#### 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: 6/26/2024 Time: 10:00 am - 12:00 pm Place: Bethel

Time Called to Order:

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

Chair:

Upriver Elder: Downriver Elder: Commercial Fisher: Lower River Subsistence: Middle River Subsistence: Upper River Subsistence: Headwaters Subsistence: Member at Large: Member at Large 2: 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 MANAGEMENT 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, KRITFC Inseason Harvest 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:
- 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:**

|--|

# **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.

<u>Attend Meetings</u>: 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



#### Orutsararmiut Native Council (ONC) Inseason Harvest Monitoring Weekly Report June 25, 2024

#### Comments from June 22, 2024 Opener:

1 person stated that it is not rough enough for kings and 1 fishers had suggested putting their message in all caps; TRAWLERS! CIVIL WAR! 2 people had said thank you for taking care of us and thanks for opening today. 2 fishers stated that they were happy and another said that they had a good day. 1 person said that his buddy caught 183 fish downriver and to praise god. 1 fisher said that a snag ripped their net and 1 asked when's the next opener? 2 fishers said to keep and leave it open and that they have no dry fish by winter. 1 person said that it was about time we caught some fish and 2 others said to have more openings and fishing. 3 people stated that it was a nice day to go fishing, said you guys are doing a good job, and that it is good to see you guys at night.

The Fish Campers ONC surveyed did not have any comments to say for this opener.

Table 1. A	verage fish harve	est, net length	, and mesh s	ize range rep	orted by surve	eyed Bethel a	ırea fish			
camps and	camps and Bethel boat harbor from the June 22, 2024 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	95	9	6	8	>1	20-300	4-6
Bethel Fish Camps	11	18	7	26	>1	50-300	5-6

#### **Fish Distribution**

From June 4, 2024 through June 25, 2024, ONC delivered 84 Chinook salmon, 23 Chum Salmon, 14 Sockeye Salmon, and 1 Whitefish to Bethel area Elders and people in need. These fish were caught by the Alaska Department of Fish & Game Bethel Test Fishery.





# Kuskokwim River Salmon Assessment Update 6/24/2024



The data summaries presented in this document are provided by 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 Sean Larson (ADF&G; sean.larson@alaska.gov). Original development of code used to create this document is credited 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 (6/24)

- The BTF daily CPUE was  ${\bf 9}.$
- The BTF cumulative CPUE is now **142**.
- 0% years since 2008 fell below this cumulative CPUE on this date.
- 46% 68% of the run is likely complete based historical run timing.

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 2024 plotted along with the prior year, a year with an average (2008-2023) cumulative CPUE, and years with the minimum and maximum (2008-2023) cumulative CPUEs.



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

## Chum Salmon BTF Summary (6/24)

- The BTF daily CPUE was 13.
- The BTF cumulative CPUE is now  ${\bf 180}.$
- 20% years since 2008 fell below this cumulative CPUE on this date.
- + 6% 21% of the run is likely complete based historical run timing.

**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 2024 plotted along with the prior year, a year with an average (1984-2023) cumulative CPUE, and years with the minimum and maximum cumulative CPUEs.



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

## Sockeye Salmon BTF Summary (6/24)

- The BTF daily CPUE was 8.
- The BTF cumulative CPUE is now **54**.
- 0% years since 2008 fell below this cumulative CPUE on this date.
- + 15% 39% of the run is likely complete based historical run timing.

**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 2024 plotted along with the prior year, a year with an average (1984-2023) cumulative CPUE, and years with the minimum and maximum cumulative CPUEs.



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

### Sonar Passage Estimates

**Sonar Figure 1.** Cumulative estimates of salmon passage from the 2024 sonar operation. Grey bands show the 95% confidence intervals. *Note: Estimates are subject to change.* 



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## Percent Composition by Salmon Species

**Percent Composition Figure 1.** Species percent composition in the BTF from 2024 and based on the historical average. The composition presented on each day represents the average composition over the past 2 days.



**Percent Composition Figure 2.** Species percent composition in the ATF from 2024 and based on the historical average. The composition presented on each day represents the average composition over the past 2 days.



