

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: 06/22/2022

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:

Upriver Elder:
Downriver Elder:
Commercial Fisher:
Lower River Subsistence:
Middle River Subsistence:
Upper River Subsistence:
Headwaters Subsistence:

QUORUM MET? Yes / No

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 22, 2022 ADF&G management actions under consideration:

Subsistence Sections 1-3 (Yukon Delta Refuge boundary at the mouth of the Kuskokwim River to Yukon Delta Refuge boundary near Aniak):

- Single 12-hour period between June 28 and July 2;
 - From the Yukon Delta Refuge boundary at mouth of the Kuskokwim River to a line formed between two points lat 61° 20.333' N, long 160° 34.867' W and lat 61° 20.333' N, long 160° 41.05' W [**Kalskag Bluffs**]).
 - Below the Johnson River, 6-inch or less mesh gillnets (set or drift) are restricted to 45 meshes in depth, and 50 fathoms in length.
 - Above the Johnson River, 6-inch or less mesh gillnets (set or drift) are restricted to 45 meshes in depth, and 25 fathoms in length.

The preseason forecast of Kuskokwim River king salmon is for a range of 99,000 to 161,000 fish. As of June 20, the Bethel test fishery cumulative CPUE for king salmon was 152 and the total king salmon passage past the sonar, as of June 18, was 25,900 fish. Inseason assessment indicates that this year's run may be similar to 2021, which was a total run of 129,751 fish. Drainage-wide escapement in 2021 was 101,000 fish.

Projections from the collaboratively developed Chinook Salmon In-season Bayesian Risk Assessment Tool (<https://bstaton.shinyapps.io/BayesTool/>) were used to estimate expected run/escapement and harvestable surplus. A current total harvest of 24,100 fish was used to inform the model. This harvest includes total harvest to date downstream, and including, Akiak and an estimated 6,500 fish for the June 22 fishing period and an estimated 5,000 fish harvest upriver from Tuluksak. Expected harvest from a single 12-hour period between June 28 and July 2 is 2,500 king salmon. The updated model indicates that fishing for a single period between June 28 and July 2 will result in an expected escapement of 92,000 king salmon, with a very high probability (86%) of being above the lower bound of the ADF&G established drainage wide escapement goal. Inseason assessment, harvest reports, and expected harvest based on prior years indicate an opening for a single 12-hour period between June 28 and July 2 is warranted.

Chum salmon run strength continues to be exceptionally poor. Cumulative CPUE at the Bethel test fishery is similar to 2021 and sonar has not captured a chum salmon. The long-term average mid-point of Chum salmon passage at the Bethel test fishery is July 5; however, since 2018, the mid-point has ranged from July 9 to July 16. Chum salmon harvest to-date downriver from Akiak is 220 fish, compared to 440 fish harvested over the same time in 2021. If the 2022 Chum salmon run timing follows the general run timing pattern since 2018, we would expect 20% of the chum salmon run to be past Bethel on July 2. Expected harvest of chum salmon in one fishing period next week is 1,000 or less fish.



Orutsararmiut Native Council (ONC) Inseason Harvest Monitoring Weekly Report
June 22, 2022

For the June 16, 2022 opener, ONC fisheries crew visited 25 Bethel area fish camps, all of which were actively fishing and surveyed. ONC also gathered information from 139 unique fishing trips at the Bethel boat harbor.

Comments received from the boat harbor:

- Three fishers stated that there were many people out fishing.
- One person was concerned about the chum rates and would like to see the federal management take more action on chum conservation.
- One had noticed that the kings are much smaller this year.
- Two fishers said that this year's fishing was better than last year, and another noticed that people are catching many fish at the mouth.
- One noticed that other fishermen were being disrespectful out on the water.
- Snags, skunking, and motor issues was a problem for a handful of people during this opener as well as previous openers.
- Many have stated that they need and want more fish to harvest and some are thankful for the fish that they have caught.
- One fisher said that there should be more fishing periods and one fisher wanted larger mesh regulations, such as 8”.
- One has noticed that there are not many other fish types besides king salmon.
- Lastly, one fisher commented that their sheefish was full of parasites.

Comments received from fish camps:

- 6 fishermen stated that they want more openers, due to the great amount of other people fishing during the short amount of time.
- One wants the river to stay open 24/7 with no regulations or rules to follow.
- Lastly, one had seen 2 boats using full shackles and not the regulated lengths that they are supposed to be using.

