

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: 06/21/2019

Time: 10:00 a.m.

Place: Yukon Delta NWR Office, Bethel

Time Called to Order:

Chair: Alissa N. Rogers

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

Processor:
Member at Large:
Sport Fisher:
Western Interior RAC:
Y-K Delta RAC:
KRITFC:
ADF&G:

INTRODUCTIONS:

INVOCATION:

APPROVAL OF AGENDA: *the agenda may be amended at this time.*

APPROVAL OF MINUTES: *Optional. ADF&G does not prepare official meeting minutes.*

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
- 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:
- 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.
Jennifer Peeks
Aaron Tiernan
Working Group Coordinators

Orutsararmiut Native Council (ONC) Inseason Harvest Monitoring Weekly Report

June 21, 2019

Summary of Interview Activities

On Saturday, June 15 and Wednesday, June 19, our fisheries team visited a total of 48 fish camps from Oscarville slough up to the bluffs and conducted surveys at the Bethel boat harbor.

During the June 15 opportunity, five respondents claimed there were too many boats on the river and it was combat fishing. Four fish camps claimed it was an early run and that Chinook salmon catches were the highest they've been in many years. One fish camp commented on the small size of their Chinook catches and several fish camps expressed gratitude and joy about the opportunities and abundance of fish in the river. We also were given recommendations to have fishery openings closer together and later in the day.

During the June 19 opportunity, three fish camps were happy with the fishing opportunities and their catches, while another three fish camps requested more openings and wanted restrictions to be over. Three fish camps commented on illegal fishing and requested more enforcement and closing the non-spawning tributaries. One fish camp reported their net being ran over. Two fish camps commented on the small size of Chinook salmon harvested with one of those camps stating the larger Chinook salmon are still coming in. Two fish camps commented on the lack of chum salmon in the river. One fish camp family had their fish confiscated earlier this month due to confusion and lack of markers distinguishing the mouth of the Kuskokwim river and the area just outside of the mouth. Four fish camps expressed gratitude for our team and were happy to see youth involved in fisheries monitoring.

Table 1. Average number of salmon harvested by surveyed Bethel area fish camps and Bethel boat harbor from the June 15 fishing opportunity.

Data Source	Number of Surveys Conducted	Average Chinook Salmon Harvest	Average Chum Salmon Harvest	Average Sockeye Salmon Harvest	Average other harvest
Bethel Area Fish Camps	34	13.6	<1	2.8	<1
Bethel Boat Harbor	113	7.2	<1	~1	<1

Table 2. Total number of salmon harvested in the non-spawning tributaries reported by Bethel area fish camps and at the Bethel boat harbor during the June 15 fishing opportunity.

Non-Spawning Tributary	Number of Fishing Trips	Total Chinook Salmon Harvest	Total Chum Salmon Harvest	Total Sockeye Salmon Harvest	Total other harvest
Johnson	10	61	5	8	1
Tuntutuliak	2	32	0	4	0

Table 3. Average number of salmon harvested by surveyed Bethel area fish camps and Bethel boat harbor from the June 19 fishing opportunity.

Data Source	Number of Surveys Conducted	Average Chinook Salmon Harvest	Average Chum Salmon Harvest	Average Sockeye Salmon Harvest	Average other harvest
Bethel Area Fish Camps	34	19.4	3.2	5.7	<1
Bethel Boat Harbor	93	11.4	1.4	2.7	<1

Table 4. Total number of salmon harvested in the non-spawning tributaries reported by Bethel area fish camps and at the Bethel boat harbor during the June 19 fishing opportunity.

Non-Spawning Tributary	Number of Fishing Trips	Total Chinook Salmon Harvest	Total Chum Salmon Harvest	Total Sockeye Salmon Harvest	Total other harvest
Gweek	3	34	0	15	0
Johnson	8	135	16	22	1

Fishing Progress Information

This past survey period, we asked eight fish camps the following question: “How close are you to achieving your Chinook, chum and sockeye salmon harvest goals?”

Table 5. Fishing progress by surveyed fish camps for Chinook, chum and sockeye salmon from the June 19 fishing opportunity.

Salmon Species	Not at all	Under Half	Halfway	Over Half	Goal Met
Chinook salmon	17% (n=5)	7% (n=2)	31% (n=9)	24% (n=7)	21% (n=6)
Chum salmon	83% (n=24)	7% (n=2)	3% (n=1)	0% (n=0)	7% (n=2)
Sockeye salmon	72% (n=21)	17% (n=5)	3% (n=1)	3% (n=1)	3% (n=1)