## Chinook Salmon Appendix

Date	2024	2023	2022	2021	2020	5-Yr Avg.	2008 - 2023 Avg.
6/21	108	127	198	196	176	227	235
6/22	112	145	200	207	182	243	255
6/23	133	154	222	232	197	266	279
6/24	142	175	<b>251</b>	<b>247</b>	<b>203</b>	$\boldsymbol{287}$	301
6/25		187	272	266	230	307	321
6/26		201	295	273	262	328	345
6/27		220	325	293	274	350	364
EOS		382	504	532	487	551	550

Chinook Salmon Table A1. Cumulative CPUE from the BTF.

Chinook Salmon Table A2. Cumulative CPUE from the ATF.

Date	2024	2023	2022	2021	2020	2019	2018
6/21	67	20	157	387	245	836	165
6/22	96	33	213	464	285	953	172
6/23	191	40	284	554	311	973	172
6/24	<b>270</b>	139	<b>318</b>	<b>624</b>	357	1,023	180
6/25		204	386	677	403	$1,\!139$	218
6/26		244	477	752	487	$1,\!181$	245
6/27		257	547	823	554	1,321	280
EOS		748	$1,\!277$	$1,\!891$	$1,\!874$	$1,\!691$	820

Chinook Salmon Table A3. Cumulative passage at the Kuskokwim River sonar. Note: Estimates are subject to change.

Date	2024	2023	2022	2021	2020	2019	2018
6/21	26.994	23,437	35.356	29,403	22,943	74.343	32,520
6/22	33,442	25,228	$58,\!532$	$32,\!528$	25,548	87,113	37,818
6/23	34,054	26,894	$65,\!635$	34,004	28,388	$93,\!957$	45,728
6/24	$36,\!974$	29,715	$71,\!438$	$37,\!265$	31,008	$99,\!741$	$55,\!178$
6/25		$31,\!179$	76,191	41,053	33,943	$103,\!507$	64,394
6/26		$32,\!135$	82,439	42,512	38,186	109,366	69,250
6/27		$34,\!341$	$88,\!190$	$46,\!842$	$41,\!347$	115,741	77,796
EOS		$79,\!166$	$145,\!896$	$102,\!549$	106,764	$161,\!888$	132,971

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## Chum Salmon Appendix

Date	2024	2023	2022	2021	2020	5-Yr Avg.	2008 - 2023 Avg.
6/21	117	137	14	14	40	60	272
6/22	131	155	14	14	44	67	340
6/23	167	168	14	17	50	87	421
6/24	180	<b>189</b>	<b>26</b>	17	<b>50</b>	101	489
6/25		229	36	25	59	121	566
6/26		246	75	28	71	143	669
6/27		309	149	33	95	189	799
EOS		4,303	2,193	327	1,442	2,938	5,509

Chum Salmon Table A1. Cumulative CPUE from the BTF.

Chum Salmon Table A2. Cumulative CPUE from the ATF.

Date	2024	2023	2022	2021	2020	2019	2018
6/21	11	0	0	6	45	5	168
6/22	11	0	7	6	52	5	209
6/23	51	6	7	13	59	19	264
6/24	80	19	7	<b>13</b>	<b>65</b>	<b>31</b>	<b>286</b>
6/25		64	7	19	86	88	401
6/26		70	19	19	148	177	561
6/27		76	19	19	169	266	928
EOS		996	952	267	$2,\!611$	$1,\!051$	$10,\!277$

**Chum Salmon Table A3.** Cumulative passage at the Kuskokwim River sonar. *Note: Chum salmon passage is considered a minimum and should be viewed as an index for inseason management purposes. Estimates are subject to change.* 

