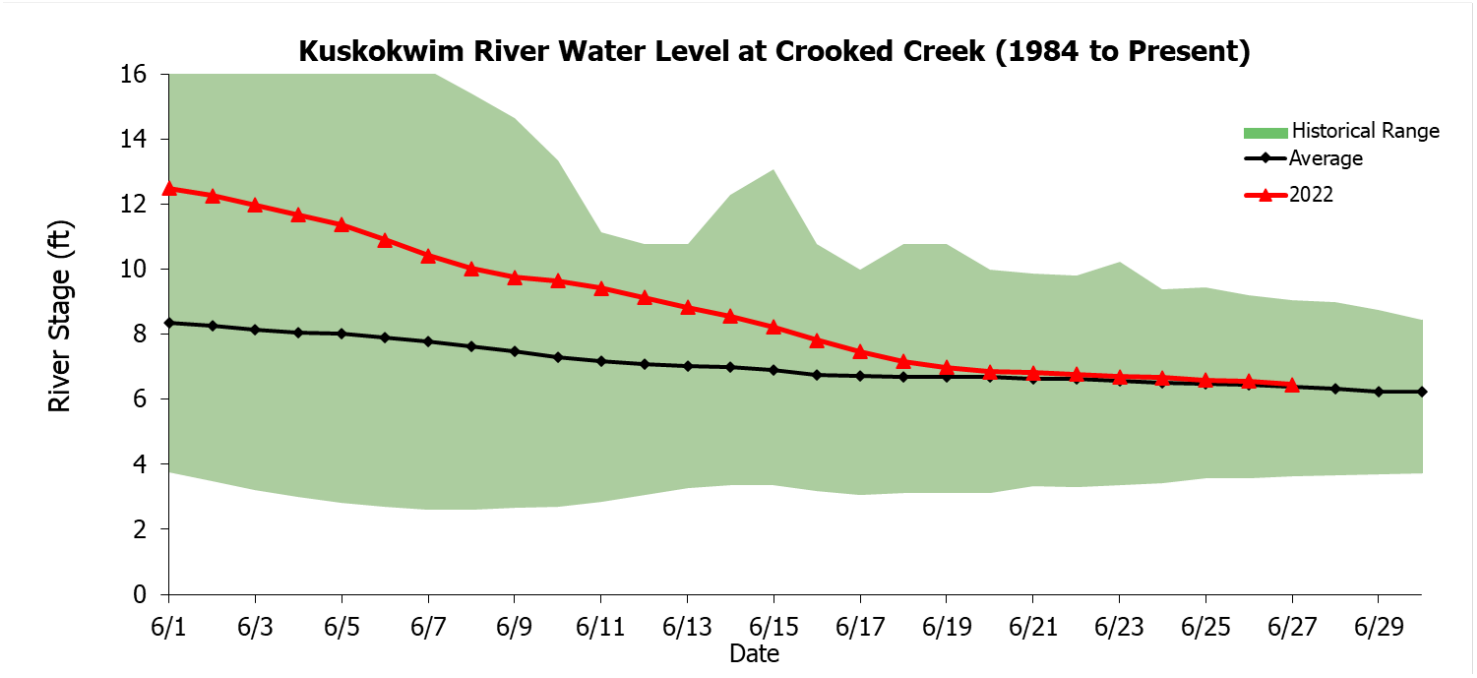
Progress	Not at all	Under half	Halfway	Over Half	Goal Met
King Salmon	0%	29%	14%	21%	36%
Chum Salmon	86%	7%	0%	0%	7%
Sockeye Salmon	14%	29%	14%	29%	14%

Fish Distribution

From June 21, 2022 through June 28, 2022, ONC delivered 132 Chinook salmon, 24 chum salmon, 98 red salmon, and 2 whitefish to Bethel area Elders. These fish were caught by the Alaska Department of Fish & Game Bethel Test Fishery.


Historical Water Temperature at BTF Site (1984 to Present)
Historical Range
Average
2022
Temperature (oC)
22
20
18
16
14
12
10
8
6
6/1
6/3
6/5
6/7
6/9
6/11
6/13
6/15
6/17
6/19
6/21
6/23
6/25
6/27
6/29
Date


Historical Water Clarity at BTF site (1984 to Present)
Historical Range
Average
2022
Visability (Meters)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
6/1
6/3
6/5
6/7
6/9
6/11
6/13
6/15
6/17
6/19
6/21
6/23
6/25
6/27
6/29
Date


Kuskokwim River Water Level at Crooked Creek (1984 to Present)
Historical Range
Average
2022
River Stage (ft)
16
14
12
10
8
6
4
2
0
6/1
6/3
6/5
6/7
6/9
6/11
6/13
6/15
6/17
6/19
6/21
6/23
6/25
6/27
6/29
Date

Kuskokwim River Salmon Assessment Update
6/27/2022

This document presents the key assessment information considered by managers in-season. The production of this document is a collaborative effort between USFWS and ADF&G. **All data and analyses contained are preliminary and are subject to change, so please make interpretations carefully**.