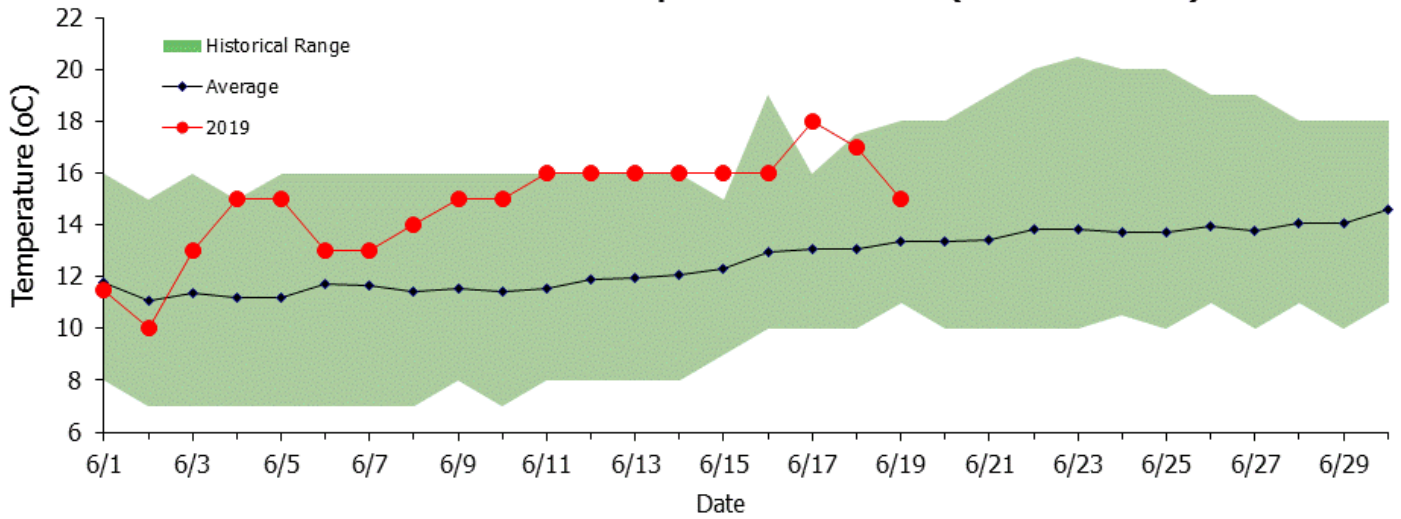
Chinook Salmon Age-Sex-Length (ASL) Sampling Program Recruitment

Thus far this season, there are 27 interested samplers from the Bethel community, and we’ve received samples from 13 of those individuals.

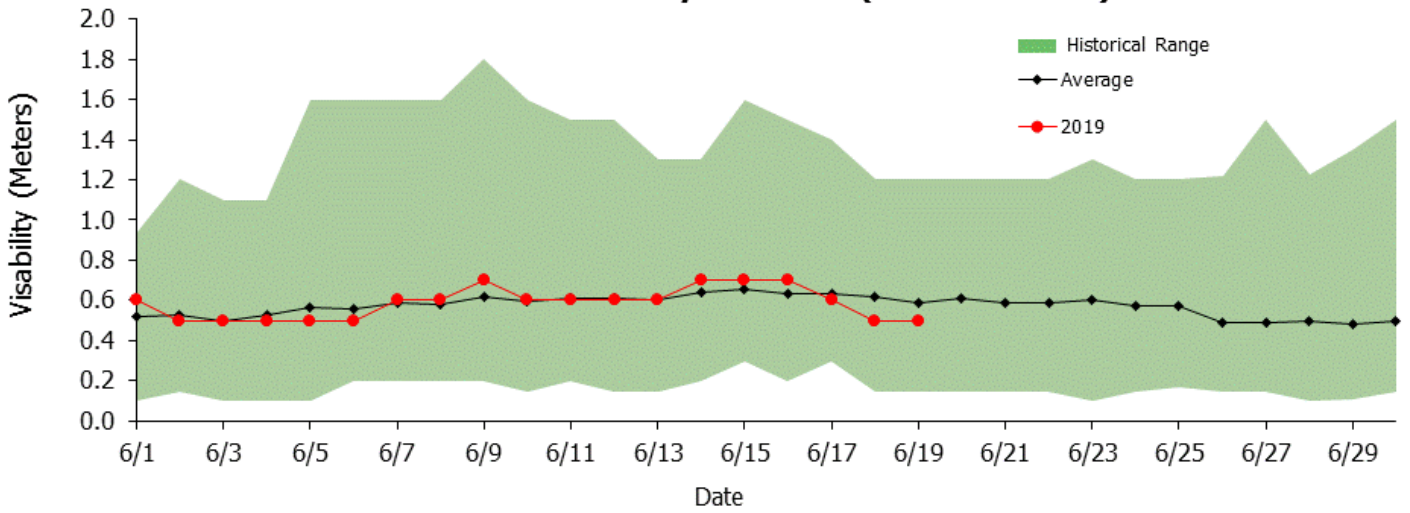
Fish Distribution

From June 9-June 19, we’ve delivered 154 Chinook salmon, 8 chum salmon, 7 sockeye salmon and 2 whitefish to Bethel area Elders, disabled and widows as well as ONC Senior Services department to provide salmon for the meals on wheels program. These fish served an estimated 125 Elders, disabled and widows in Bethel excluding those registered with the meals on wheels program. These fish were caught by the Alaska Department of Fish & Game Bethel Test Fishery.