Table 1. Average fish harvest, net length, and mesh size range reported by surveyed Bethel area fish camps and Bethel boat harbor fishers from the June 16, 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	139	8.3	<1	1.7	<1	30-300 (ft)	4-6
Bethel Fish Camps	25	16.8	<1	5.3	<1	45-300 (ft)	4-6

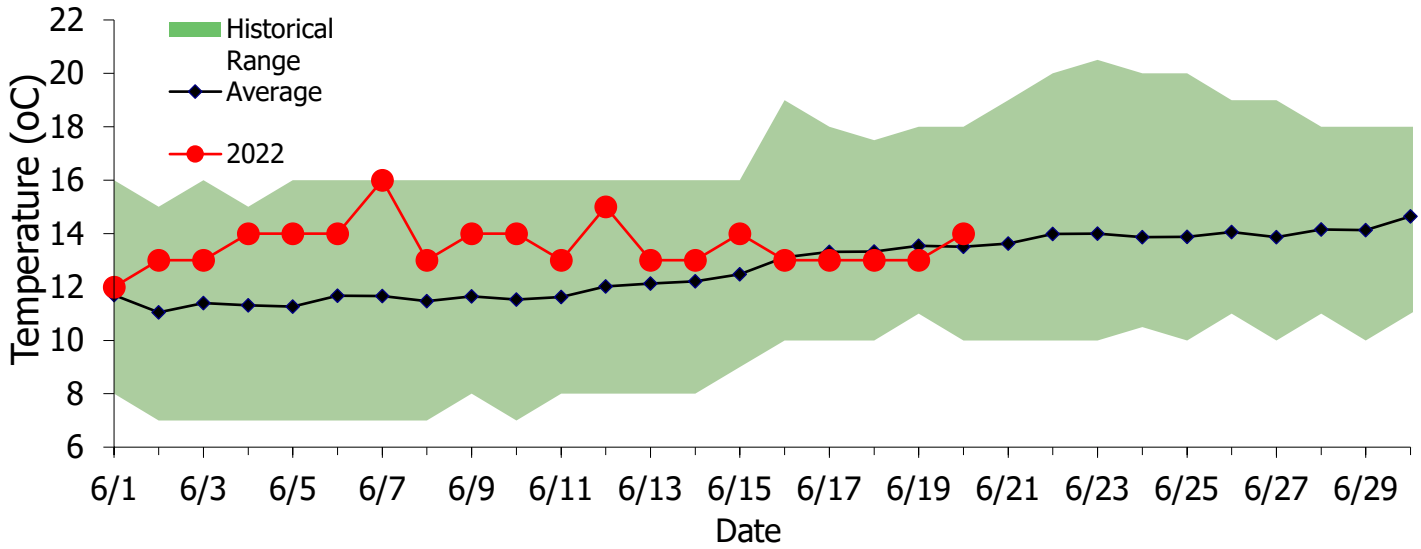
Table 2. Average fish harvest reported by surveyed Bethel area fish camps and Bethel boat harbor from mid-June fishing opportunities in 2021, 2020, 2019, and 2018.

Year	Fishing Date	Data Source	Number of Surveys Conducted	Average King Salmon Harvest	Average Chum Salmon Harvest	Average Sockeye Salmon Harvest	Average other harvest
2021	6/19	Boat Harbor	125	6.6	0.7	3.1	>0.5
		Bethel Fish Camps	31	12.1	1.1	5.8	>0.5
2020	6/19	Boat Harbor	92	7	1.5	1.6	<1
		Bethel Fish Camps	33	12.9	3.2	3.4	~1
2019	6/18	Boat Harbor	93	11.4	1.4	2.7	<1
		Bethel Fish Camps	40	19.4	~3	5.7	<1
2018	6/16	Boat Harbor	90	4.8	2.7	<1	<1
		Bethel Fish Camps	24	11.3	4.0	1	<1