If you have any questions about the content, please contact Spencer Rearden (USFWS; spencer_rearden@fws.gov) or Sean Larson (ADF&G; sean.larson@alaska.gov). Major credit for the development of this data packet belongs to Benjamin Staton.

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Abbreviations:

- BTF: Bethel Test Fishery
- ATF: Aniak Test Fishery
- CPUE: Catch-per-unit-effort
- EOS: End-of-Season
- ADF&G: Alaska Department of Fish and Game
- KRITFC: Kuskokwim River Inter-tribal Fisheries Commission
- ONC: Orutsaramiut Native Council
- USFWS: United States Fish and Wildlife Service
- YDNWR: Yukon Delta National Wildlife Refuge

To view escapement information, please visit the ADF&G Kuskokwim River Fish Counts page:

- http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareakuskokwim.salmon#fishcounts

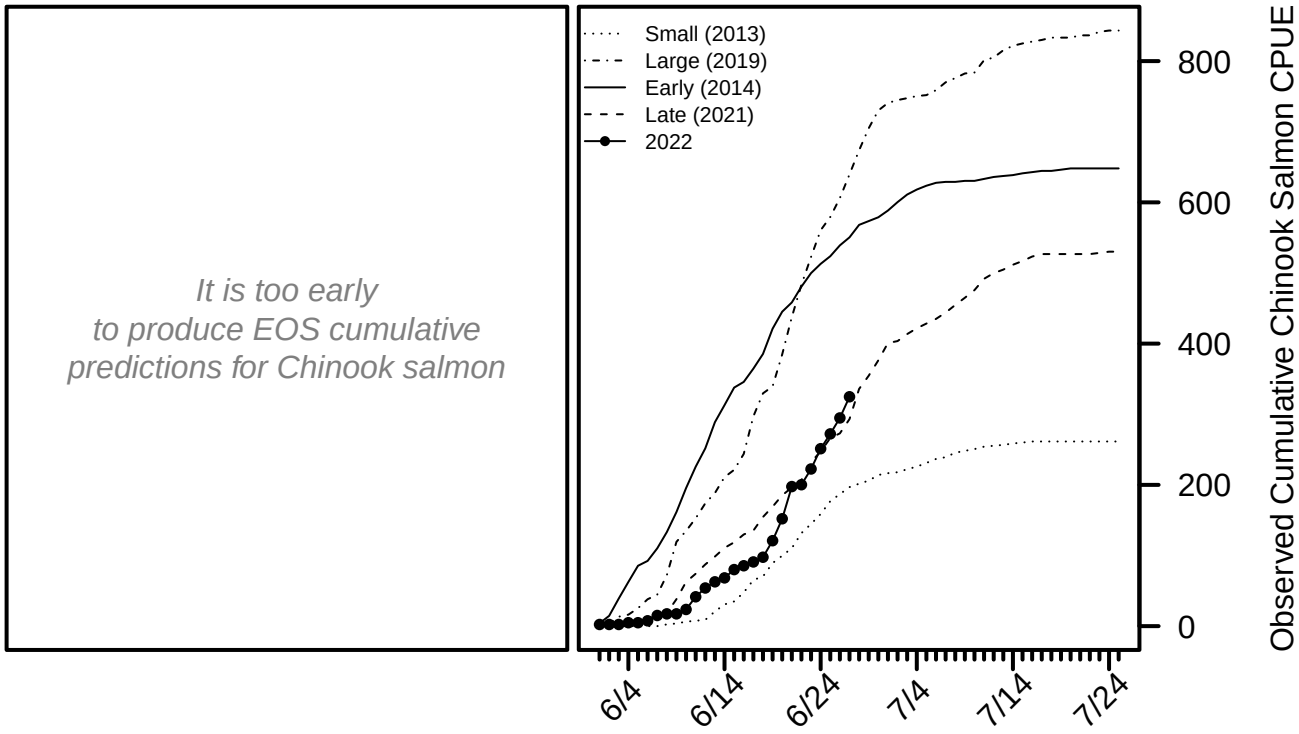
For the most up-to-date information regarding fishing opportunities please visit:

- **USFWS:** https://www.fws.gov/refuge/yukon_delta/wildlife_and_habitat/dailyupdate.html
- **ADF&G:** http://www.adfg.alaska.gov/index.cfm?adfg=cfnews.main

Chinook Salmon BTF Summary (6/27)

- The BTF daily CPUE was **30**.
- The BTF cumulative CPUE is now **325**.
- **36%** years since 2008 fell below this cumulative CPUE on this date.
- **69%** of the run is complete based on historical average run timing.
- **58% - 78%** of the run is complete based on the central 50% of all historical run timing scenarios.
- **9% - 17%** of the run is expected to pass Bethel in the next 5 days.
- Over the last 3 days, Chinook salmon made up **17%** of the BTF catches, compared to **11%** on average.

Chinook Salmon Figure 1. *Left*: will show predicted cumulative EOS BTF CPUE according to various run timing scenarios when enough data have been collected. *Right*: The cumulative BTF CPUE from 2022 plotted along with four previous years intended to represent a range of early/late and small/large index values.



