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: **06/26/2019** Time: **10:00 a.m.** Place**: ADF&G 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, CBM (Bill B.), 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:_____

Kuskokwim River Salmon Management Working Group
ADF&G Bethel toll free: 1 (855) 933-2433

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=commercialbyareakuskokwim.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 26, 2019

Summary of Interview Activities

On Saturday, June 22, our fisheries team visited a total of 45 fish camps from Oscarville slough up to the bluffs and conducted surveys at the Bethel boat harbor. Overall, fishers were glad to see so many Chinook salmon in the river and reported them to be very bright and silver. There were three reports of white spots and puss pockets in the sockeye salmon flesh. There was one report of "impolite fishing."

Table 1. Average number of salmon harvested by surveyed Bethel area fish camps and Bethel boat harbor from the June 22 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	44	18.4	7.3	16.7	<1
Bethel Boat Harbor	101	11.5	5.4	14.6	<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 22 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	7	139	6	103	0
Johnson	7	109	72	171	1

Fishing Progress Information

This past survey period, we asked 31 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 22 fishing opportunity.

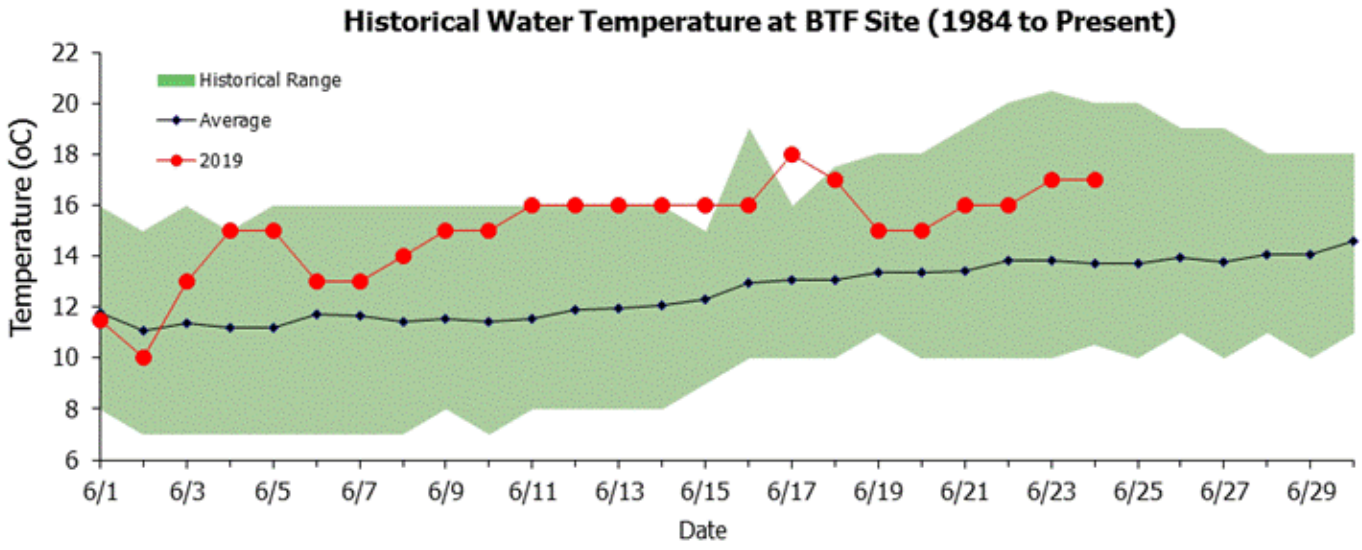
Salmon Species	Not at all	Under Half	Halfway	Over Half	Goal Met
Chinook salmon	0% (n=0)	6% (n=2)	13% (n=4)	36% (n=11)	45% (n=14)
Chum salmon	45% (n=14)	10% (n=1)	3% (n=3)	6% (n=2)	36% (n=11)
Sockeye salmon	23% (n=7)	13% (n=4)	27% (n=8)	13% (n=4)	23% (n=7)

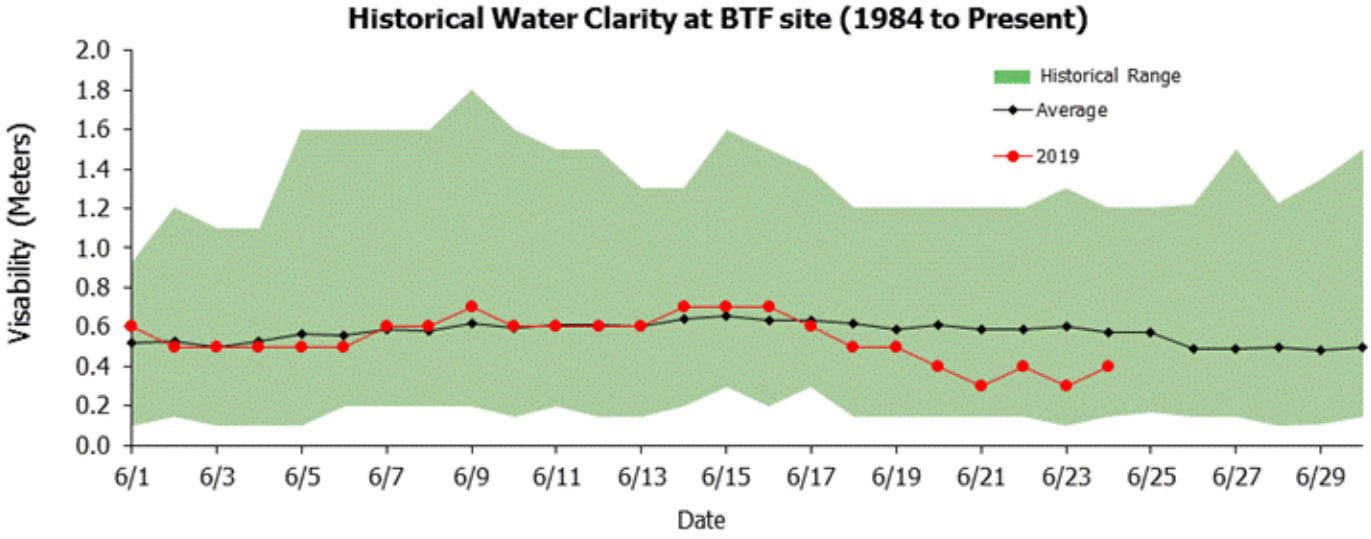
Chinook Salmon Age-Sex-Length (ASL) Sampling Program Recruitment