Date	2024	2023	2022	2021	2020	2019	2018
6/21	8,662	1,382	0	320	954	1,010	3,082
6/22	8,662	$3,\!283$	0	620	$1,\!192$	$1,\!641$	$7,\!420$
6/23	8,662	$3,\!283$	201	$1,\!113$	$2,\!804$	2,769	9,531
6/24	$10,\!182$	$3,\!422$	<b>201</b>	$1,\!113$	$2,\!804$	$4,\!406$	14,780
6/25		4,733	784	$3,\!224$	$3,\!207$	4,712	18,310
6/26		$5,\!357$	784	$3,\!224$	$3,\!803$	$5,\!853$	$21,\!308$
6/27		$7,\!279$	$3,\!350$	$3,\!224$	$4,\!254$	$9,\!353$	26,213
EOS		$251,\!542$	$103,\!864$	$26,\!973$	$76,\!432$	$385,\!409$	$552,\!011$

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## Sockeye Salmon Appendix

Date	2024	2023	2022	2021	2020	5-Yr Avg.	2008 - 2023 Avg.
6/21	20	161	64	78	43	86	125
6/22	34	184	72	93	56	109	162
6/23	46	211	98	105	68	131	201
6/24	<b>54</b>	<b>240</b>	<b>138</b>	<b>139</b>	<b>74</b>	159	${\bf 241}$
6/25		280	174	186	90	189	285
6/26		346	277	200	136	236	335
6/27		371	386	274	168	294	385
EOS		1,788	$1,\!372$	$1,\!694$	1,060	1,720	1,749

Sockeye Salmon Table A1. Cumulative CPUE from the BTF.

Sockeye Salmon Table A2. Cumulative CPUE from the ATF.

Date	2024	2023	2022	2021	2020	2019	2018
6/21	0	0	6	0	0	0	0
6/22	0	0	6	6	0	0	0
6/23	0	0	6	13	0	0	0
6/24	4	13	13	19	0	0	0
6/25		26	25	19	0	11	0
6/26		32	31	32	0	22	0
6/27		32	31	38	0	22	0
EOS		369	129	241	209	33	75

Sockeye Salmon Table A3. Cumulative passage at the Kuskokwim River sonar. Note: Estimates are subject to change.

Date	2024	2023	2022	2021	2020	2019	2018
6/21	36,794	23,192	40,607	46,653	23,228	37,629	10,221
6/22	$45,\!621$	35,036	49,255	$52,\!899$	27,955	$46,\!435$	$11,\!174$
6/23	59,058	37,703	$64,\!681$	63,034	$32,\!894$	$60,\!630$	$12,\!952$
6/24	$78,\!649$	$46,\!544$	$90,\!917$	$69,\!583$	$39,\!676$	$74,\!749$	$16,\!107$
6/25		$56,\!292$	108,711	84,910	$48,\!198$	$83,\!670$	$17,\!047$
6/26		$75,\!492$	148,724	$95,\!469$	$63,\!645$	119,368	22,921
6/27		$103,\!647$	$182,\!449$	$107,\!050$	80,236	$140,\!558$	$26,\!986$
EOS		899,180	$613,\!874$	869,268	$574,\!928$	$924,\!354$	$635,\!493$

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## **Kuskokwim River In-season Harvest and Effort Estimates**

6/22/2024 Subsistence Harvest Opportunity (Drift & Set Nets)

Opportunity Time Period: 7:00 AM – 7:00 PM (12 Hours)

Area Covered by Estimates: Tuntutuliak  $\longleftrightarrow$  Bogus Cr.







## **Data Sources**

 TABLE 1. The number and percent of fisher interviews conducted by location and organization.

Data Source	Interviews	Percent
Other Villages (KRITFC)	101	50%
Bethel Boat Harbor (ONC)	92	45%
Bethel Area Fish Camps (ONC)	11	5%
Total	204	100%

Of these interviews, 192 were from drift nets and 12 were from set nets.

TABLE 2. The time each flight was conducted and fishers counted each flight.

Time	Nets C	Counted		
Start Time	Drift	Set		
9:11 AM	11:31 AM	2.33	387	39
4:03 PM	6:51 PM	2.80	198	28

## **Effort Estimates**

- An estimated 476 drift boat trips occurred.
  - An estimated 67% of the trips counted on flight 2 were also counted on flight 1.
  - An estimated 23 trips started and ended when no flights occurred.
- An estimated **39** set net trips occurred.