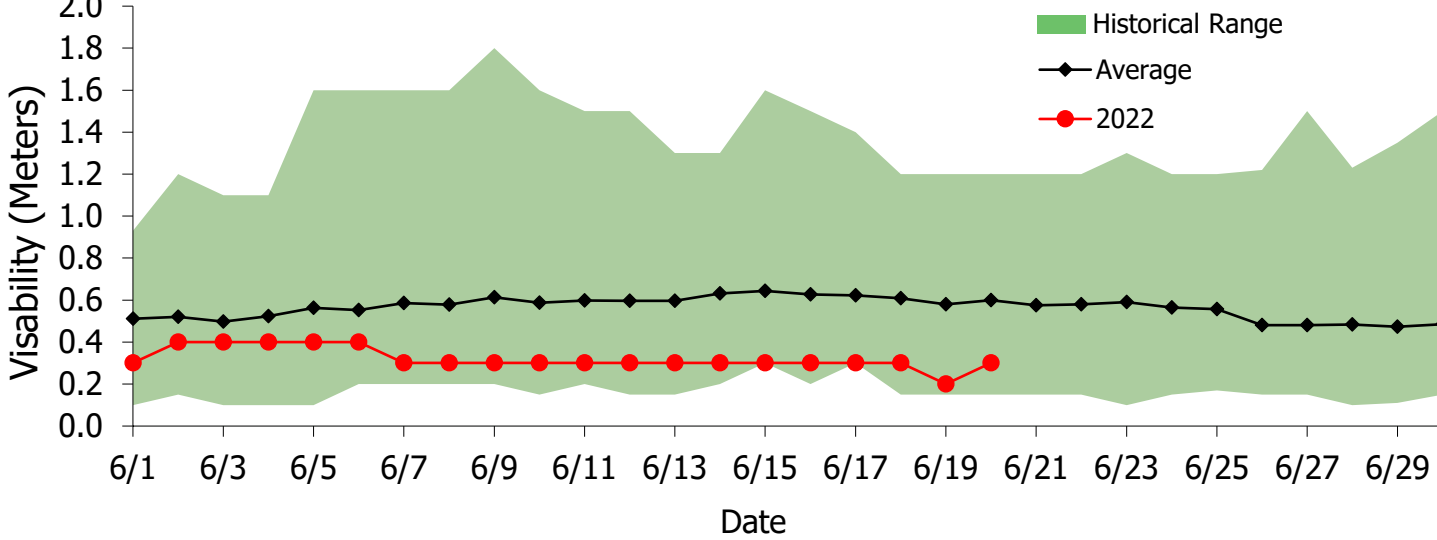
Fish Distribution

From June 13th through June 21st, ONC delivered 74 Chinook salmon, 1 chum salmon, 21 red salmon, and 2 non-salmon species to Bethel area Elders. These fish were caught by the ADF&G Bethel Test Fishery.

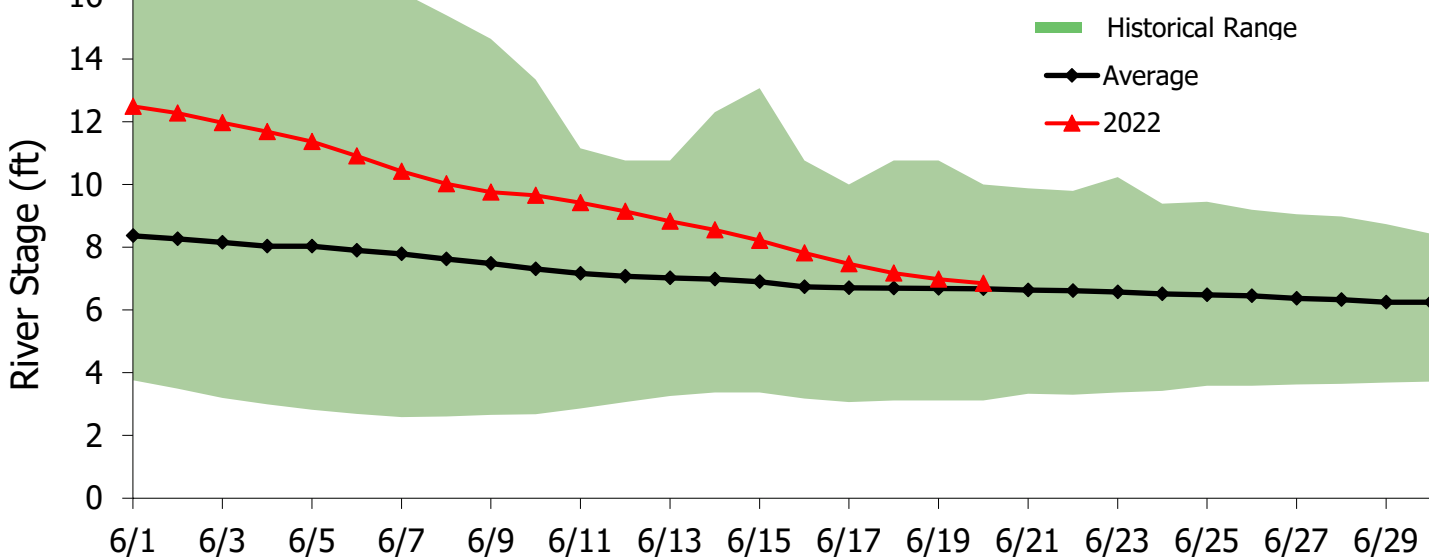
Historical Water Temperature at BTF Site (1984 to Present)



Historical Water Clarity at BTF site (1984 to Present)



Kuskokwim River Water Level at Crooked Creek (1984 to Present)