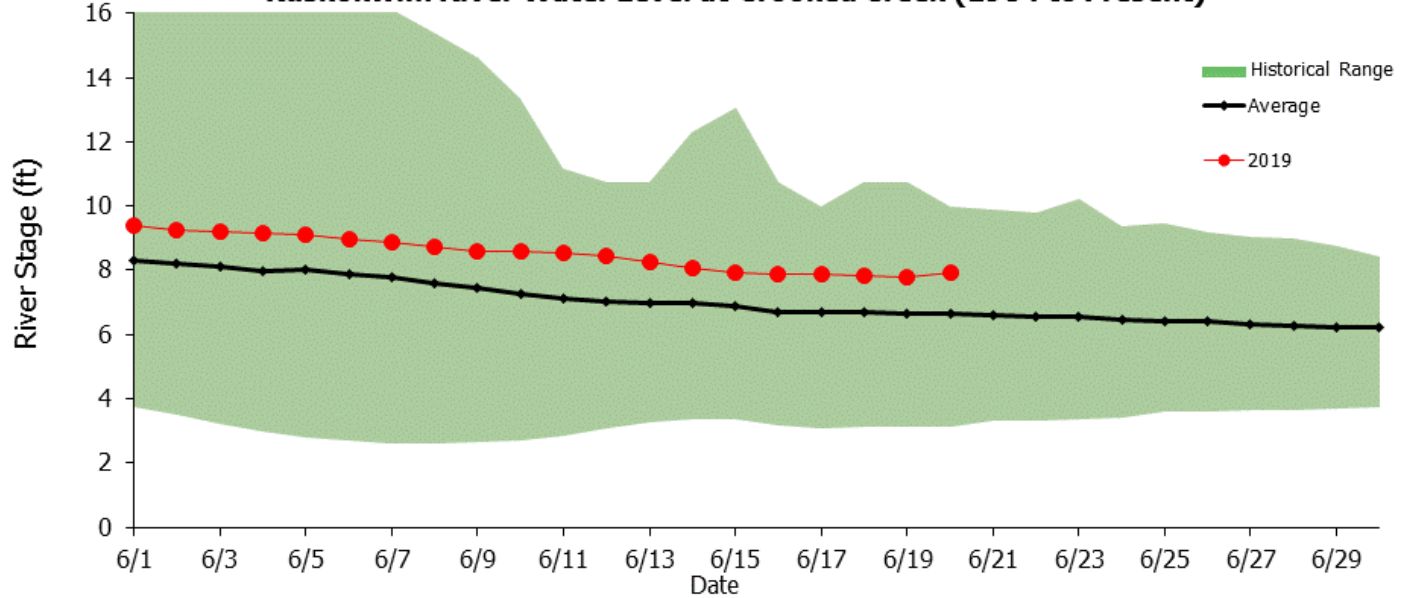
Historical Water Temperature at BTF Site (1984 to Present)



Historical Water Clarity at BTF site (1984 to Present)



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



Kuskokwim River Salmon Assessment Update

6/19/2019



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 Gary Decossas (USFWS; gary_decossas@fws.gov) or Nick Smith (ADF&G; nick.smith@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
- OTNC: Orutsaramiut Traditional 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>

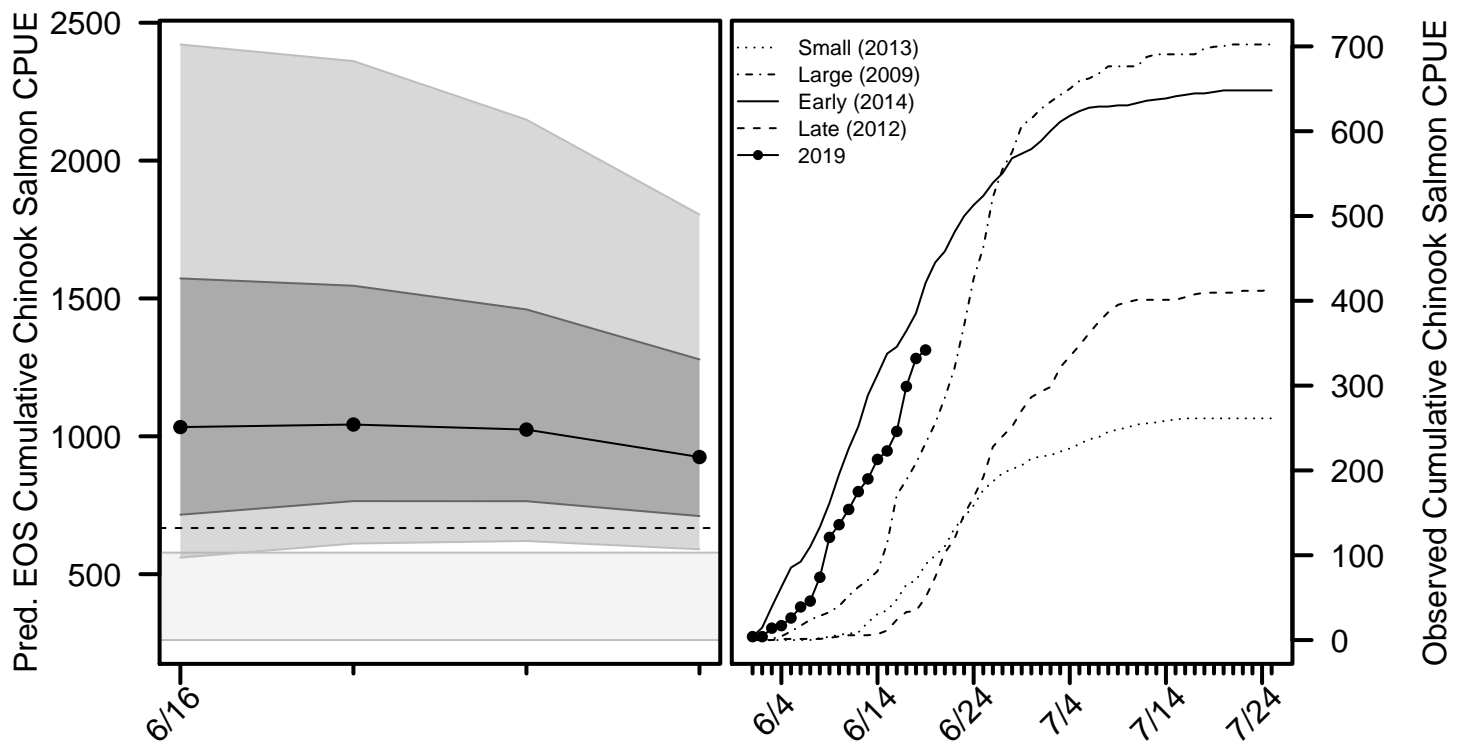
For the most up-to-date information regarding fishing opportunities please visit:

- **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 (6/19)

- The BTF daily CPUE was **10**.
- The BTF cumulative CPUE is now **342**.
- **91%** years since 2008 fell below this cumulative CPUE on this date.
- **37%** of the run is complete based on historical average run timing.
- **27% - 48%** of the run is complete based the central 50% of all historical run timing scenarios.
- **20% - 21%** of the run is expected to pass Bethel in the next 5 days.
- Over the last 3 days, Chinook salmon made up **83%** of the BTF catches, compared to **22%** on average.