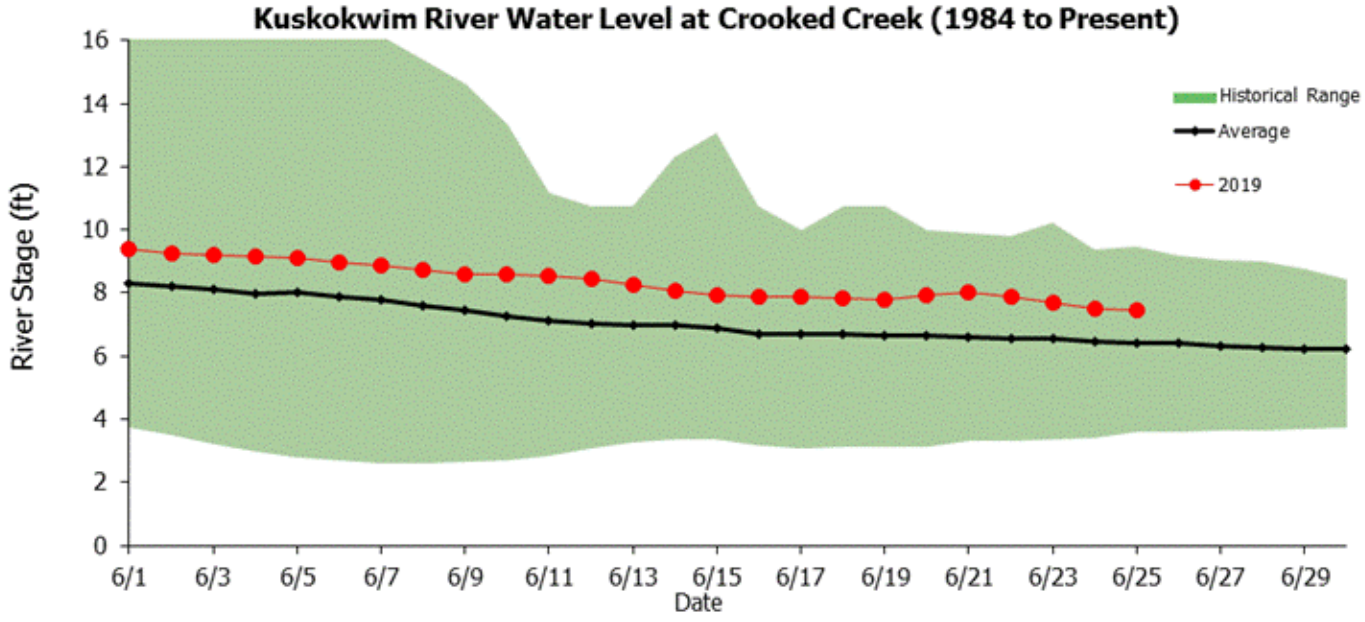
Thus far this season, we've received samples from 21 samplers, all from Bethel, with the exception to one sampler from Tuntutuliak.

Fish Distribution

From June 19-June 23, we've delivered 108 Chinook salmon, 11 chum salmon and 71 sockeye 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 80 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 Range
Average
2019
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
2019
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
2019
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
6/24/2019

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 Ben 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

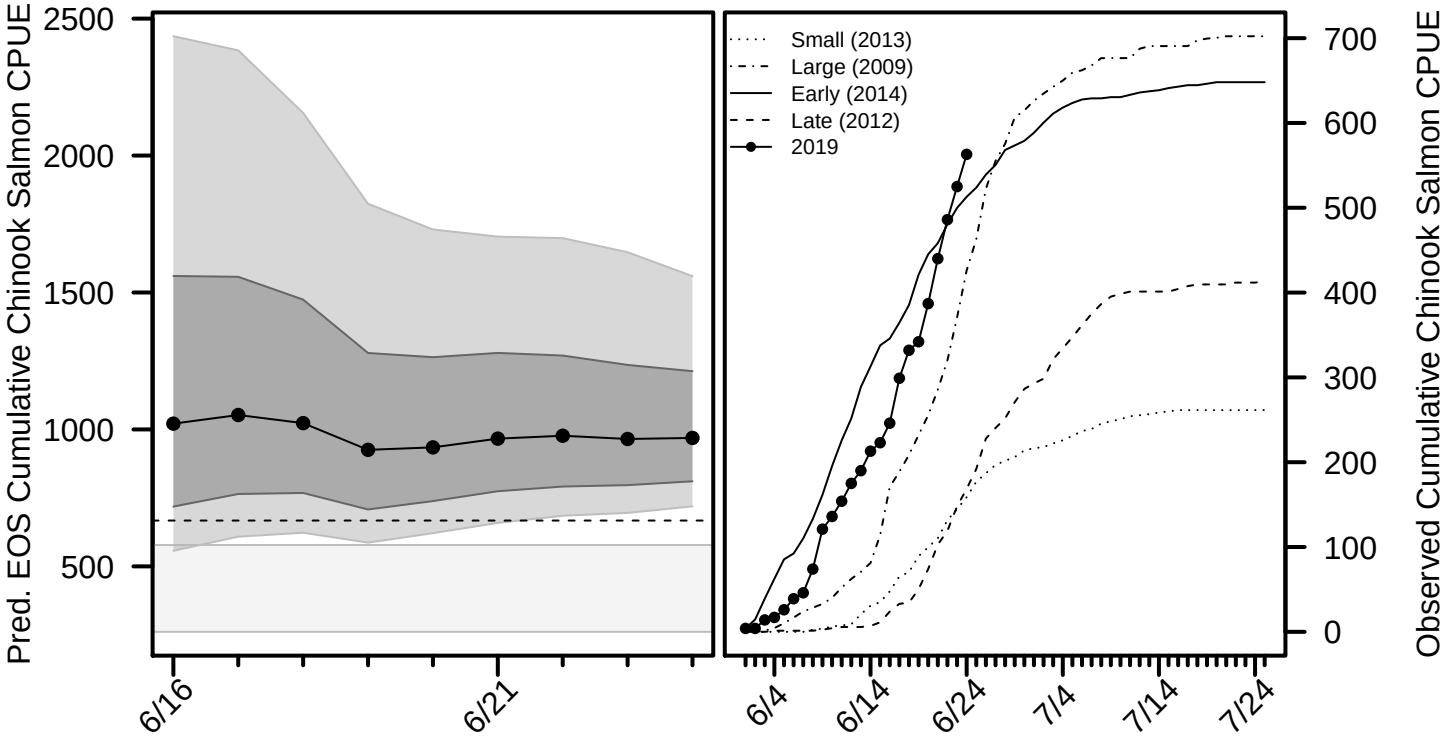
For the most up-to-date information regarding fishing opportunities please visit:

- **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 (6/24)