Kuskokwim River Salmon Assessment Update

6/20/2022



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>

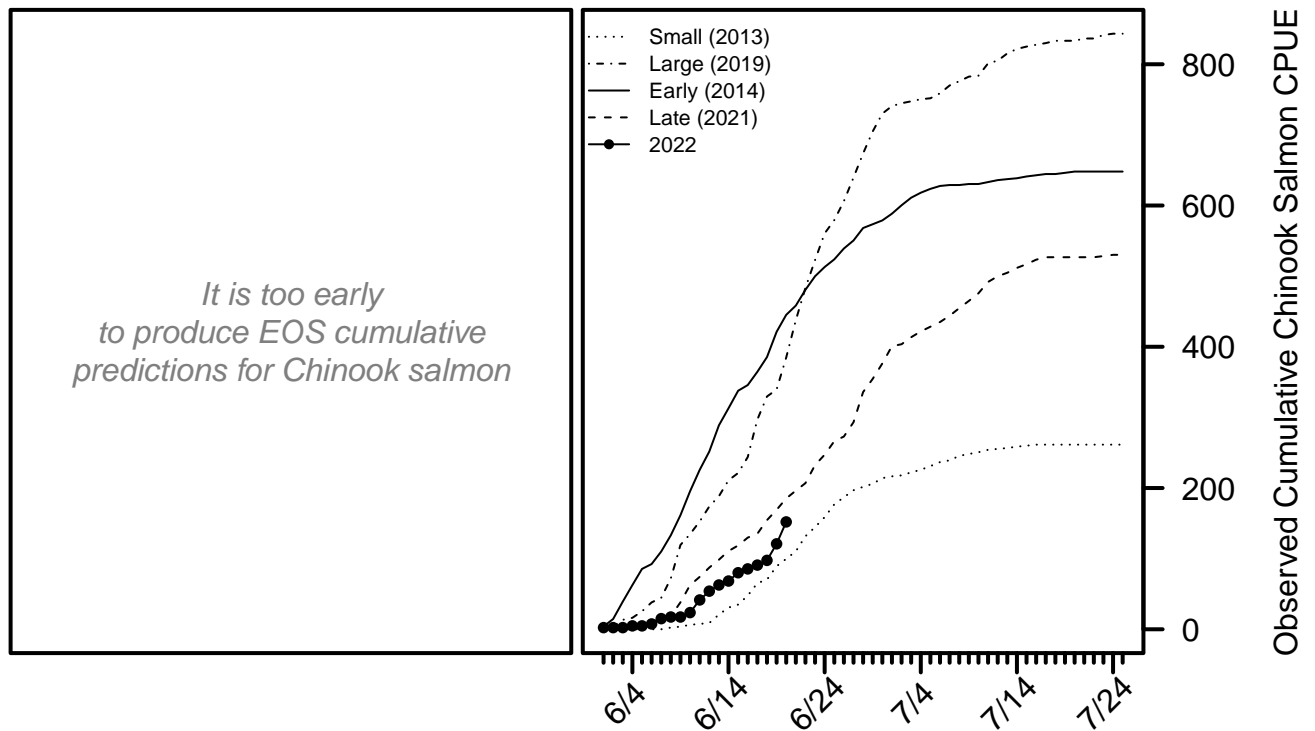
For the most up-to-date information regarding fishing opportunities please visit:

- **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 (6/20)

- The BTF daily CPUE was **31**.
- The BTF cumulative CPUE is now **152**.
- **21%** years since 2008 fell below this cumulative CPUE on this date.
- **41%** of the run is complete based on historical average run timing.
- **30% - 52%** of the run is complete based on the central 50% of all historical run timing scenarios.
- **20%** of the run is expected to pass Bethel in the next 5 days.
- Over the last 3 days, Chinook salmon made up **66%** of the BTF catches, compared to **22%** 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.



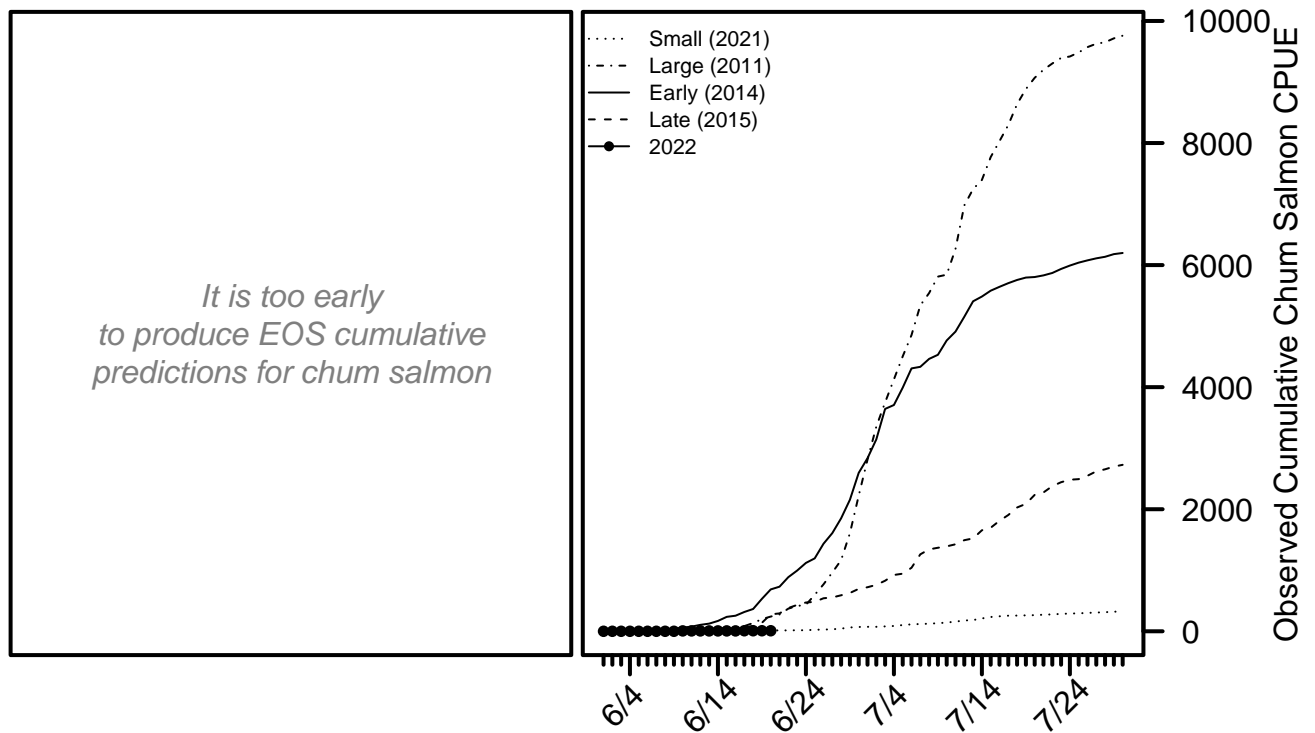
For more detailed information, see the [Chinook salmon appendix](#) at the end of this document.