Chinook Salmon Figure 1. *Left:* predicted cumulative EOS BTF CPUE according to various run timing scenarios: central 80% (light grey band), central 50% (dark grey band), and the historical median (circles). The grey box shows the range of EOS values from 2010 - 2013, which indexed run sizes past Bethel ranging from 60,000 to 82,000. The dashed horizontal line shows the EOS value from 2018. *Right:* The cumulative BTF CPUE from 2019 plotted along with four previous years intended to represent a range of early/late and small/large index values.



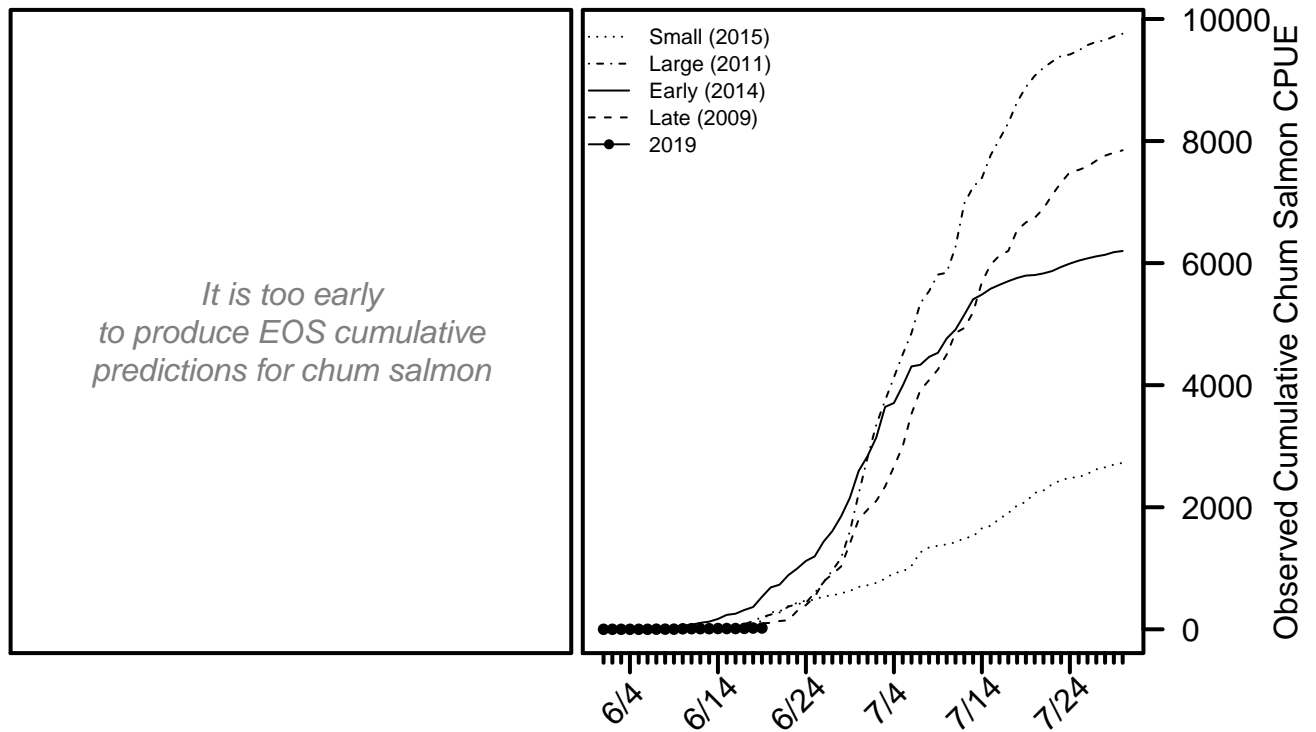
For more detailed information, see the [Chinook salmon appendix](#) at the end of this document.

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Chum Salmon BTF Summary (6/19)

- The BTF daily CPUE was **1**.
- The BTF cumulative CPUE is now **21**.
- **0%** years since 2008 fell below this cumulative CPUE on this date.
- **4%** of the run is complete based on historical average run timing.
- **2% - 8%** of the run is complete based 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 **8%** of the BTF catches, compared to **45%** 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 2019 plotted along with four previous years intended to represent a range of early/late and small/large index values.