- The BTF daily CPUE was **38**.
- The BTF cumulative CPUE is now **563**.
- **100%** years since 2008 fell below this cumulative CPUE on this date.
- **58%** of the run is complete based on historical average run timing.
- **46% - 69%** of the run is complete based the central 50% of all historical run timing scenarios.
- **14% - 21%** of the run is expected to pass Bethel in the next 5 days.
- Over the last 3 days, Chinook salmon made up **49%** of the BTF catches, compared to **10%** 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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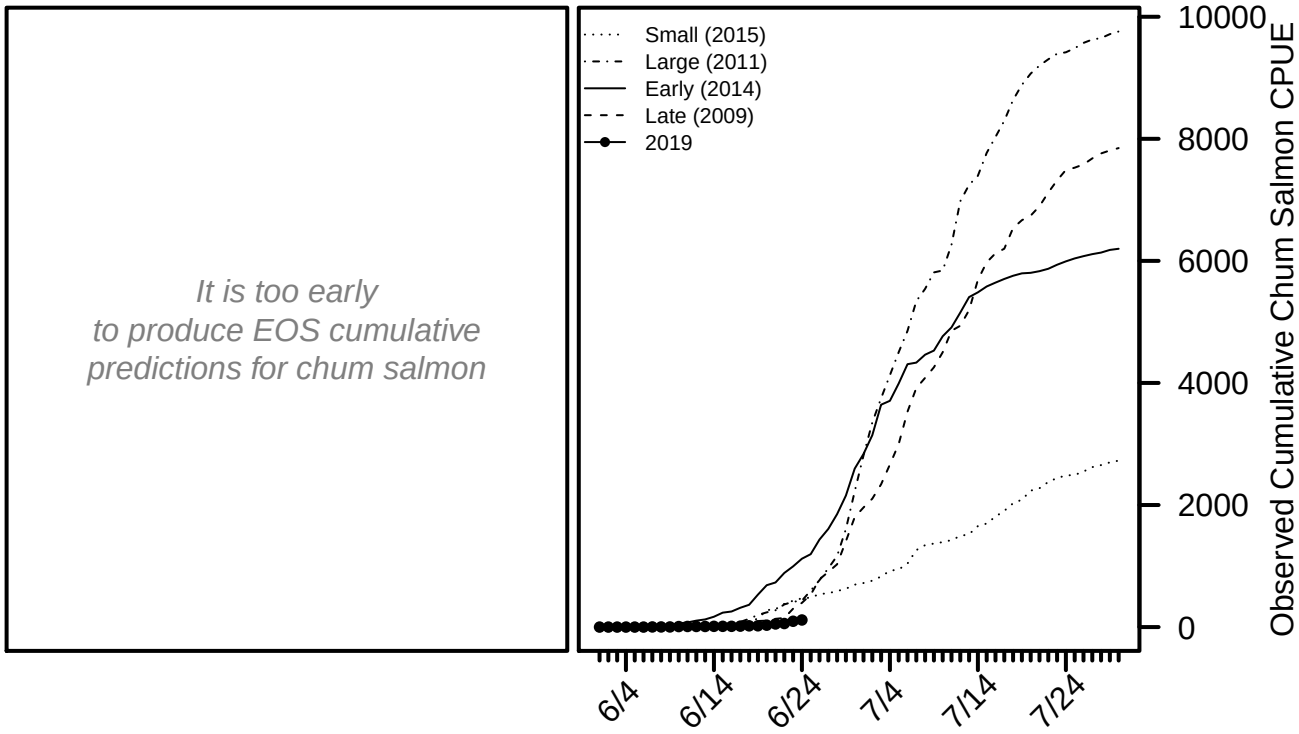
Chum Salmon BTF Summary (6/24)

- The BTF daily CPUE was **21**.
- The BTF cumulative CPUE is now **116**.
- **0%** years since 2008 fell below this cumulative CPUE on this date.
- **14%** of the run is complete based on historical average run timing.
- **8% - 22%** of the run is complete based the central 50% of all historical run timing scenarios.
- **12% - 16%** of the run is expected to pass Bethel in the next 5 days.
- Over the last 3 days, chum salmon made up **26%** of the BTF catches, compared to **53%** 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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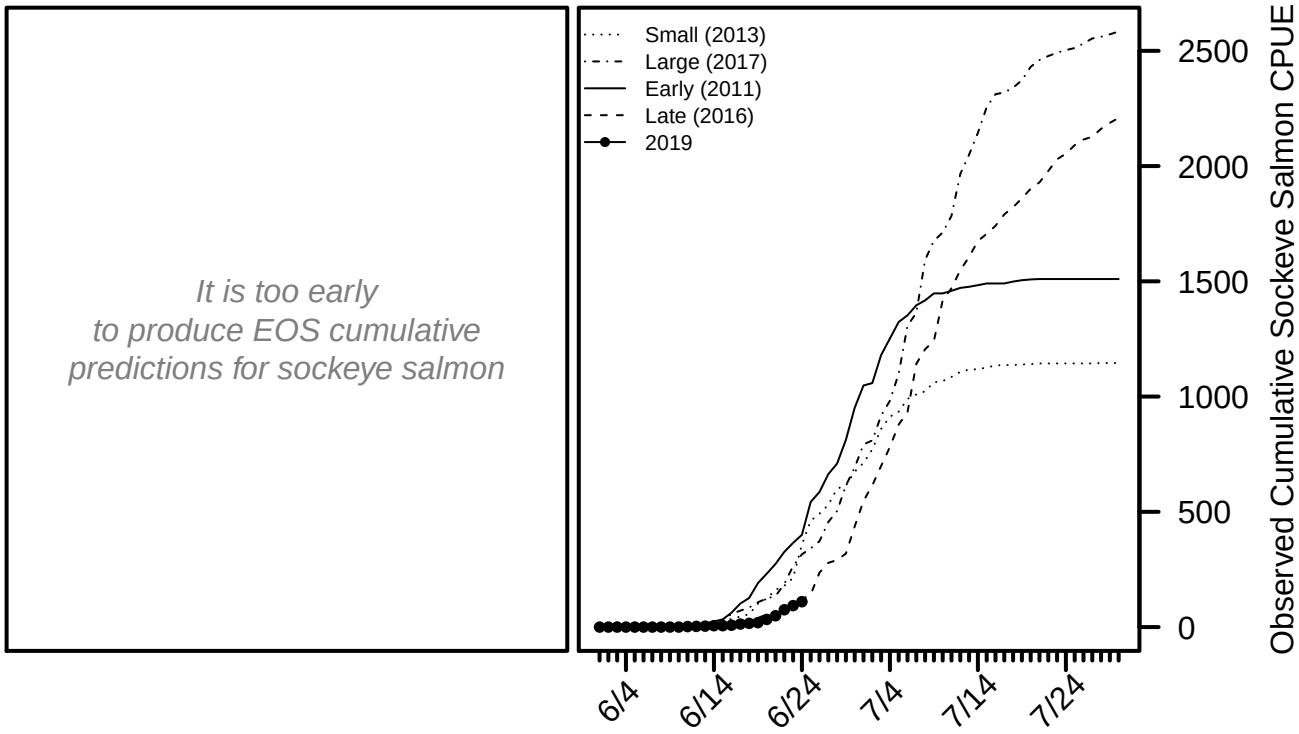
Sockeye Salmon BTF Summary (6/24)