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Chum Salmon BTF Summary (6/20)

- The BTF daily CPUE was **0**.
- The BTF cumulative CPUE is now **9**.
- **0%** years since 2008 fell below this cumulative CPUE on this date.
- **5%** of the run is complete based on historical average run timing.
- **2% - 10%** of the run is complete based on the central 50% of all historical run timing scenarios.
- **6% - 14%** of the run is expected to pass Bethel in the next 5 days.
- Over the last 3 days, chum salmon made up **0%** of the BTF catches, compared to **47%** 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.



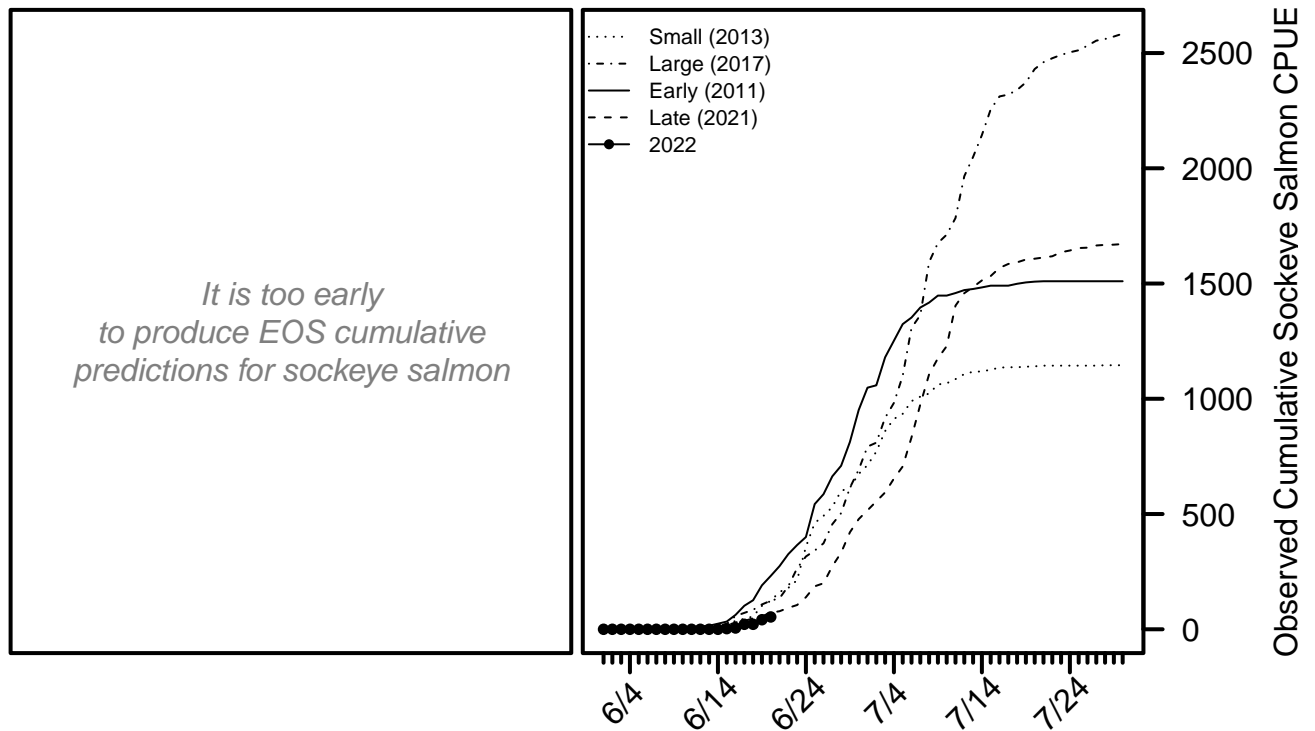
For more detailed information, see the [chum salmon appendix](#) at the end of this document.