For more detailed information, see the ***Chinook salmon appendix*** *at the end of this document.*

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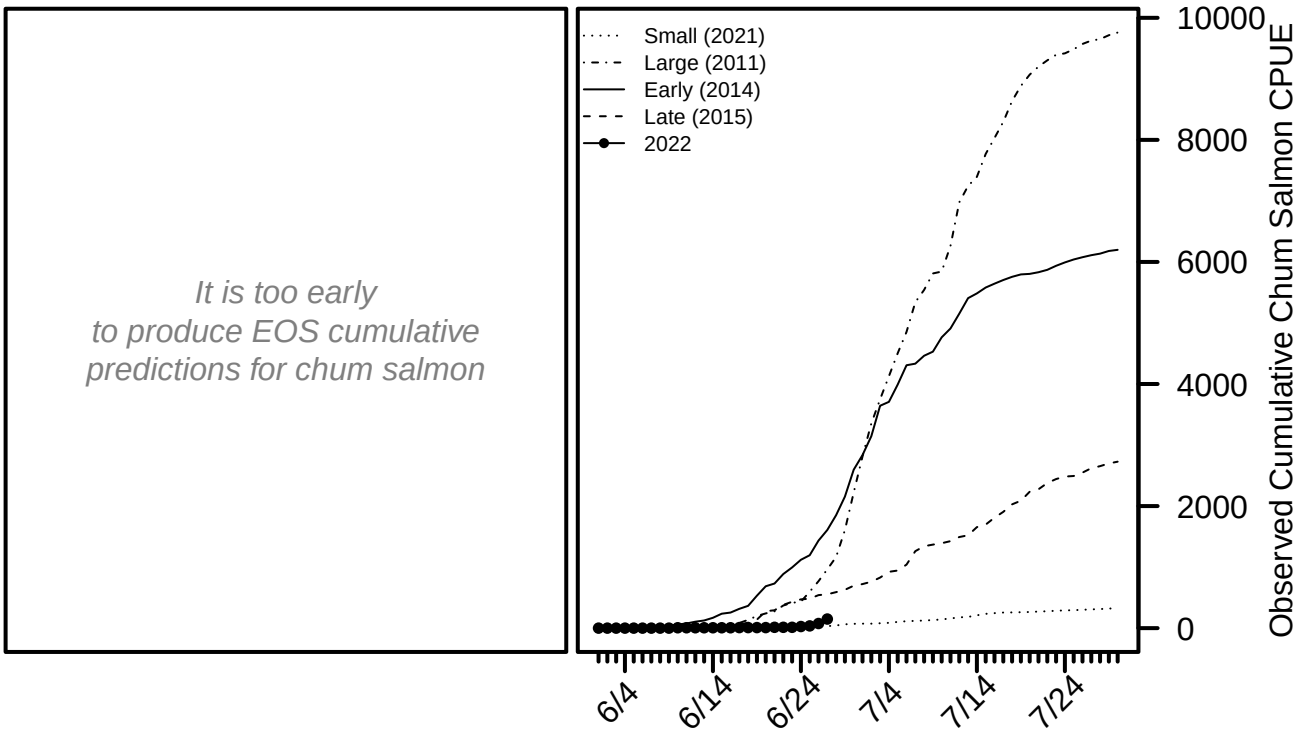
Chum Salmon BTF Summary (6/27)

- The BTF daily CPUE was **73**.
- The BTF cumulative CPUE is now **149**.
- **14%** years since 2008 fell below this cumulative CPUE on this date.
- **20%** of the run is complete based on historical average run timing.
- **12% - 31%** of the run is complete based on the central 50% of all historical run timing scenarios.
- **16% - 18%** of the run is expected to pass Bethel in the next 5 days.
- Over the last 3 days, chum salmon made up **28%** of the BTF catches, compared to **56%** on average.

Chum Salmon Figure 1. *Left*: will show predicted cumulative EOS BTF CPUE according to various run timing scenarios when enough data have been collected. *Right*: The cumulative BTF CPUE from 2022 plotted along with four previous years intended to represent a range of early/late and small/large index values.



For more detailed information, see the ***chum salmon appendix*** *at the end of this document.*