- The BTF daily CPUE was **17**.
- The BTF cumulative CPUE is now **110**.
- **9%** years since 2008 fell below this cumulative CPUE on this date.
- **29%** of the run is complete based on historical average run timing.
- **18% - 41%** of the run is complete based the central 50% of all historical run timing scenarios.
- **21% - 25%** of the run is expected to pass Bethel in the next 5 days.
- Over the last 3 days, sockeye salmon made up **24%** of the BTF catches, compared to **37%** 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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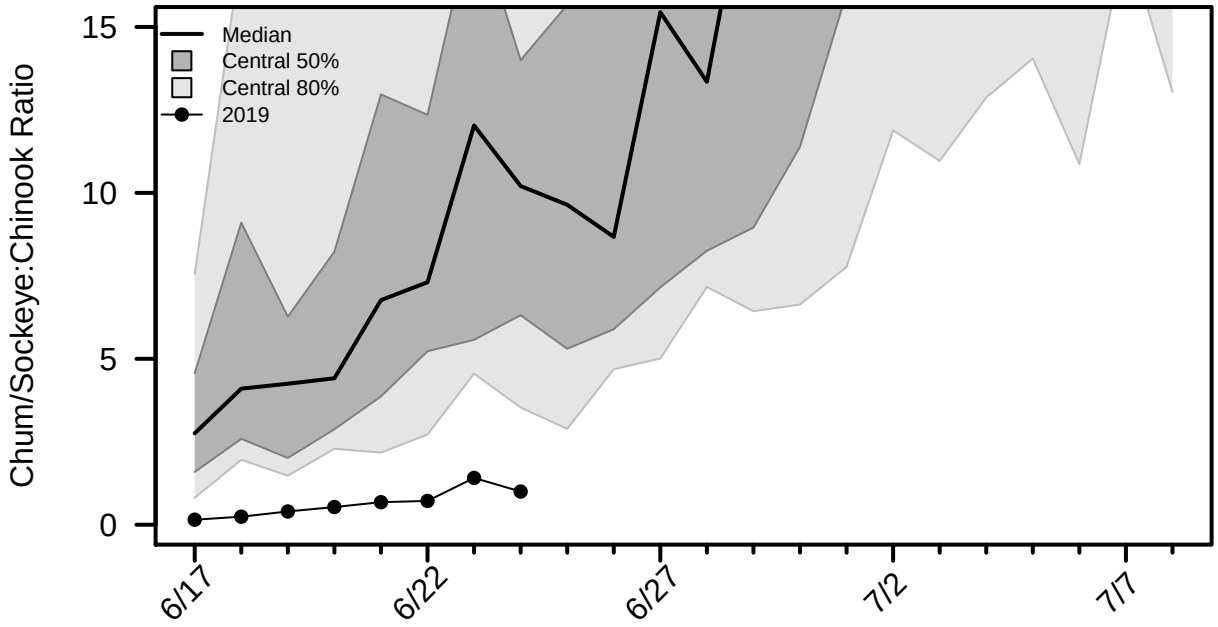
Chum/Sockeye:Chinook Salmon Ratio

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
6/21	0.68	6.77	2.17	17.55	–
6/22	0.72	7.31	2.72	18.49	0
6/23	1.41	12.03	4.55	26.09	0.3
6/24	**1**	**10.21**	**3.53**	**49.92**	**0.24**
6/25		9.64	2.89	44.98	
6/26		8.67	4.68	33.28	
6/27		15.44	5.01	48.53	

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
6/21	94%	91%	74%	60%	23%
6/22	97%	97%	80%	66%	23%
6/23	100%	97%	86%	69%	34%
6/24	**100%**	**97%**	**89%**	**77%**	**40%**
6/25	100%	100%	91%	86%	43%
6/26	100%	100%	91%	89%	46%
6/27	100%	100%	94%	89%	57%