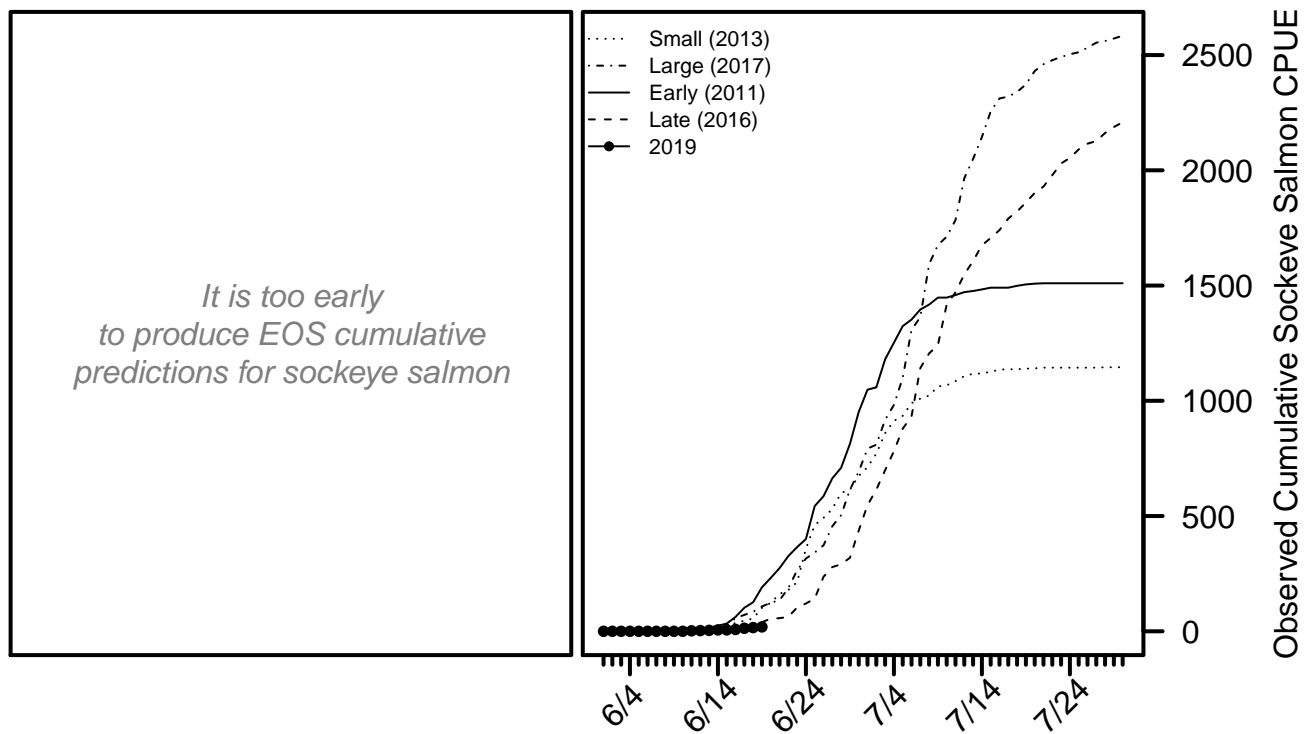
For more detailed information, see the [chum salmon appendix](#) at the end of this document.

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Sockeye Salmon BTF Summary (6/19)

- The BTF daily CPUE was **3**.
- The BTF cumulative CPUE is now **19**.
- **9%** years since 2008 fell below this cumulative CPUE on this date.
- **10%** of the run is complete based on historical average run timing.
- **5% - 16%** of the run is complete based the central 50% of all historical run timing scenarios.
- **13% - 25%** of the run is expected to pass Bethel in the next 5 days.
- Over the last 3 days, sockeye salmon made up **9%** 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 2019 plotted along with four previous years intended to represent a range of early/late and small/large index values.



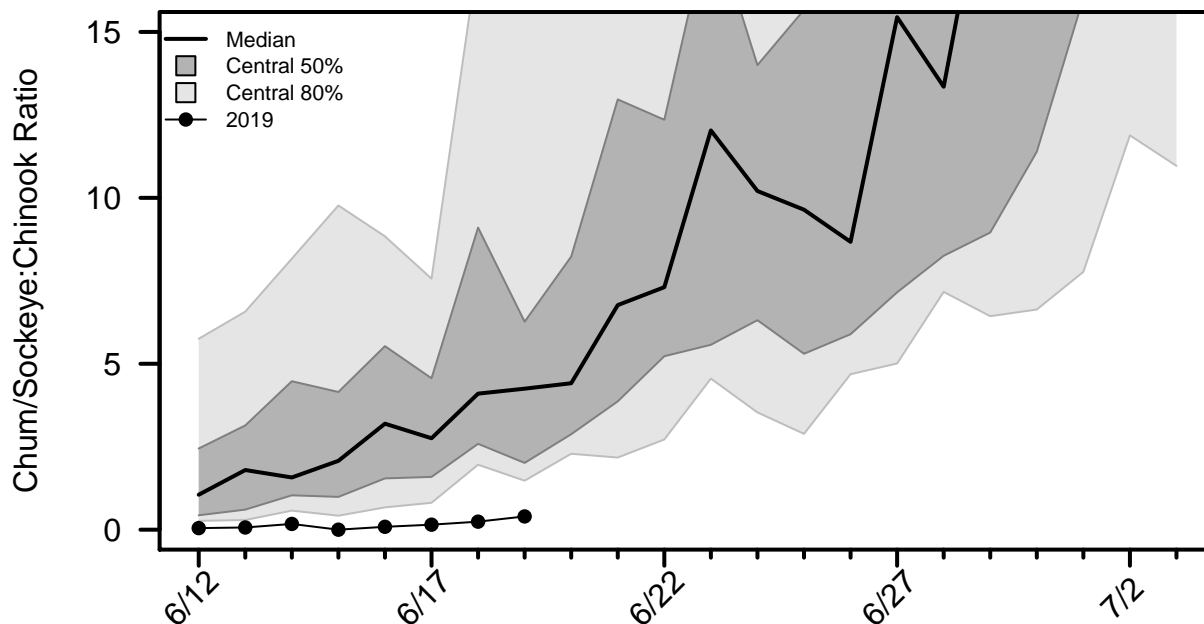
For more detailed information, see the [sockeye salmon appendix](#) at the end of this document.