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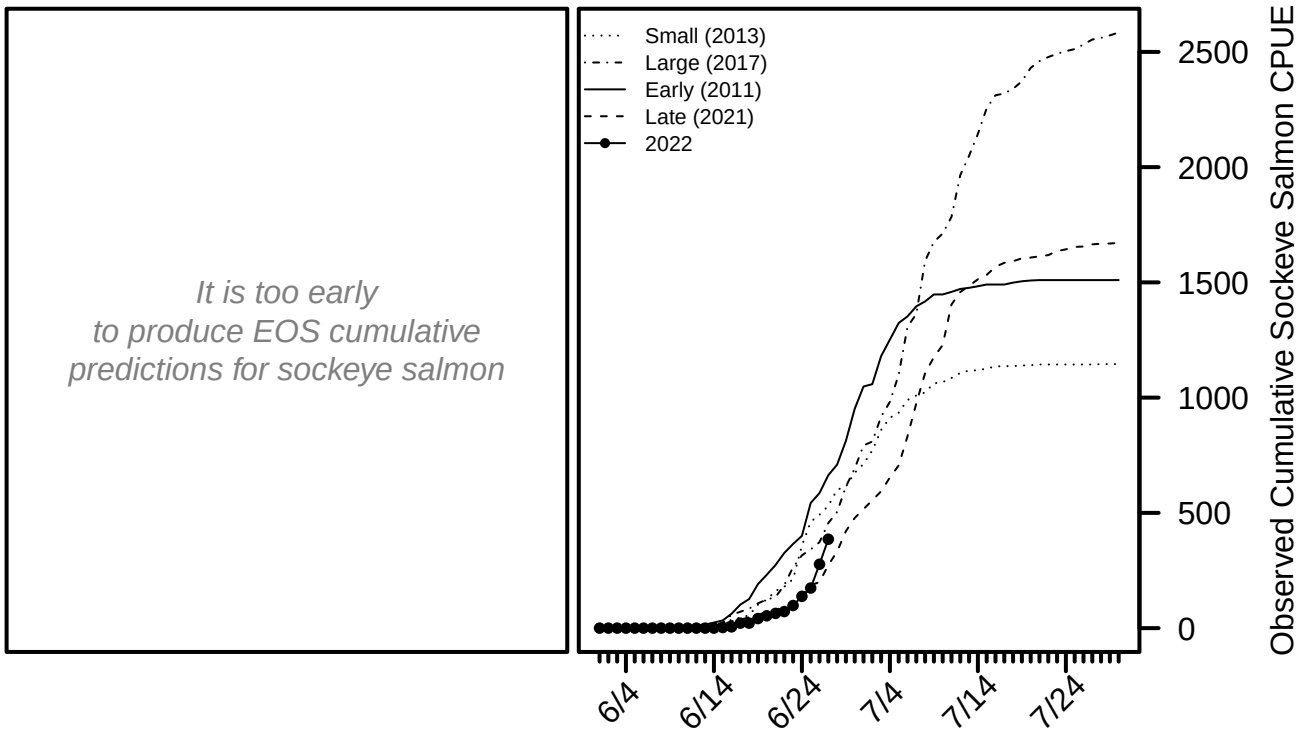
Sockeye Salmon BTF Summary (6/27)

- The BTF daily CPUE was **108**.
- The BTF cumulative CPUE is now **386**.
- **57%** years since 2008 fell below this cumulative CPUE on this date.
- **39%** of the run is complete based on historical average run timing.
- **25% - 54%** of the run is complete based on the central 50% of all historical run timing scenarios.
- **24% - 25%** of the run is expected to pass Bethel in the next 5 days.
- Over the last 3 days, sockeye salmon made up **56%** of the BTF catches, compared to **34%** on average.

Sockeye Salmon Figure 1. *Left*: will show predicted cumulative EOS BTF CPUE according to various run timing scenarios when enough data have been collected. *Right*: The cumulative BTF CPUE from 2022 plotted along with four previous years intended to represent a range of early/late and small/large index values.



For more detailed information, see the ***sockeye salmon appendix*** *at the end of this document.*

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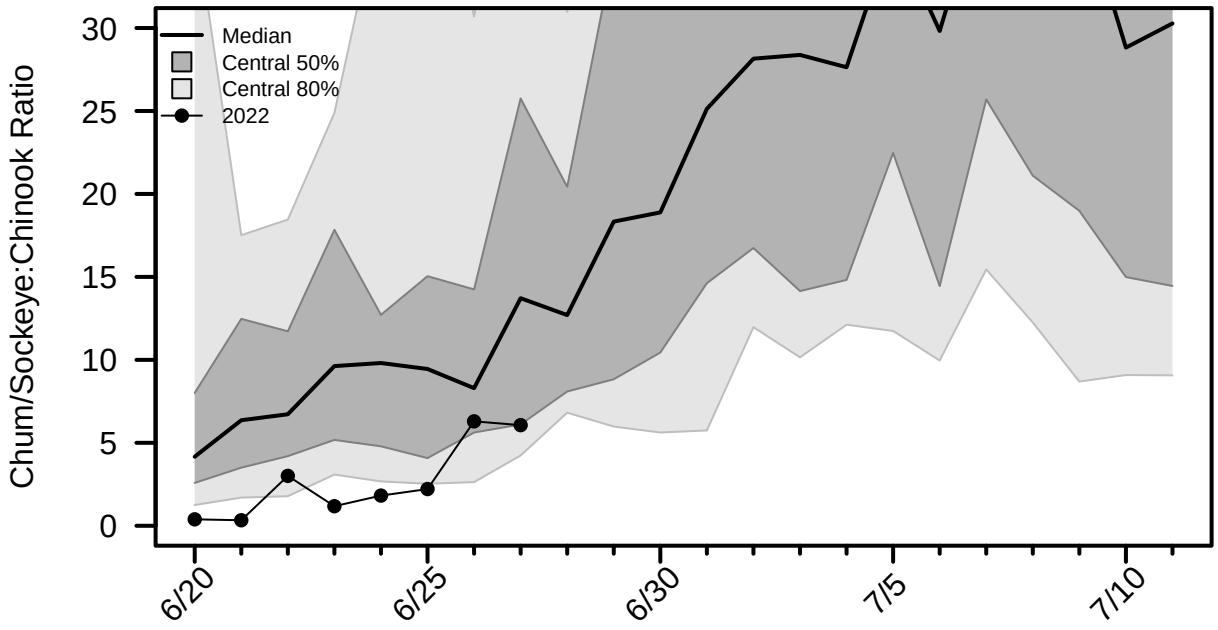
Chum/Sockeye:Chinook Salmon Ratio