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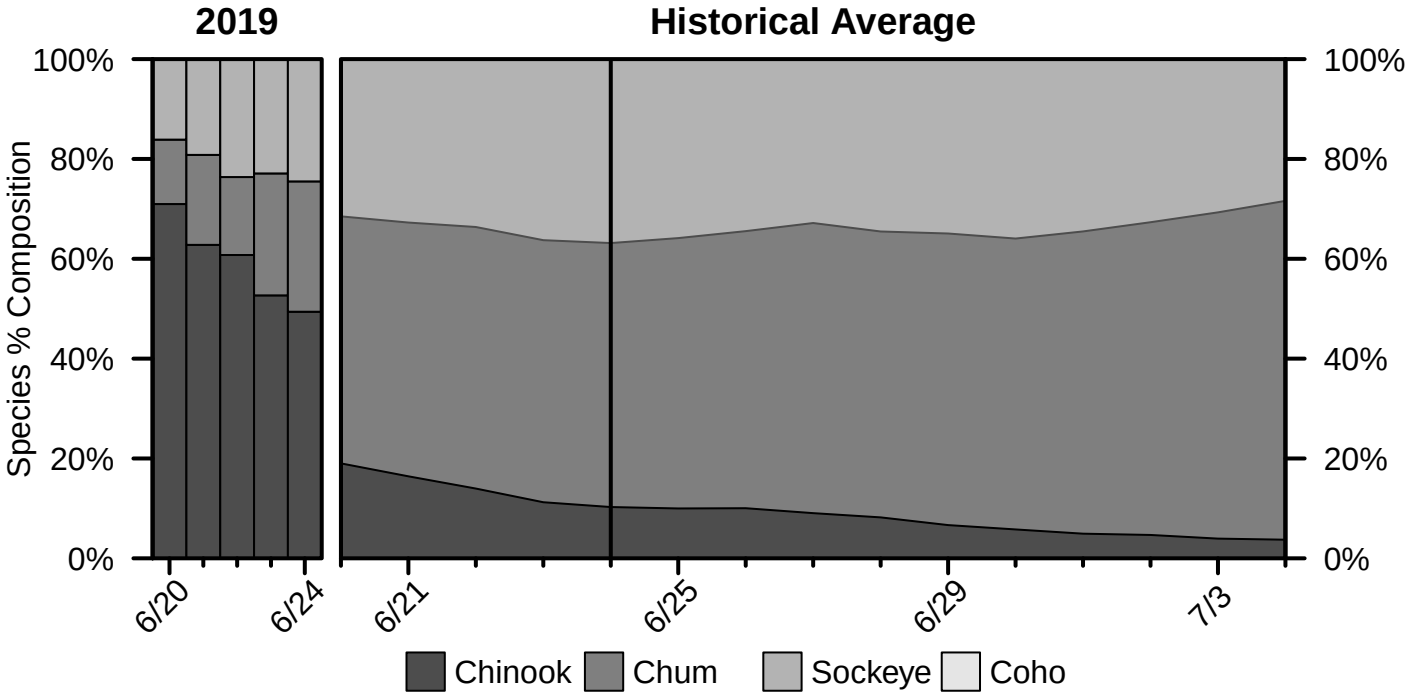
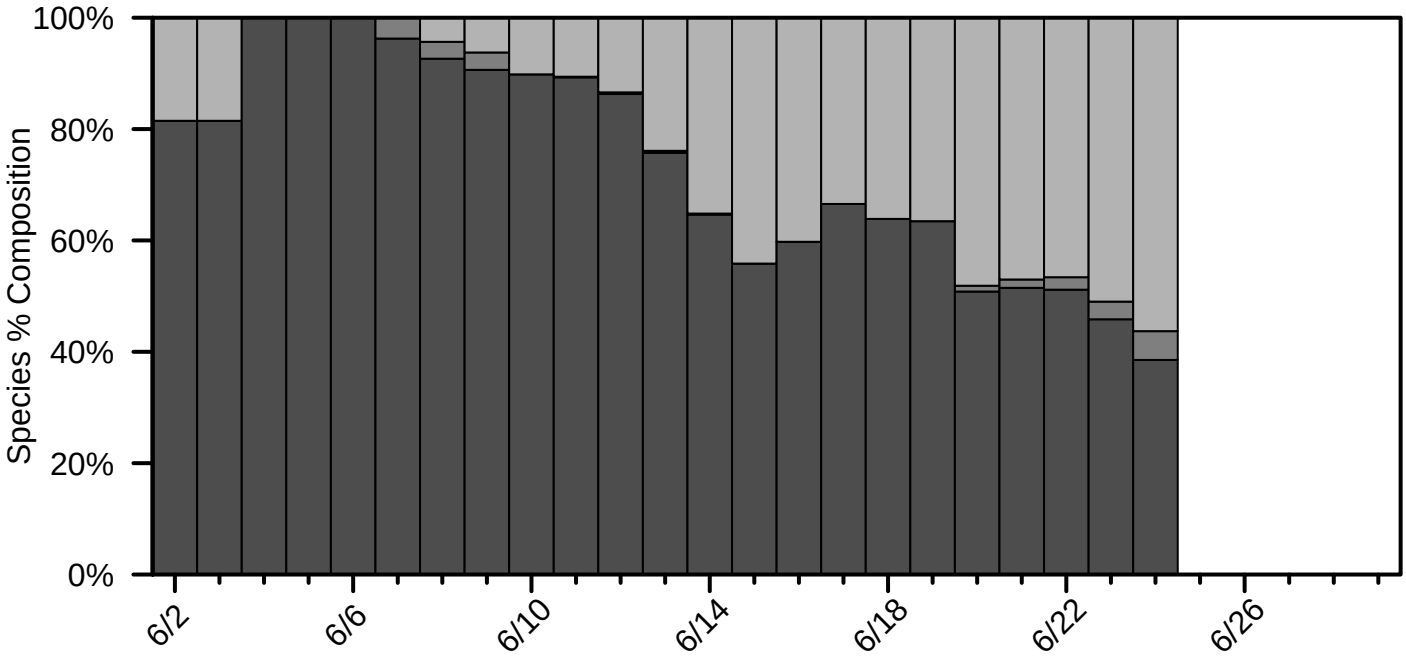
Percent Composition by Salmon Species

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.



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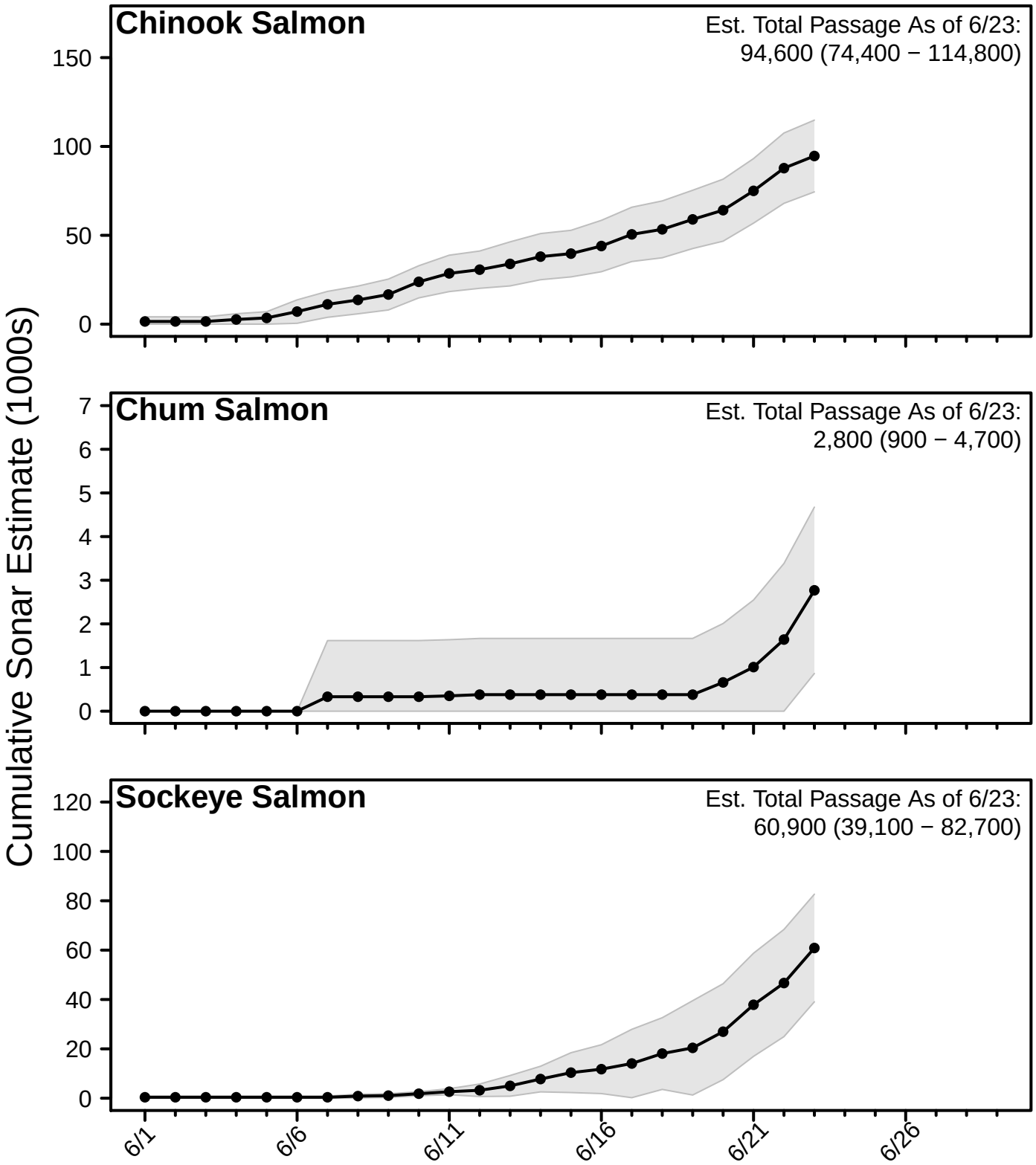
Sonar Passage Estimates