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Sockeye Salmon BTF Summary (6/20)

- The BTF daily CPUE was **12**.
- The BTF cumulative CPUE is now **53**.
- **21%** years since 2008 fell below this cumulative CPUE on this date.
- **11%** of the run is complete based on historical average run timing.
- **5% - 18%** of the run is complete based on the central 50% of all historical run timing scenarios.
- **14% - 27%** of the run is expected to pass Bethel in the next 5 days.
- Over the last 3 days, sockeye salmon made up **34%** of the BTF catches, compared to **32%** 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.



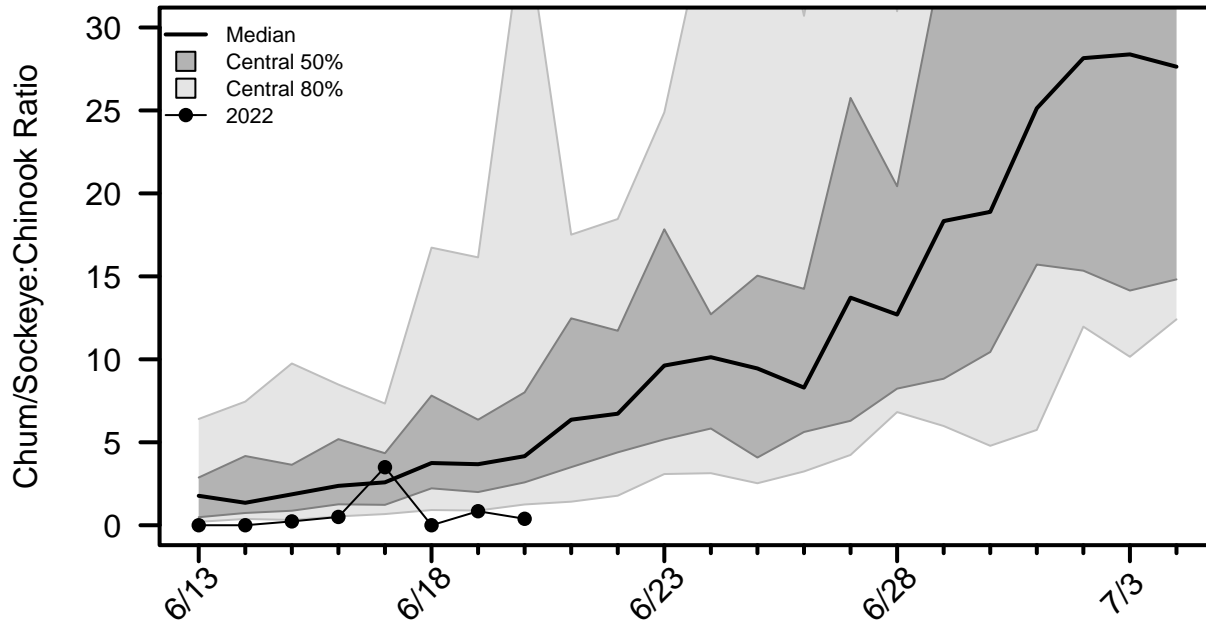
For more detailed information, see the [sockeye salmon appendix](#) at the end of this document.

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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
6/17	3.5	2.59	0.67	7.33	0
6/18	0	3.75	0.92	16.73	0
6/19	0.85	3.68	0.89	16.14	0.14
6/20	0.39	4.16	1.25	36.7	0
6/21		6.36	1.42	17.51	
6/22		6.72	1.78	18.46	
6/23		9.62	3.09	24.88	