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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 in the BTF with historical quantiles shown as grey regions and the ratio time series for 2019 shown with points connected by lines.



Ratio Table 1. A subset of the species ratios displayed in **Ratio Figure 1**, including the ratios from the ATF.

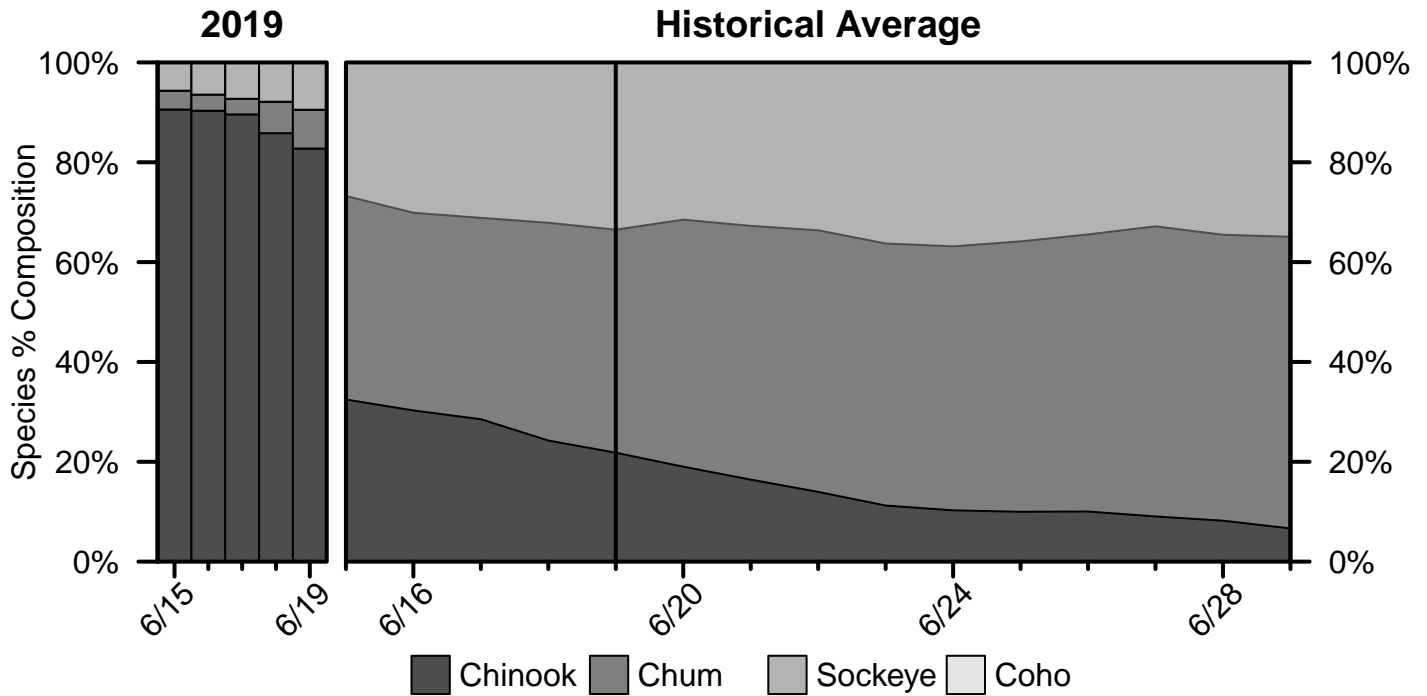
Date	2019 BTF	BTF Median	BTF Lower 10%	BTF Upper 10%	2019 ATF
6/16	0.09	3.19	0.67	8.84	0
6/17	0.15	2.76	0.81	7.57	0
6/18	0.24	4.1	1.96	17.32	0
6/19	0.4	4.25	1.48	17.38	0
6/20		4.41	2.29	37.14	
6/21		6.77	2.17	17.55	
6/22		7.31	2.72	18.49	

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.