This ratio is calculated by dividing the total number of chum and sockeye salmon counted by the number of Chinook salmon counted by a project each day. A value of zero indicates Chinook salmon were counted that day, but not chum or sockeye salmon. A missing value on a day the project operated indicates no Chinook salmon were counted that day.

Species Ratio Figure 1. Time series of the species ratio with historical quantiles shown as grey regions and the ratio time series for 2022 shown with points connected by lines.



Ratio Table 1. A subset of the species ratios, including the ratios from the ATF.

Date	2022 BTF	BTF Median	BTF Lower 10%	BTF Upper 10%	2022 ATF
6/24	1.82	9.81	2.67	37.74	0.21
6/25	2.21	9.45	2.53	43.51	0.18
6/26	6.29	8.29	2.63	30.7	0.2
6/27	**6.07**	**13.72**	**4.24**	**45.72**	**0**
6/28		12.7	6.82	30.98	
6/29		18.33	5.98	56.96	
6/30		18.89	5.62	60.34	

Ratio Table 2. The percent of previous years in which a given species ratio was exceeded at least once before a certain day in the BTF.

Date	Ratio > 1	Ratio > 3	Ratio > 5	Ratio > 10	Ratio > 20
6/24	100%	95%	92%	71%	37%
6/25	100%	95%	95%	79%	39%
6/26	100%	95%	95%	82%	42%
6/27	**100%**	**100%**	**95%**	**82%**	**53%**
6/28	100%	100%	97%	87%	61%
6/29	100%	100%	100%	89%	68%
6/30	100%	100%	100%	92%	74%