## **Harvest Estimates**

- An estimated total of 24,284 (19,724 29,481) salmon were harvested.
  - An estimated total of 8,468 (6,638 10,345) Chinook salmon were harvested.
  - An estimated total of 7,649 (5,746 9,647) chum salmon were harvested.
  - An estimated total of 8,167 (6,026 10,754) sockeye salmon were harvested.
- Harvest by set nets accounted for an estimated **1,871 (300 4,852)** total salmon (**41%** Chinook salmon, **6%** chum salmon, and **53%** sockeye salmon).

TABLE 3. Summaries by river stratum (area) for drift nets. Numbers in parentheses are 95% confidence intervals.

				Estimate	ed Harvest	
Stratum	Interviews	Effort Est.	Chinook	Chum	Sockeye	Total
Tuntutuliak $\longleftrightarrow$ Johnson R.	29	118	2,877 (1,645 – 4,320)	4,256 (2,469 – 6,187)	2,876 (1,561 – 4,788)	10,010 (6,278 – 14,351)
Johnson R. $\longleftrightarrow$ Napaskiak	58	77	1,412 (982 – 1,946)	824 (522 – 1,242)	1,171 (844 – 1,564)	<b>3,407</b> (2,493 – 4,581)
Napaskiak $\longleftrightarrow$ Akiachak	78	207	2,360 (1,882 – 2,892)	1,690 (1,225 – 2,274)	2,598 (1,893 – 3,441)	6,648 (5,344 – 8,140)
Akiachak $\longleftrightarrow$ Akiak	10	41	<b>592</b> (372 – 820)	<b>336</b> (109 – 609)	421 (217 – 701)	<b>1,349</b> (1,095 – 1,710)
Akiak ↔ Bogus Cr.	17	33	465 (243 – 733)	419 (284 – 553)	<b>114</b> (43 – 199)	<b>999</b> (642 – 1,395)
Total	192	476	7,707 (6,247 – 9,396)	<b>7,526</b> (5,603 – 9,549)	<b>7,180</b> (5,588 – 9,237)	<b>22,413</b> (18,273 – 27,001)

**FIGURE 1.** Distributions of relevant quantities from all completed trips using drift nets. The mean quantity by primary data source is shown in the top right; BBH = Bethel Boat Harbor (ONC), CBM = Other Villages (KRITFC), FC = Bethel Area Fish Camps (ONC).



## **Appendix A: Detailed Interview Summaries**

#### **Column Meanings**

- Area: the area of the river the trip occurred in
- N: the number of interviews with usable information in each area
- Min: the minimum value among trips in each area
- 25%: the value that 25% of trips fell below in each area
- Mean: the average value across trips in each area
- 75%: the value that 75% of trips fell below in each area
- Max: the maximum value among trips in each area

#### Information is for drift net trips only.

TABLE A1. Summary	of drift net catch	per trip of Chinook	salmon by fishing area.
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Area	Ν	Min	25%	Mean	75%	Max
Tuntutuliak $\longleftrightarrow$ Johnson R.	29	0	6	11	16	23
Johnson R. $\longleftrightarrow$ Napaskiak	58	0	6	12	18	40
Napaskiak $\longleftrightarrow$ Akiachak	78	0	3	9	14	55
Akiachak $\longleftrightarrow$ Akiak	10	3	4	11	16	26
Akiak $\longleftrightarrow$ Bogus Cr.	17	0	2	15	20	60
All	192	0	4	11	15	60

TABLE A2. Summary of drift net catch rate of Chinook salmon by fishing area (fish per 150 feet of net per hour).