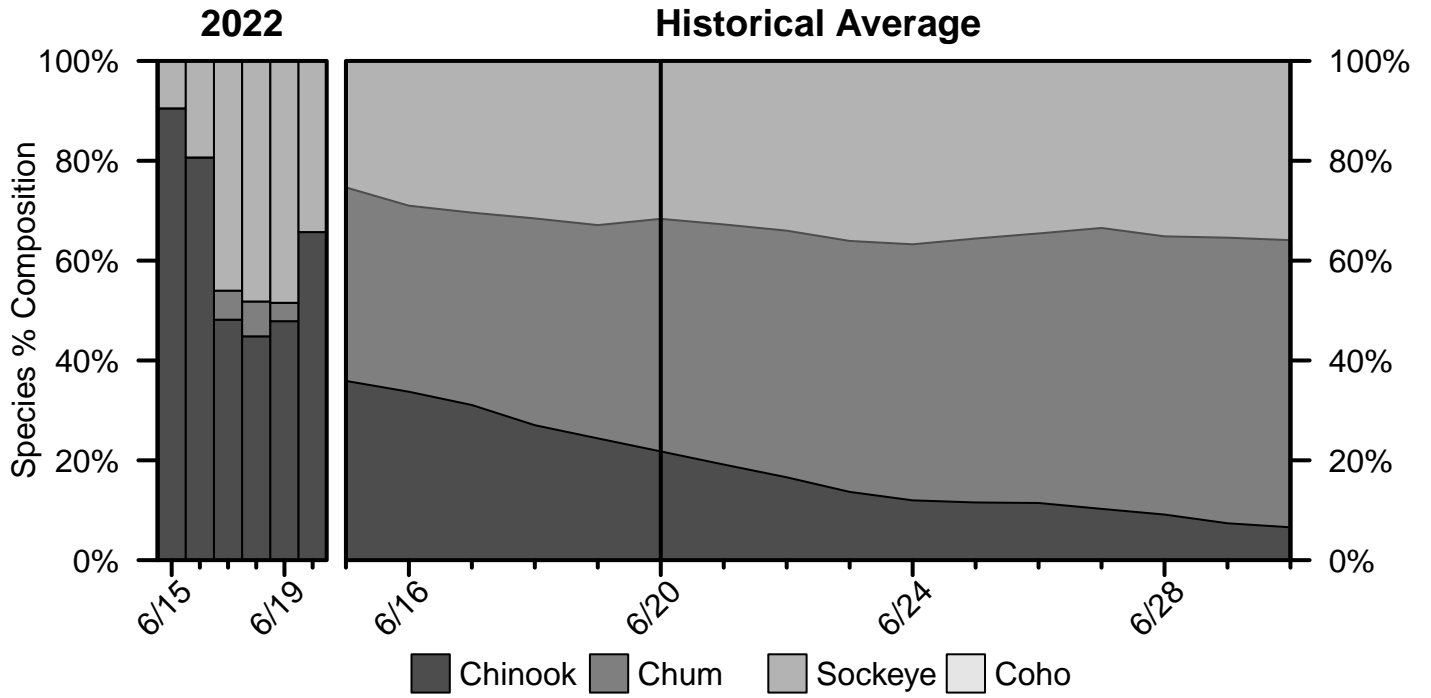
Ratio Table 2. The percent of previous years in which a given species ratio was exceeded at least once before a certain day in the BTF.

Date	Ratio > 1	Ratio > 3	Ratio > 5	Ratio > 10	Ratio > 20
6/17	95%	74%	50%	21%	5%
6/18	95%	76%	55%	34%	11%
6/19	95%	84%	68%	39%	13%
6/20	100%	87%	74%	47%	21%
6/21	100%	89%	87%	58%	21%
6/22	100%	92%	92%	63%	21%
6/23	100%	95%	92%	66%	32%

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Percent Composition by Salmon Species

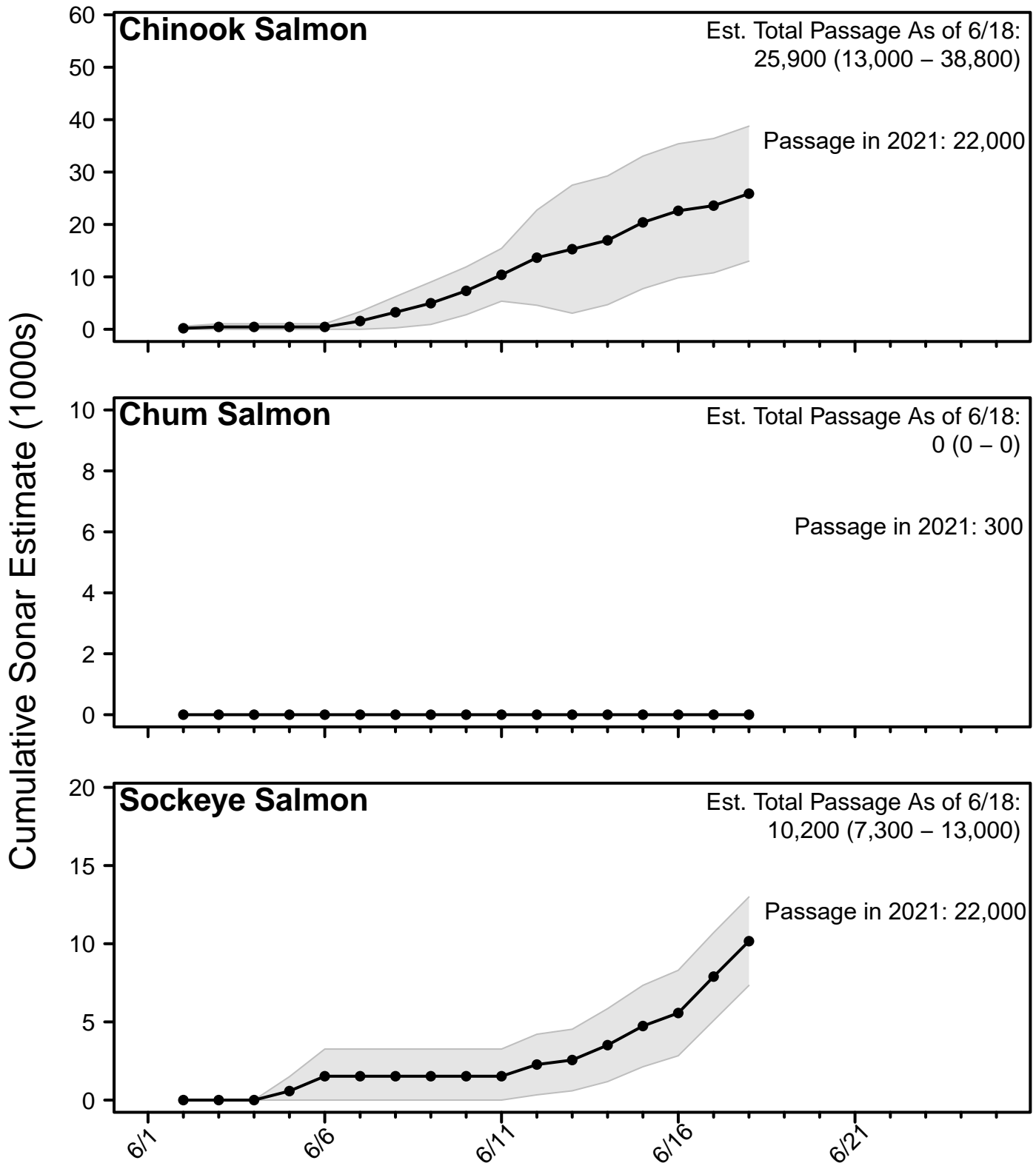
Percent Composition Figure 1. Species percent composition in the BTF from 2022 and based on the historical average. The composition presented on each day represents the average composition over the past 2 days.