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	8,840	0.12	0.11
6/15	7,480	16,320	0.09	0.07
6/19	13,630	29,950	0.09	0.06
6/22	10,130	40,080	0.12	0.05

Harvest Table 2. 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
6/19	2,340	3,030	0.2	0.16
6/22	4,120	7,150	0.17	0.12

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
6/19	2,900	4,340	0.14	0.1
6/22	9,060	13,400	0.1	0.08

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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.
6/21	440	221	94	318	296	277	238
6/22	486	235	109	340	321	297	261
6/23	525	275	121	357	336	318	286
6/24	**563**	**306**	**148**	**378**	**345**	**338**	**307**
6/25		354	161	400	347	357	327
6/26		387	168	432	366	379	353
6/27		406	196	454	372	396	370
EOS		667	374	687	625	601	550

Chinook Salmon Table A2. Cumulative CPUE from the ATF.

Date	2019	2018	2017	2016	2015
6/21	871	165	1,081	1,386	1,311
6/22	988	172	1,244	1,403	1,496
6/23	1,044	172	1,481	1,435	1,619
6/24	**1,094**	**180**	**1,645**	**1,470**	**1,716**
6/25		218	1,945	1,514	1,884
6/26		245	2,165	1,564	2,008
6/27		280	2,500	1,657	2,169
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	6/24 Cumulative %
Earliest	6/14	86%
Early 10%	6/17	78%
Early 25%	6/21	69%
Median	6/22	58%
Late 25%	6/25	46%
Late 10%	6/27	36%
Latest	7/3	26%

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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.
6/21	51	447	388	209	293	413	368
6/22	58	518	482	239	381	501	465
6/23	95	716	565	283	431	598	573
6/24	**116**	**787**	**698**	**353**	**471**	**686**	**666**
6/25		878	760	393	482	742	768
6/26		997	930	460	541	872	909
6/27		1,149	1,317	541	554	1,034	1,077
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
6/21	5	168	417	196	162
6/22	5	209	607	221	179
6/23	22	264	728	229	240
6/24	**34**	**286**	**927**	**307**	**390**
6/25		401	1,214	456	467
6/26		561	1,494	563	649
6/27		928	1,696	649	772
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	6/24 Cumulative %
Earliest	6/23	43%
Early 10%	7/1	32%
Early 25%	7/3	23%
Median	7/6	14%
Late 25%	7/7	7%
Late 10%	7/11	4%
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.
6/21	49	33	135	57	108	105	143
6/22	75	46	187	63	188	144	187
6/23	93	72	265	103	219	184	233
6/24	**110**	**91**	**316**	**120**	**225**	**205**	**278**
6/25		125	341	142	236	226	329
6/26		184	373	236	292	278	380
6/27		204	456	279	316	318	426
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
6/21	0	0	7	0	0
6/22	0	0	58	0	0
6/23	0	0	67	0	0
6/24	**0**	**0**	**67**	**0**	**0**
6/25		0	83	8	17
6/26		0	83	8	42
6/27		0	92	8	120
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	6/24 Cumulative %
Earliest	6/22	67%
Early 10%	6/24	53%
Early 25%	6/26	41%
Median	6/29	29%
Late 25%	7/1	18%
Late 10%	7/7	11%
Latest	7/10	5%

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Harvest Estimates: 6/22/2019 Subsistence Opportunity

Prepared by USFWS

6/25/2019

This document presents harvest and effort estimates as well as fisher-trip information for the subsistence salmon fishery opportunity on the mainstem Kuskokwim River that occurred on June 22, 2019 within the Yukon Delta National Wildlife Refuge (YDNWR) boundaries. The production of these estimates was a highly collaborative effort between the U.S. Fish and Wildlife Service (USFWS), the Orutsararmuit Native Council (ONC), the Alaska Department of Fish and Game (ADF&G), and the Kuskokwim River Inter-Tribal Fisheries Commission (KRITFC) in cooperation with the Bering Sea Fisherman's Association (BSFA). **These estimates encompass harvest taken in that portion of the main-stem Kuskokwim River between and including the villages of Tuntutuliak and Akiak**. Harvest and effort estimation was conducted by USFWS staff using the same methods as in 2016, 2017, and 2018 . Please contact Gary Decossas (gary_decossas@fws.gov) if you have any questions regarding these estimates.

Opportunity Details

The YDNWR federal in-season manager, with authority delegated by the Federal Subsistence Board and in consultation with the KRITFC, announced a subsistence fishing opportunity for Chinook salmon within the YDNWR waters for federally-qualified subsistence users. The opportunity was 12 hours in duration, starting at 06:00AM June 22 and ending at 06:00PM June 22. The special action can be found here, and the corresponding news release here.

Data Sources

- A total of **192** fisher interviews were used in this analysis.
  - **87** fisher interviews collected by ONC from the Bethel boat harbor were used (**0** did not have soak time).
  - **41** fisher interviews collected by ONC from Bethel area fish camps were used.
  - **64** fisher interviews collected by KRITFC/BSFA community-based monitoring efforts were used.
- **186** interviews were from drift boat fishers.
- **6** interviews were from set net fishers.
- USFWS completed **2** aerial surveys to count drift boats and set nets, 1 flight was canceled due to poor weather

Effort Estimates

- A total of **426** drift boat trips were estimated to have occurred during the opportunity.
- During aerial survey flights between Tuntutuliak and Akiak, we observed:
  - **238** drift boats between 12:05PM and 02:05PM, and
  - **143** drift boats between 04:00PM and 05:47PM.
- Of the drift boats counted on the second flight, we estimated that **76%** of them were also counted during the first flight.
- **153** drift boat trips were estimated to have began and ended during times that were not flown.
- We observed **11** set nets fishing in the main-stem Kuskokwim River during the opportunity.