Area	Ν	Min	25%	Mean	75%	Max
Tuntutuliak $\longleftrightarrow$ Johnson R.	29	0	0.8	4.3	3.8	30
Johnson R. $\longleftrightarrow$ Napaskiak	58	0	2	4.8	4.4	42
Napaskiak $\longleftrightarrow$ Akiachak	77	0	1	2.9	3.5	17
Akiachak $\longleftrightarrow$ Akiak	10	0.4	0.8	2.2	3.1	5.3
Akiak $\longleftrightarrow$ Bogus Cr.	17	0	0.3	1.2	1.9	5.5
All	191	0	1	3.5	3.9	42

TABLE A3. Summary of drift net catch per trip of chum salmon by fishing area.

Area	Ν	Min	25%	Mean	75%	Max
Tuntutuliak $\longleftrightarrow$ Johnson R.	29	0	4	15	20	70
Johnson R. $\longleftrightarrow$ Napaskiak	58	0	2	6	9	28
Napaskiak $\longleftrightarrow$ Akiachak	78	0	2	6	9	56
Akiachak $\longleftrightarrow$ Akiak	10	1	1	6	6	20
Akiak $\longleftrightarrow$ Bogus Cr.	17	0	9	12	15	30
All	192	0	2	8	11	70

**TABLE A4.** Summary of drift net catch rate of chum salmon by fishing area (fish per 150 feet of net per hour).

Area	Ν	Min	25%	Mean	75%	Max
Tuntutuliak $\longleftrightarrow$ Johnson R.	29	0	0.5	6.4	6.3	36
Johnson R. $\longleftrightarrow$ Napaskiak	58	0	0.5	2.8	3.2	40
Napaskiak $\longleftrightarrow$ Akiachak	77	0	0.7	2.1	2.7	20
Akiachak $\longleftrightarrow$ Akiak	10	0.1	0.3	1.3	0.9	6
Akiak $\longleftrightarrow$ Bogus Cr.	17	0	0.7	1.1	1.5	2.7
All	191	0	0.6	2.8	2.8	40

TABLE A5. Summary of drift net catch per trip of sockeye salmon by fishing area.

Area	Ν	Min	25%	Mean	75%	Max
Tuntutuliak $\longleftrightarrow$ Johnson R.	29	0	3	11	10	64
Johnson R. $\longleftrightarrow$ Napaskiak	58	0	3	10	16	41
Napaskiak $\longleftrightarrow$ Akiachak	78	0	3	9	13	72
Akiachak $\longleftrightarrow$ Akiak	10	1	4	9	12	20
Akiak $\longleftrightarrow$ Bogus Cr.	17	0	0	4	5	20
All	192	0	3	9	13	72

TABLE A6. Summary of drift net catch rate of sockeye salmon by fishing area (fish per 150 feet of net per hour).

Area	Ν	Min	25%	Mean	75%	Max
Tuntutuliak $\longleftrightarrow$ Johnson R.	29	0	0.3	4.4	4.8	43.9
Johnson R. $\longleftrightarrow$ Napaskiak	58	0	1.1	3.9	4.4	32
Napaskiak $\longleftrightarrow$ Akiachak	77	0	1	3.2	3.8	33.3
Akiachak ↔ Akiak	10	0.5	0.7	1.6	1.3	6
Akiak $\longleftrightarrow$ Bogus Cr.	17	0	0	0.3	0.5	1.1
All	191	0	0.7	3.3	3.7	43.9

 TABLE A7. Summary of drift net percent composition of Chinook salmon by fishing area.

Area	Ν	Min	25%	Mean	75%	Max
Tuntutuliak $\longleftrightarrow$ Johnson R.	29	0%	17%	35%	50%	100%
Johnson R. $\longleftrightarrow$ Napaskiak	58	0%	32%	42%	50%	100%
Napaskiak $\longleftrightarrow$ Akiachak	78	0%	20%	37%	50%	79%
Akiachak $\longleftrightarrow$ Akiak	10	7%	23%	45%	69%	80%
$Akiak \longleftrightarrow Bogus Cr.$	17	0%	29%	42%	57%	88%
All	192	0%	22%	39%	52%	100%