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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

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

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

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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.
6/17	91	135	116	297	174	153	165
6/18	98	155	134	330	189	171	183
6/19	121	169	135	339	199	183	202
6/20	152	185	154	385	213	203	223
6/21		196	176	438	221	225	245
6/22		207	182	483	235	243	267
6/23		232	197	523	275	270	292
EOS		532	487	848	667	582	566

Chinook Salmon Table A2. Cumulative CPUE from the ATF.

Date	2022	2021	2020	2019	2018
6/17	35	182	107	645	134
6/18	73	233	140	795	134
6/19	118	261	167	810	134
6/20	125	302	218	836	141
6/21		387	245	836	165
6/22		464	285	953	172
6/23		554	311	973	172
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	6/20 Cumulative %
Earliest	6/14	71%
Early 10%	6/18	61%
Early 25%	6/21	52%
Median	6/22	41%
Late 25%	6/25	31%
Late 10%	6/26	22%
Latest	7/3	15%

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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.
6/17	9	9	40	24	216	87	95
6/18	9	12	44	34	244	108	134
6/19	9	14	50	36	314	148	188
6/20	9	14	50	55	405	174	240
6/21		14	59	95	447	200	301
6/22		14	71	108	518	239	379
6/23		17	95	186	716	316	472
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
6/17	0	0	13	5	15
6/18	0	0	13	5	32
6/19	0	6	26	5	95
6/20	0	6	32	5	137
6/21		6	45	5	168
6/22		6	52	5	209
6/23		13	59	19	264
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	6/20 Cumulative %
Earliest	6/23	24%
Early 10%	7/1	16%
Early 25%	7/3	10%
Median	7/6	5%
Late 25%	7/8	2%
Late 10%	7/11	1%
Latest	7/15	<1%

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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.
6/17	22	36	1	24	16	30	44
6/18	22	48	15	29	16	39	57
6/19	41	56	22	35	19	48	81
6/20	53	72	27	63	33	64	102
6/21		78	43	86	33	75	127
6/22		93	56	138	46	104	167
6/23		105	68	173	72	136	208
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
6/17	0	0	0	0	0
6/18	0	0	0	0	0
6/19	6	0	0	0	0
6/20	6	0	0	0	0
6/21		0	0	0	0
6/22		6	0	0	0
6/23		13	0	0	0
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	6/20 Cumulative %
Earliest	6/22	40%
Early 10%	6/24	28%
Early 25%	6/27	18%
Median	6/29	11%
Late 25%	7/2	5%
Late 10%	7/6	2%
Latest	7/10	1%

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Alaska Peninsula Inseason Commercial Harvest Estimates

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

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

Sunday, June 19, 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*	4	9,517	0	45	330
Dolgoi Island Area2	0	0	0	0	0
June Shumagin Islands	557	455,357	0	61,836	58,320
June South Unimak*	927	1,887,309	152	491,709	146,968
	1,488	2,352,183	152	553,590	205,618