Harvest Estimates

- An estimated total of **23,310 (19,240 - 28,130)** salmon were harvested.
  - An estimated total of **10,130 (8,030 - 12,680)** Chinook salmon were harvested.
  - An estimated total of **4,120 (2,960 - 5,690)** chum salmon were harvested.
  - An estimated total of **9,060 (7,450 - 10,960)** sockeye salmon were harvested.
- Harvest by set nets accounted for an estimated **530 (390 - 700)** total salmon (**31%** Chinook salmon, **19%** chum salmon, and **50%** sockeye salmon).

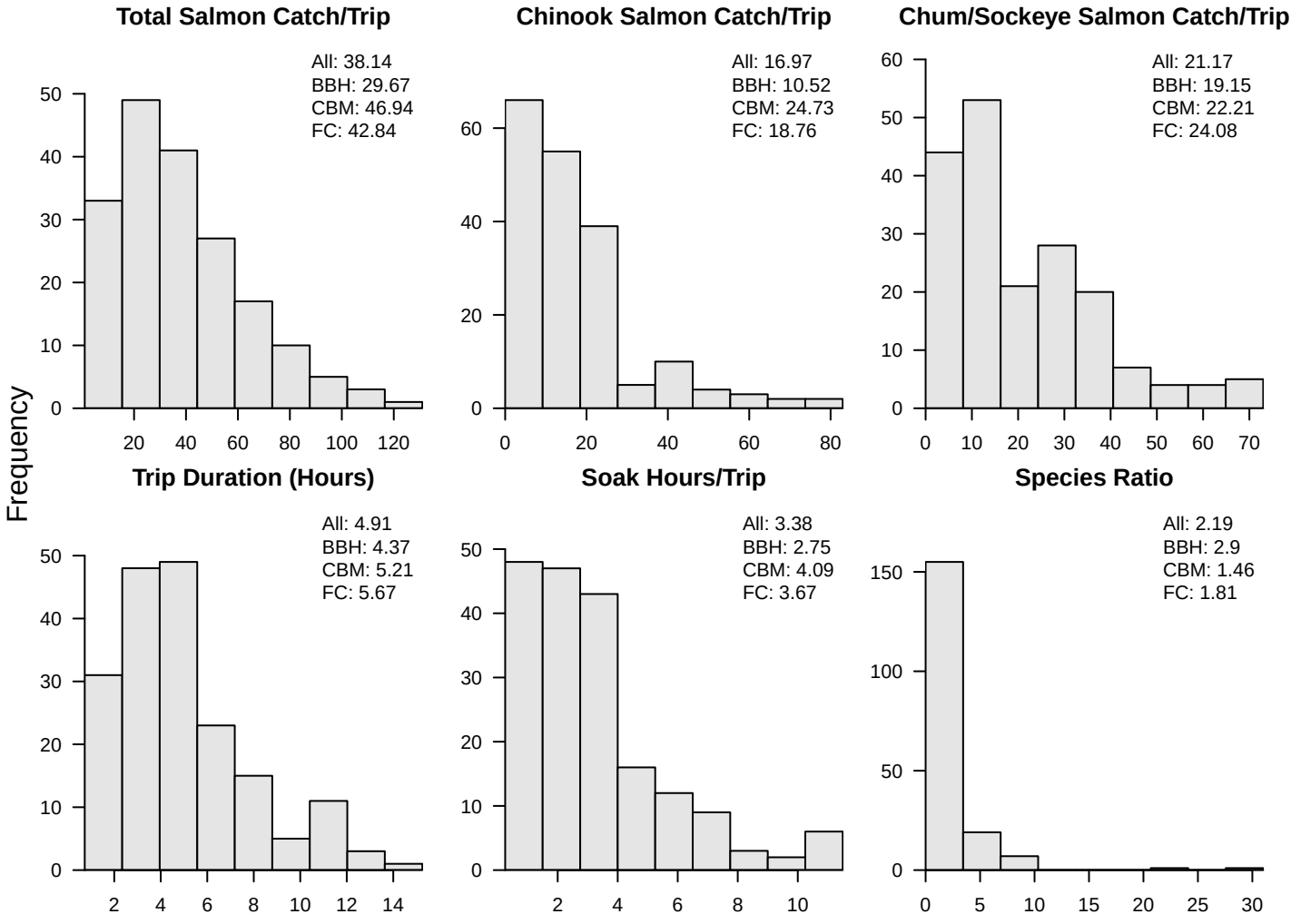
Table 1. Breakdown of relevant quantities by river stratum (area).

Stratum	Interviews	Max Drift Count	Set Net Count	Est. Drift Trips	Chinook Harvest	Chum Harvest	Sockeye Harvest
Tunt-Johnson	15	68	0	128	3,380	1,810	2,280
Johnson-Napaskiak	38	49	0	92	1,530	760	2,150
Napaskiak-Akaichak	126	91	6	169	3,380	1,200	4,200
Akiachak-Akiak	13	30	5	37	1,830	350	430
Total	**192**	**238**	**11**	**426**	**10,130**	**4,120**	**9,060**

Table 2. Specific quantities for the decision framework used by the USFWS and KRITFC. *Salmon/boat* is total salmon harvest per drift boat and *Ratio* is the chum/sockeye:Chinook salmon ratio. Quantities were calculated using the harvest estimates for each species and the estimated number of boat trips, *not* the raw interview values.

Area	Quantity	Mean	Lower 95%	Upper 95%
Below Johnson R.	Salmon/Boat	58	31	93
Above Johnson R.	Salmon/Boat	51	45	59
Below Johnson R.	Ratio	1.3	0.8	2.2
Above Johnson R.	Ratio	1.3	1.1	1.6

Figure 1. Distribution of relevant quantities from all collected drift boat interviews, excluding those conducted by USFWS law enforcement officers. BBH = Bethel boat harbor, CBM = community-based monitoring, FC = Bethel area fish camps.



Appendix A: Bethel Boat Harbor Interview Information Detailed Summaries

Information is for drift nets only

Column Meanings

- **Area**: The area of the river the trip occurred in
- **N**: The number of interviews with fishing reported in each area
- **Min**: the minimum value among all interviews conducted in each area
- **25%**: the value that 25% of the interview values fell below in each area
- **Mean**: the mean value among all interviews conducted in each area
- **75%**: the value that 75% of the interview values fell below in each area
- **Max**: the maximum value among all interviews conducted in each area

Table A1. Summary of catch rates for Chinook salmon by area (units are catch per 150 feet of net soaked for 1 hour).