**TABLE A8.** Summary of drift net trip duration by fishing area.

Area	Ν	Min	25%	Mean	75%	Мах
Tuntutuliak $\longleftrightarrow$ Johnson R.	29	1	5	6.6	8	12.9
Johnson R. $\longleftrightarrow$ Napaskiak	58	1.5	4.3	5.9	7.6	11.8
Napaskiak $\longleftrightarrow$ Akiachak	77	1.5	3.9	6.1	8	12.9
Akiachak $\longleftrightarrow$ Akiak	10	4	7.2	8.6	10.8	12
$\textbf{Akiak} \longleftrightarrow \textbf{Bogus Cr.}$	17	12	12	12	12	12
All	191	1	4.5	6.8	8.9	12.9

 TABLE A9. Summary of drift net active fishing hours by fishing area.

Area	Ν	Min	25%	Mean	75%	Мах
Tuntutuliak $\longleftrightarrow$ Johnson R.	29	0.3	2	3.8	5	9
Johnson R. $\longleftrightarrow$ Napaskiak	58	0.2	2.5	4.3	5.5	10
Napaskiak $\longleftrightarrow$ Akiachak	77	0.3	2	4	6	10
Akiachak $\longleftrightarrow$ Akiak	10	1.5	3.1	6.7	9.8	10
Akiak	17	3.5	5	7.9	10	11.5
All	191	0.2	2.5	4.6	6.5	11.5

## **Appendix B: Non-salmon Harvest Information**

- An estimated total of 376 (125 822) nonsalmon were harvested.
  - An estimated total of 63 (33 103) sheefish were harvested.
  - An estimated total of **313 (73 760)** all whitefishes were harvested.
- Harvest by set nets accounted for an estimated 48 (9 101) total nonsalmon (0% sheefish and 100% all whitefishes).

TABLE B1. Summaries by river stratum (area) for drift nets. Numbers in parentheses are 95% confidence intervals.

			Estimated Harvest			
Stratum	Interviews	Effort Est.	Sheefish	Whitefish	Total	
Tuntutuliak $\longleftrightarrow$ Johnson R.	29	118	0 (0 - 0)	207 (0-642)	<b>207</b> (0 – 642)	
Johnson R. $\longleftrightarrow$ Napaskiak	58	77	29 (8 – 61)	9 (2 – 18)	<b>37</b> (14 – 71)	
Napaskiak $\longleftrightarrow$ Akiachak	78	207	17 (3 – 35)	22 (4 – 47)	<b>39</b> (13 – 76)	
Akiachak $\longleftrightarrow$ Akiak	10	41	0 (0 - 0)	0 (0 – 0)	0 (0 – 0)	
Akiak $\longleftrightarrow$ Bogus Cr.	17	33	18 (5 – 36)	27 (9 - 47)	<b>45</b> (14 – 80)	
Total	192	476	63 (33 – 103)	265 (41 – 707)	<b>328</b> (85 – 776)	

TABLE B2. Summary of drift net catch per trip of sheefish by fishing area.

Area	Ν	Min	25%	Mean	75%	Max
Tuntutuliak $\longleftrightarrow$ Johnson R.	29	0	0	0	0	0
Johnson R. $\longleftrightarrow$ Napaskiak	58	0	0	0	0	2
Napaskiak $\longleftrightarrow$ Akiachak	78	0	0	0	0	4
Akiachak $\longleftrightarrow$ Akiak	10	0	0	0	0	0
Akiak $\longleftrightarrow$ Bogus Cr.	17	0	0	1	1	5
All	192	0	0	0	0	5

TABLE B3. Summary of drift net catch per trip of all whitefishes by fishing area.

Area	Ν	Min	25%	Mean	75%	Max
Tuntutuliak $\longleftrightarrow$ Johnson R.	29	0	0	0	0	9
Johnson R. $\longleftrightarrow$ Napaskiak	58	0	0	0	0	4
Napaskiak $\longleftrightarrow$ Akiachak	78	0	0	0	0	3
Akiachak $\longleftrightarrow$ Akiak	10	0	0	0	0	0
$\textbf{Akiak} \longleftrightarrow \textbf{Bogus Cr.}$	17	0	0	1	2	3
All	192	0	0	0	0	9