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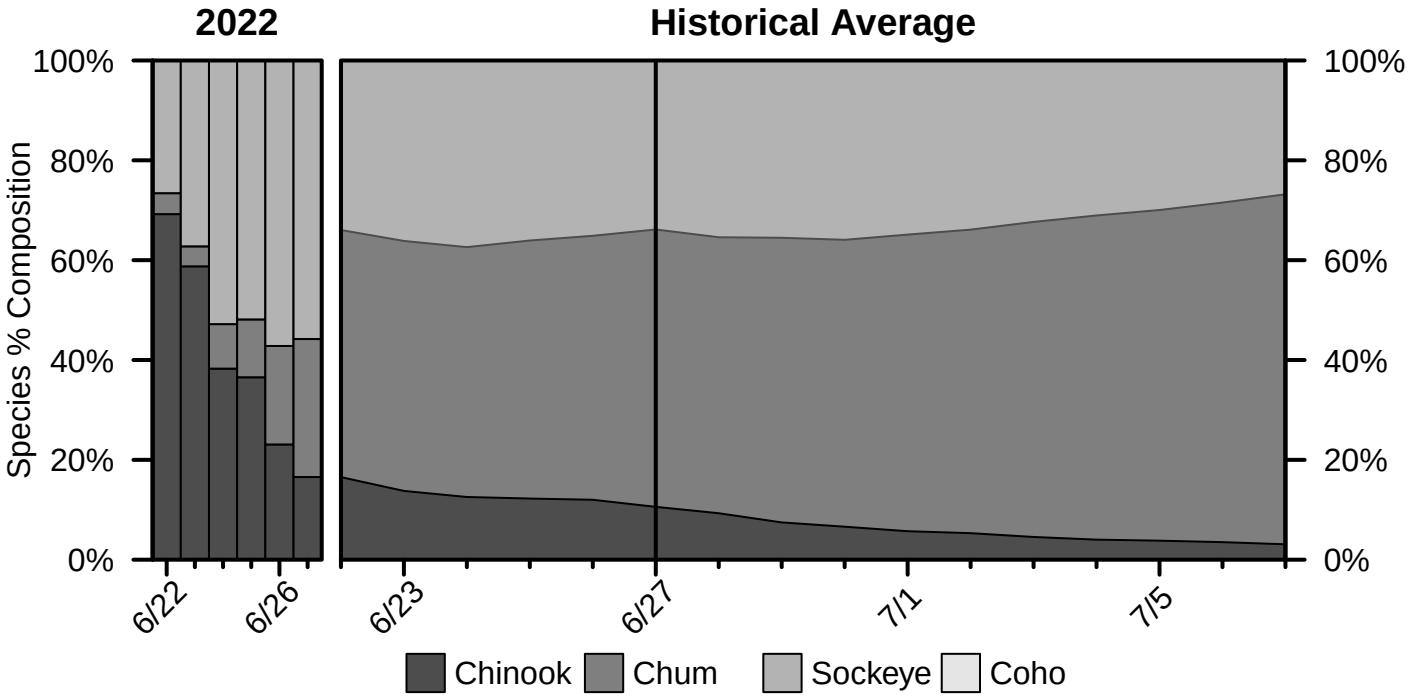
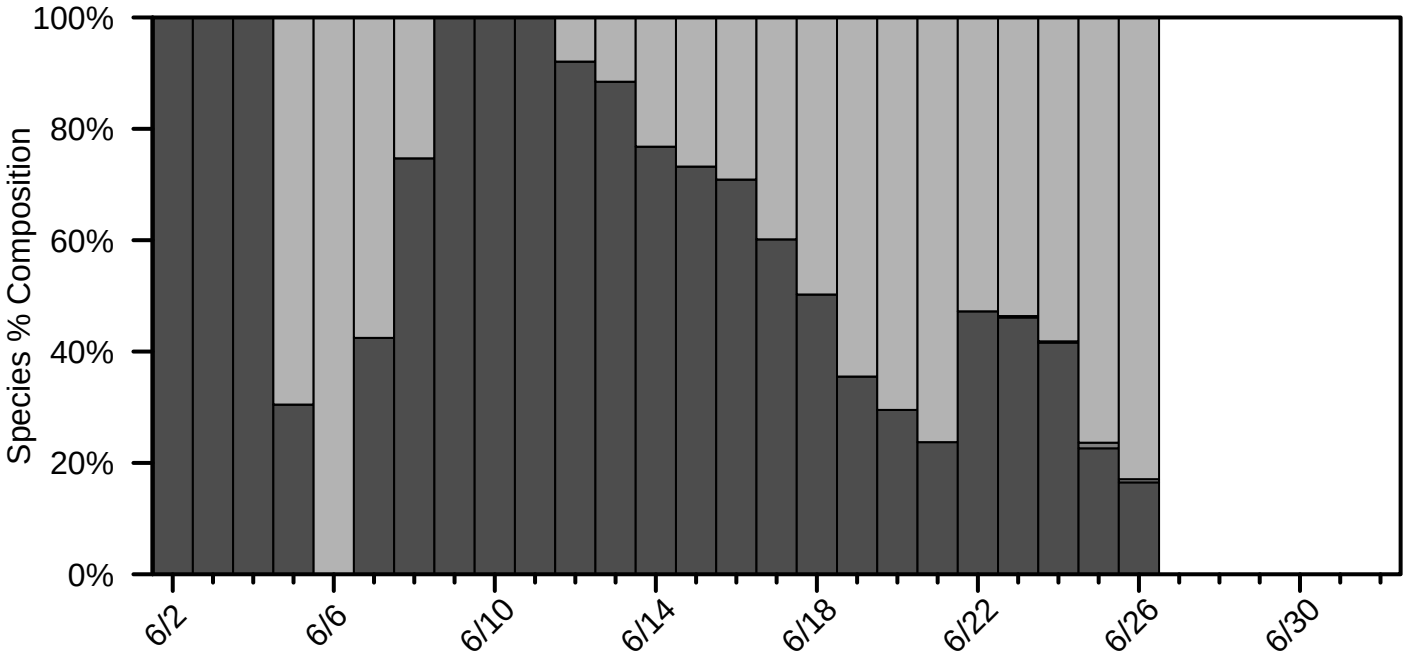
Percent Composition by Salmon Species

Percent Composition Figure 1. Species percent composition in the BTF from 2022 and based on the historical average. The composition presented on each day represents the average composition over the past 2 days.



Species Composition Figure 2. Species percent composition from the sonar estimates from 2022 (salmon species only, excluding pink salmon). The composition presented on each day represents the average composition over the past 3 days.