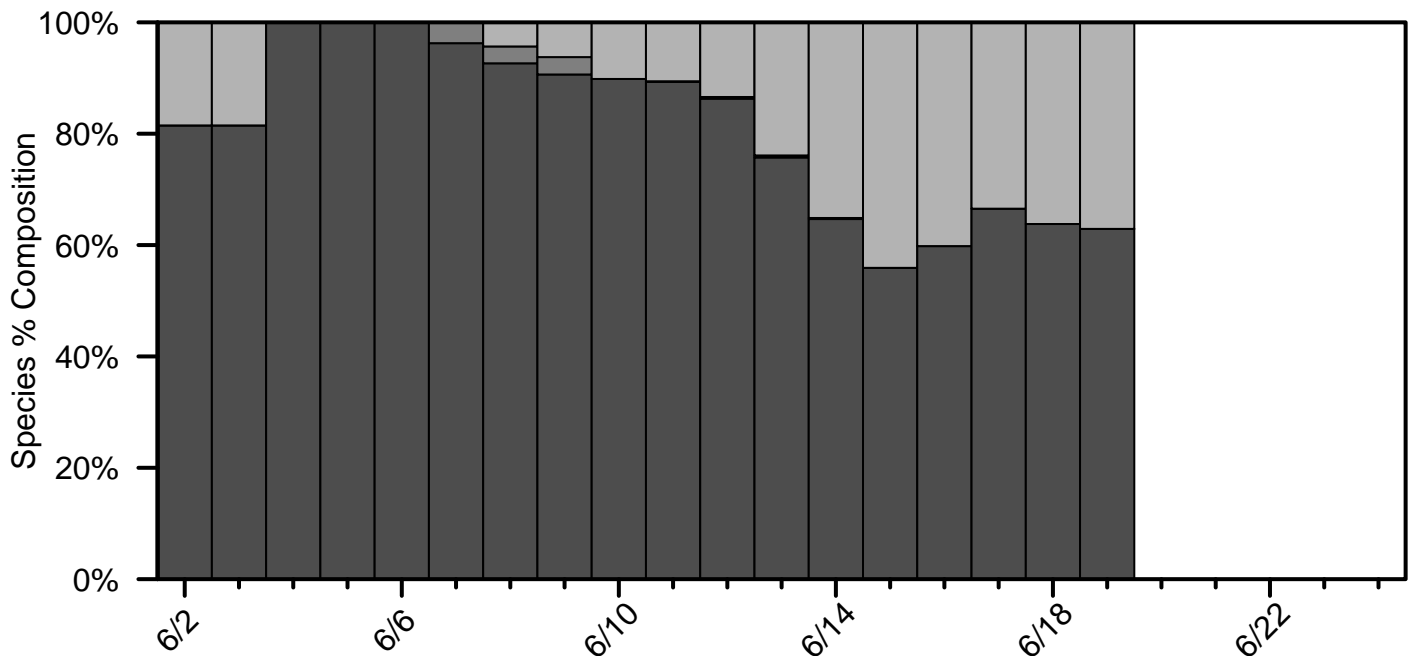
Date	Ratio > 3	Ratio > 5	Ratio > 7	Ratio > 10	Ratio > 20
6/16	77%	51%	37%	20%	6%
6/17	80%	54%	40%	23%	6%
6/18	83%	60%	46%	37%	11%
6/19	89%	71%	51%	40%	14%
6/20	91%	77%	66%	49%	23%
6/21	94%	91%	74%	60%	23%
6/22	97%	97%	80%	66%	23%

Percent Composition by Salmon Species

Percent Composition Figure 1. Species percent composition in the BTF from 2019 and based on the historical average. The composition presented on each day represents the average composition over the past 3 days.

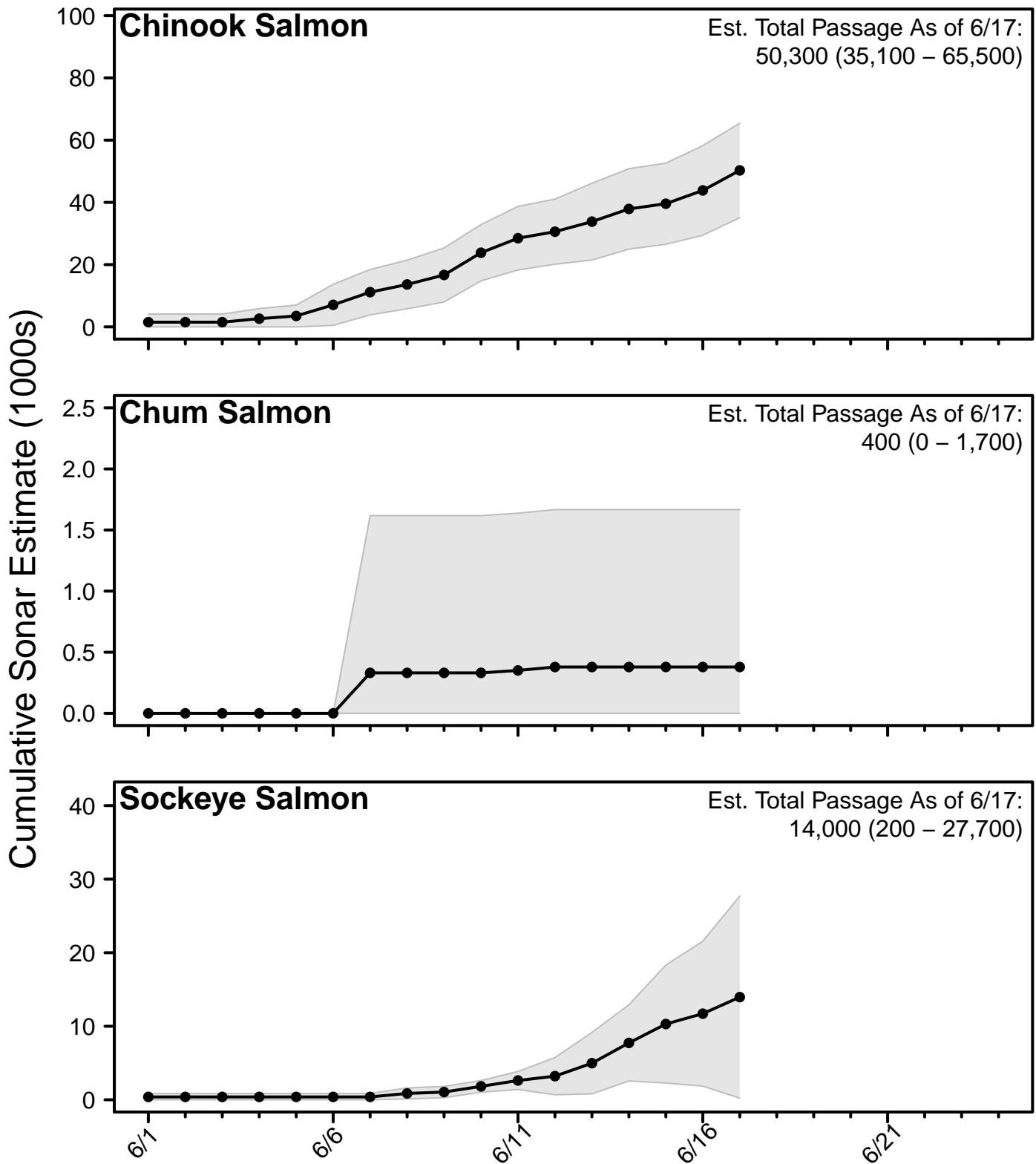


Species Composition Figure 2. Species percent composition from the sonar estimates from 2019 (salmon species only, excluding pink salmon). The composition presented on each day represents the average composition over the past 3 days.