Area	N	Min	25%	Mean	75%	Max
Tunt. - Johnson R.	1	3.3	3.3	3.3	3.3	3.3
Johnson R. - Napaskiak	10	0	1.7	3.3	3.9	8.8
Napaskiak - Akiachak	75	0	2	5.3	6.7	41.4
All	**86**	**0**	**2**	**5.1**	**6.6**	**41.4**

Table A2. Summary of catch per trip for Chinook salmon by area.

Area	N	Min	25%	Mean	75%	Max
Tunt. - Johnson R.	1	5	5	5	5	5
Johnson R. - Napaskiak	10	0	3	9	11	30
Napaskiak - Akiachak	75	0	4	11	15	45
All	**86**	**0**	**4**	**11**	**15**	**45**

Table A3. Summary of catch rates for chum/sockeye salmon by area (units are catch per 150 feet of net soaked for 1 hour).

Area	N	Min	25%	Mean	75%	Max
Tunt. - Johnson R.	1	26.7	26.7	26.7	26.7	26.7
Johnson R. - Napaskiak	10	2.5	6.2	11	14.5	21.8
Napaskiak - Akiachak	75	0	3.1	10.5	10.6	93.3
All	**86**	**0**	**3.3**	**10.7**	**12**	**93.3**

Table A4. Summary of catch per trip for chum/sockeye salmon by area.

Area	N	Min	25%	Mean	75%	Max
Tunt. - Johnson R.	1	40	40	40	40	40
Johnson R. - Napaskiak	10	5	11	25	30	73
Napaskiak - Akiachak	75	0	8	18	26	69
All	**86**	**0**	**8**	**19**	**30**	**73**

Table A5. Summary of the percent of salmon catches that were Chinook salmon by area.

Area	N	Min	25%	Mean	75%	Max
Tunt. - Johnson R.	1			11%		
Johnson R. - Napaskiak	10	0%	13%	23%	33%	39%
Napaskiak - Akiachak	75	0%	27%	39%	50%	100%
All	**86**	**0%**	**26%**	**37%**	**50%**	**100%**

Table A6. Summary of trip start time by area.

Area	Min	25%	Mean	75%	Max
Tunt. - Johnson R.	5:00AM	5:00AM	5:00AM	5:00AM	5:00AM
Johnson R. - Napaskiak	6:00AM	6:15AM	9:12AM	11:30AM	2:00PM
Napaskiak - Akiachak	5:30AM	6:38AM	9:29AM	12:00PM	4:00PM
All	**5:00AM**	**6:30AM**	**9:24AM**	**12:00PM**	**4:00PM**

Table A7. Summary of trip end time by area.

Area	Min	25%	Mean	75%	Max
Tunt. - Johnson R.	9:34AM	9:34AM	9:34AM	9:34AM	9:34AM
Johnson R. - Napaskiak	10:11AM	11:11AM	1:33PM	4:27PM	6:00PM
Napaskiak - Akiachak	8:30AM	11:23AM	1:51PM	4:17PM	6:54PM
All	**8:30AM**	**11:21AM**	**1:46PM**	**4:26PM**	**6:54PM**

Appendix B: Village-Specific Interview Information Detailed Summaries

Information is for drift nets only; data were collected by KRITFC/BSFA community-based harvest monitors

Column Meanings

- **Village**: The village the interview occurred in
- **N**: The number of interviews conducted in each village
- **Min**: the minimum value among all interviews conducted in each village
- **25%**: the value that 25% of the interview values fell below in each village
- **Mean**: the mean value among all interviews conducted in each village
- **75%**: the value that 75% of the interview values fell below in each village
- **Max**: the maximum value among all interviews conducted in each village

Table B1. Summary of catch rates for Chinook salmon by village (units are catch per 150 feet of net soaked for 1 hour).

Village	N	Min	25%	Mean	75%	Max
Akiak	12	2.5	5.3	7.1	8.2	15.2
Kwethluk	18	1.4	4.1	6.2	7.8	12
Napaskiak	24	1.2	2.7	5.7	6.1	24
Tuntutuliak	9	0	7.5	9.4	10	24
All	**63**	**0**	**3.4**	**6.6**	**8.2**	**24**

Table B2. Summary of catch per trip for Chinook salmon by village.

Village	N	Min	25%	Mean	75%	Max
Akiak	12	10	21	47	66	83
Kwethluk	18	6	13	25	29	62
Napaskiak	24	1	10	17	23	48
Tuntutuliak	9	0	9	15	20	24
All	**63**	**0**	**0**	**0**	**0**	**0**

Table B3. Summary of catch rates for chum/sockeye salmon by village (units are catch per 150 feet of net soaked for 1 hour).

Village	N	Min	25%	Mean	75%	Max
Akiak	12	0	1	2	3	5
Kwethluk	18	1	4	8	10	18
Napaskiak	24	2	4	10	12	26
Tuntutuliak	9	3	4	8	13	15
All	**63**	**0**	**3**	**8**	**11**	**26**

Table B4. Summary of catch per trip for chum/sockeye salmon by village.

Village	N	Min	25%	Mean	75%	Max
Akiak	12	0	6	10	9	37
Kwethluk	18	6	13	27	39	61
Napaskiak	24	3	20	29	36	65
Tuntutuliak	9	3	4	11	14	25
All	**63**	**0**	**9**	**22**	**30**	**65**

Table B5. Summary of the percent of salmon catches that were Chinook salmon by village.

Village	N	Min	25%	Mean	75%	Max
Akiak	12	53%	66%	78%	93%	100%
Kwethluk	18	22%	35%	48%	56%	85%
Napaskiak	24	12%	25%	36%	48%	57%
Tuntutuliak	9	0%	53%	53%	63%	69%
All	**63**	**0%**	**33%**	**50%**	**63%**	**100%**

Table B6. Summary of trip start time by village.

Village	Min	25%	Mean	75%	Max
Akiak	5:30am	6:00am	7:12am	7:38am	11:00am
Kwethluk	5:45am	6:08am	7:58am	9:22am	12:00pm
Napaskiak	6:00am	6:22am	9:03am	11:08am	3:30pm
Tuntutuliak	7:00am	1:00pm	1:17pm	3:00pm	4:00pm
All	**5:30am**	**6:00am**	**8:60am**	**11:00am**	**4:00pm**

Table B7. Summary of trip end time by village.

Village	Min	25%	Mean	75%	Max
Akiak	10:30am	4:49pm	4:36pm	6:00pm	6:00pm
Kwethluk	7:45am	11:00am	12:38pm	2:52pm	5:00pm
Napaskiak	8:00am	11:00am	12:53pm	3:08pm	4:15pm
Tuntutuliak	5:00pm	5:00pm	5:40pm	6:00pm	6:30pm
All	**7:45am**	**11:38am**	**2:12pm**	**5:00pm**	**6:30pm**