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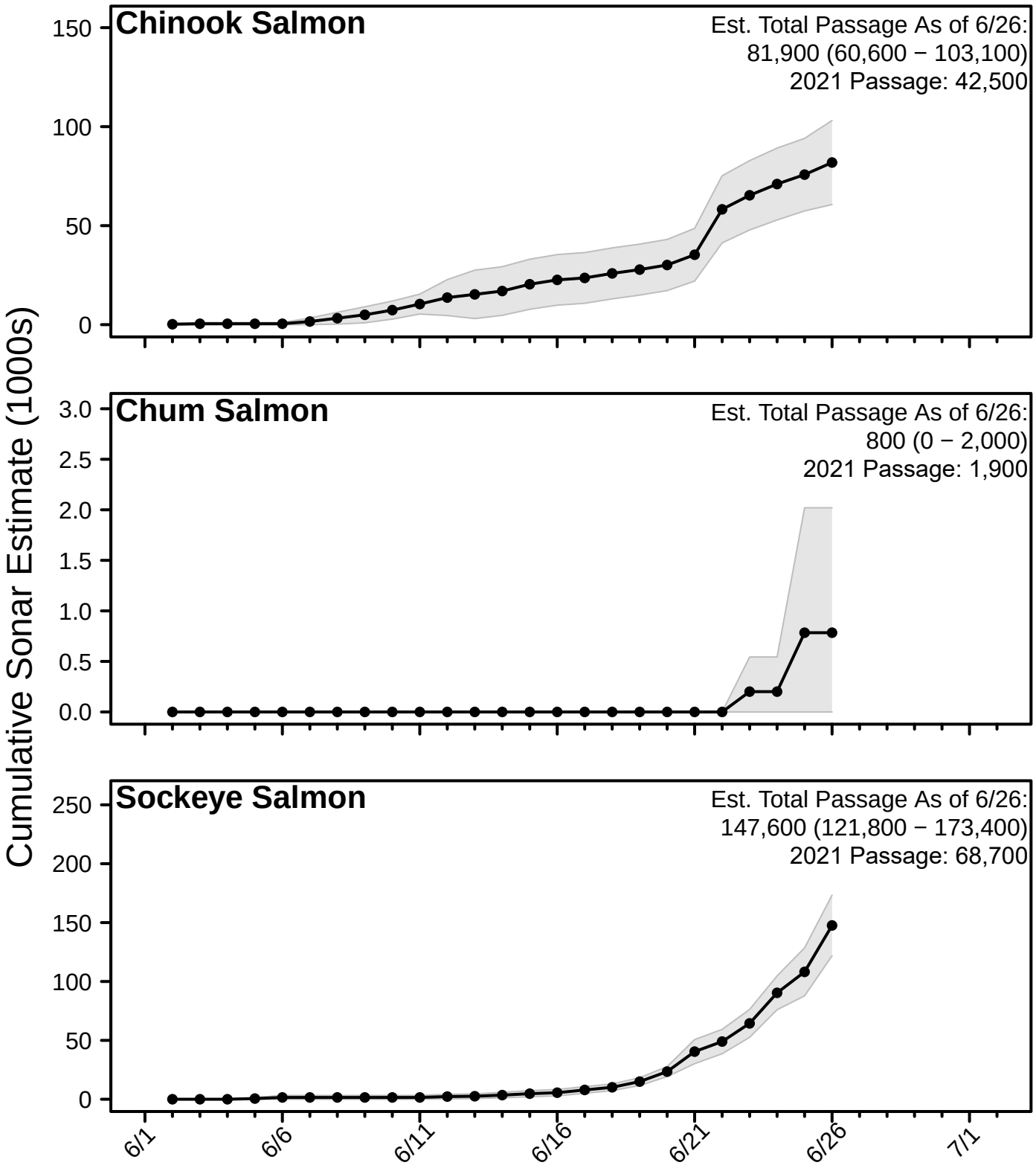
Sonar Passage Estimates

Sonar Figure 1. Cumulative estimates of salmon passage from the 2022 sonar operation through the last complete reporting day. Grey bands show the 95% confidence intervals on each complete reporting day.



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In-Season Harvest Estimates

In-season harvest estimates are produced by combining counts of total fishing effort (usually obtained via aerial survey) and on-the-ground fisher interview information using statistically-rigorous methodology. The data collection efforts to produce these estimates is a highly collaborative effort, involving staff from ADF&G, KRITFC, ONC, and USFWS. Much more detailed information can be found on the YDNWR website (https://www.fws.gov/refuge/yukon_delta/wildlife_and_habitat/dailyupdate.html).

In the tables below, CV stands for coefficient of variation, which is a commonly-used measure of uncertainty in the estimate (larger CV values are more uncertain).

Harvest Table 1. Estimated total Chinook salmon harvest within the YDNWR, excluding the section between Akiak and Aniak.

Date	Daily Harvest	Cumulative Harvest	Daily CV	Cumulative CV
6/1	30	30	0.76	0.76
6/4	80	110	0.28	0.29
6/8	120	230	0.24	0.19
6/12	4,700	4,930	0.14	0.13
6/16	7,680	12,610	0.09	0.08
6/22	14,000	26,610	0.06	0.05

Harvest Table 2. Estimated total chum salmon harvest within the YDNWR, excluding the section between Akiak and Aniak.

Date	Daily Harvest	Cumulative Harvest	Daily CV	Cumulative CV
6/1	0	0	0	0
6/4	0	0	0	NA
6/8	0	0	0	NA
6/12	60	60	0.42	0.42
6/16	160	220	0.29	0.24
6/22	950	1,170	0.12	0.11

Harvest Table 3. Estimated total sockeye salmon harvest within the YDNWR, excluding the section between Akiak and Aniak.

Date	Daily Harvest	Cumulative Harvest	Daily CV	Cumulative CV
6/1	0	0	0	0
6/4	0	0	0	NA
6/8	20	20	0.54	0.54
6/12	360	380	0.18	0.17
6/16	1,920	2,300	0.25	0.21
6/22	13,720	16,020	0.08	0.08

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Chinook Salmon Appendix

Chinook Salmon Table A1. Cumulative CPUE from the BTF.

Date	2022	2021	2020	2019	2018	5-Yr Avg.	2008 - 2021 Avg.
6/24	251	247	203	561	306	293	314
6/25	272	266	230	579	354	318	334
6/26	295	273	262	606	387	339	359
6/27	**325**	**293**	**274**	**640**	**406**	**362**	**377**
6/28		336	282	674	434	388	394
6/29		355	298	705	461	409	414
6/30		376	311	730	481	428	431
EOS		532	487	848	667	582	566

Chinook Salmon Table A2. Cumulative CPUE from the ATF.