Sonar Passage Estimates

Sonar Figure 1. Cumulative estimates of salmon passage from the 2019 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, OTNC, and USFWS. Although USFWS performs the data analysis and harvest estimation, all estimates undergo technical review by a panel comprised of representatives from each of these entities.

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 Kalskag.

Date	Daily Harvest	Cumulative Harvest	Daily CV	Cumulative CV
6/1	70	70	0.22	0.22
6/8	740	810	0.15	0.14
6/12	8,040	8,850	0.12	0.11
6/15	7,480	16,330	0.09	0.07

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

Date	Daily Harvest	Cumulative Harvest	Daily CV	Cumulative CV
6/1	0	0	0	0
6/8	30	30	0.35	0.35
6/12	310	340	0.14	0.13
6/15	350	690	0.23	0.13

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

Date	Daily Harvest	Cumulative Harvest	Daily CV	Cumulative CV
6/1	0	0	0	0
6/8	10	10	0.49	0.49
6/12	290	300	0.2	0.19
6/15	1,140	1,440	0.17	0.14

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Chinook Salmon Appendix

Chinook Salmon Table A1. Cumulative CPUE from the BTF.

Date	2019	2018	2017	2016	2015	5-Yr Avg.	2008 - 2018 Avg.
6/16	246	161	43	230	192	195	143
6/17	299	174	43	245	216	209	160
6/18	332	189	47	266	238	225	176
6/19	342	199	71	278	259	245	198
6/20		213	81	304	271	263	218
6/21		221	94	318	296	277	238
6/22		235	109	340	321	297	261
EOS		667	374	687	625	601	550

Chinook Salmon Table A2. Cumulative CPUE from the ATF.

Date	2019	2018	2017	2016	2015
6/16	602	119	559	1,076	519
6/17	680	135	650	1,149	684
6/18	830	135	726	1,189	806
6/19	845	135	792	1,304	1,020
6/20		141	906	1,334	1,138
6/21		165	1,081	1,386	1,311
6/22		172	1,244	1,403	1,496
EOS		820	6,508	2,729	2,916

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

Timing	Midpoint	6/19 Cumulative %
Earliest	6/14	69%
Early 10%	6/17	58%
Early 25%	6/21	48%
Median	6/22	37%
Late 25%	6/25	27%
Late 10%	6/27	19%
Latest	7/3	12%

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Chum Salmon Appendix

Chum Salmon Table A1. Cumulative CPUE from the BTF.

Date	2019	2018	2017	2016	2015	5-Yr Avg.	2008 - 2018 Avg.
6/16	12	205	130	50	46	137	94
6/17	15	216	148	50	62	158	114
6/18	20	244	206	58	87	192	163
6/19	21	314	326	61	140	274	230
6/20		405	345	120	277	367	294
6/21		447	388	209	293	413	368
6/22		518	482	239	381	501	465
EOS		8,212	6,785	3,894	2,943	5,636	6,678

Chum Salmon Table A2. Cumulative CPUE from the ATF.

Date	2019	2018	2017	2016	2015
6/16	5	8	175	80	81
6/17	5	15	190	105	97
6/18	5	32	206	113	115
6/19	5	95	222	137	124
6/20		137	271	153	155
6/21		168	417	196	162
6/22		209	607	221	179
EOS		10,277	11,588	5,304	5,669

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

Timing	Midpoint	6/19 Cumulative %
Earliest	6/23	20%
Early 10%	7/1	14%
Early 25%	7/3	9%
Median	7/6	5%
Late 25%	7/7	2%
Late 10%	7/11	1%
Latest	7/14	<1%

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Sockeye Salmon Appendix

Sockeye Salmon Table A1. Cumulative CPUE from the BTF.

Date	2019	2018	2017	2016	2015	5-Yr Avg.	2008 - 2018 Avg.
6/16	8	16	58	5	27	43	40
6/17	13	16	71	8	37	49	50
6/18	16	16	84	18	57	60	64
6/19	19	19	108	39	77	77	93
6/20		33	124	55	100	100	115
6/21		33	135	57	108	105	143
6/22		46	187	63	188	144	187
EOS		2,275	2,690	2,463	2,157	2,190	1,762

Sockeye Salmon Table A2. Cumulative CPUE from the ATF.

Date	2019	2018	2017	2016	2015
6/16	0	0	7	0	0
6/17	0	0	7	0	0
6/18	0	0	7	0	0
6/19	0	0	7	0	0
6/20		0	7	0	0
6/21		0	7	0	0
6/22		0	58	0	0
EOS		75	393	405	1,245

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

Timing	Midpoint	6/19 Cumulative %
Earliest	6/22	34%
Early 10%	6/24	24%
Early 25%	6/26	17%
Median	6/29	10%
Late 25%	7/1	5%
Late 10%	7/7	2%
Latest	7/10	1%

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