Date	2022	2021	2020	2019	2018
6/24	318	624	357	1,023	180
6/25	386	677	403	1,139	218
6/26	477	752	487	1,181	245
6/27	**547**	**823**	**554**	**1,321**	**280**
6/28		922	653	1,359	330
6/29		922	765	1,367	388
6/30		964	839	1,445	429
EOS		1,891	1,874	1,691	820

Chinook Salmon Table A3. Percent of run complete according to various historical run timing scenarios from the BTF.

Timing	Midpoint	6/27 Cumulative %
Earliest	6/14	91%
Early 10%	6/18	85%
Early 25%	6/21	79%
Median	6/22	69%
Late 25%	6/25	58%
Late 10%	6/26	49%
Latest	7/3	38%

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Chum Salmon Appendix

Chum Salmon Table A1. Cumulative CPUE from the BTF.

Date	2022	2021	2020	2019	2018	5-Yr Avg.	2008 - 2021 Avg.
6/24	26	17	50	224	787	355	544
6/25	36	25	59	257	878	396	628
6/26	75	28	71	294	997	464	742
6/27	**149**	**33**	**95**	**357**	**1,149**	**590**	**881**
6/28		43	150	582	1,242	738	1,010
6/29		62	197	816	1,404	904	1,198
6/30		71	268	1,088	1,593	1,040	1,445
EOS		327	1,442	6,427	8,212	4,639	5,832

Chum Salmon Table A2. Cumulative CPUE from the ATF.

Date	2022	2021	2020	2019	2018
6/24	7	13	65	31	286
6/25	7	19	86	88	401
6/26	19	19	148	177	561
6/27	**19**	**19**	**169**	**266**	**928**
6/28		19	218	311	1,276
6/29		19	326	311	1,560
6/30		26	425	407	1,772
EOS		267	2,611	1,051	10,277

Chum Salmon Table A3. Percent of run complete according to various historical run timing scenarios from the BTF.

Timing	Midpoint	6/27 Cumulative %
Earliest	6/23	55%
Early 10%	7/1	42%
Early 25%	7/3	31%
Median	7/6	21%
Late 25%	7/8	12%
Late 10%	7/11	7%
Latest	7/15	3%

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Sockeye Salmon Appendix

Sockeye Salmon Table A1. Cumulative CPUE from the BTF.

Date	2022	2021	2020	2019	2018	5-Yr Avg.	2008 - 2021 Avg.
6/24	138	139	74	204	91	165	249
6/25	174	186	90	212	125	191	293
6/26	277	200	136	221	184	223	338
6/27	**386**	**274**	**168**	**272**	**204**	**275**	**386**
6/28		332	172	476	216	340	442
6/29		421	190	577	298	420	510
6/30		478	192	694	411	493	601
EOS		1,694	1,060	2,685	2,275	2,080	1,773

Sockeye Salmon Table A2. Cumulative CPUE from the ATF.

Date	2022	2021	2020	2019	2018
6/24	13	19	0	0	0
6/25	25	19	0	11	0
6/26	31	32	0	22	0
6/27	**31**	**38**	**0**	**22**	**0**
6/28		51	12	22	8
6/29		51	24	22	17
6/30		51	30	22	34
EOS		241	209	33	75

Sockeye Salmon Table A3. Percent of run complete according to various historical run timing scenarios from the BTF.

Timing	Midpoint	6/27 Cumulative %
Earliest	6/22	80%
Early 10%	6/24	67%
Early 25%	6/27	54%
Median	6/29	39%
Late 25%	7/2	25%
Late 10%	7/6	16%
Latest	7/10	8%

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Alaska Peninsula Inseason Commercial Harvest Estimates

https://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareaakpeninsula.salmonharvestsummary

Map: https://www.adfg.alaska.gov/static-f/fishing/pdfs/commercial/akpeninsula_stat_map.pdf

ESTIMATED SALMON CATCH TO DATE
BY GEOGRAPHIC AREA / FISHERY, WITHIN THE ALASKA PENINSULA MANAGEMENT AREA

Saturday, June 25, 2022

South Peninsula	Chinook	Sockeye	Coho	Pink	Chum
Post June Cold Bay	0	0	0	0	0
Post June Thin Point Section	0	0	0	0	0
Post June Morzhovoi Bay to South Unimak	0	0	0	0	0
Post June Shumagin Islands	0	0	0	0	0
Southeastern District Mainland	0	0	0	0	0
Northwest Stepovak Section (7/1-7/25)	0	0	0	0	0
Dolgoi Island Area1*	5	16,360	0	82	636
Dolgoi Island Area2	0	0	0	0	0
June Shumagin Islands	1,141	776,631	1	113,104	153,293
June South Unimak*	1,314	2,885,313	152	905,087	265,798
	2,460	**3,678,304**	**153**	**1,018,273**	**419,727**