

Kuskokwim River In-season Harvest and Effort Estimates

6/30-7/1 2023 Subsistence Harvest Opportunity (Set Nets Only)

Opportunity Time Period: 9:00 AM – 9:00 AM (24 Hours)



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Data Sources

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

Data Source	Interviews	Percent
Bethel Boat Harbor (ONC)	54	46%
Other Villages (KRITFC)	31	27%
Bethel Area Fish Camps (ONC)	31	27%
Total	116	100%

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

Time Information			Nets Counted	
Start Time	End Time	Hours	Drift	Set
5:05 PM	6:39 PM	1.57	0	90

Effort Estimates

- An estimated **116** set net trips occurred.

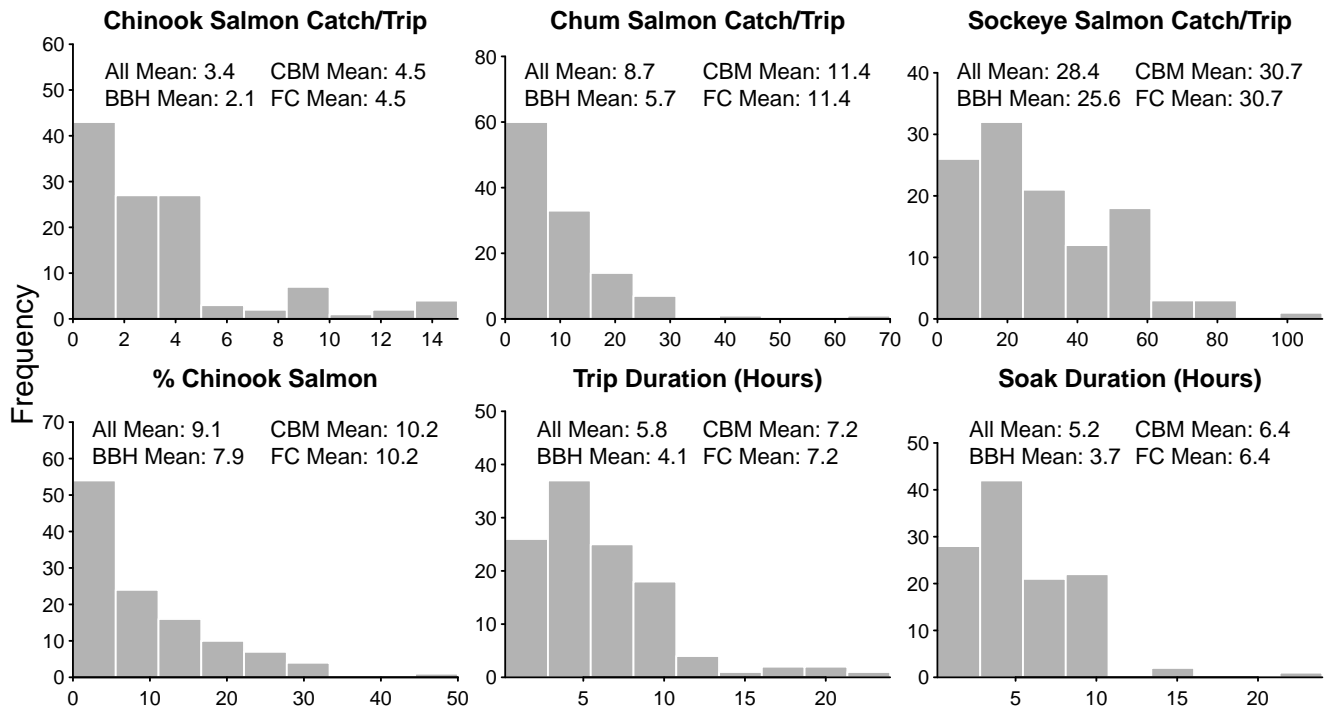
Harvest Estimates

- An estimated total of **8,345 (5,981 – 12,242)** salmon were harvested.
 - An estimated total of **593 (453 – 746)** Chinook salmon were harvested.
 - An estimated total of **1,298 (966 – 1,689)** chum salmon were harvested.
 - An estimated total of **6,454 (4,219 – 10,096)** sockeye salmon were harvested.

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

Stratum	Interviews	Effort Est.	Estimated Harvest			
			Chinook	Chum	Sockeye	Total
Tuntutuliak ↔ Johnson R.	2	10	51 (39 – 64)	112 (83 – 146)	556 (364 – 870)	719 (516 – 1,055)
Johnson R. ↔ Napaskiak	58	9	46 (35 – 58)	101 (75 – 131)	501 (327 – 783)	647 (464 – 950)
Napaskiak ↔ Akiachak	56	70	358 (274 – 450)	783 (583 – 1,019)	3,895 (2,546 – 6,093)	5,036 (3,610 – 7,387)
Akiachak ↔ Akiak	0	18	92 (70 – 116)	201 (150 – 262)	1,002 (655 – 1,567)	1,295 (928 – 1,899)
Akiak ↔ Bogus Cr.	0	9	46 (35 – 58)	101 (75 – 131)	501 (327 – 783)	647 (464 – 950)
Total	116	116	593 (453 – 746)	1,298 (966 – 1,689)	6,454 (4,219 – 10,096)	8,345 (5,981 – 12,242)

FIGURE 1. Distributions of relevant quantities from all completed trips using set 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 set net trips only.

TABLE A1. Summary of set net catch per trip of Chinook salmon by fishing area.

Area	N	Min	25%	Mean	75%	Max
Tuntutuliak ↔ Johnson R.	2	0	0	0	1	1
Johnson R. ↔ Napaskiak	58	0	2	4	5	15
Napaskiak ↔ Akiachak	56	0	0	2	4	15
All	116	0	0	3	5	15

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

Area	N	Min	25%	Mean	75%	Max
Tuntutuliak ↔ Johnson R.	2	0	0	0.1	0.1	0.2
Johnson R. ↔ Napaskiak	48	0	0.9	2.8	3.1	15
Napaskiak ↔ Akiachak	55	0	0	1.9	2.9	12
All	105	0	0	2.3	3	15

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

Area	N	Min	25%	Mean	75%	Max
Tuntutuliak ↔ Johnson R.	2	9	12	14	17	20
Johnson R. ↔ Napaskiak	58	0	5	11	16	31
Napaskiak ↔ Akiachak	56	0	0	6	5	70
All	116	0	1	9	12	70

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

Area	N	Min	25%	Mean	75%	Max
Tuntutuliak ↔ Johnson R.	2	1.6	2.2	2.8	3.4	4
Johnson R. ↔ Napaskiak	48	0	2.1	5.5	7.6	30
Napaskiak ↔ Akiachak	55	0	0	4.7	5.4	45
All	105	0	0	5	7.3	45

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

Area	N	Min	25%	Mean	75%	Max
Tuntutuliak ↔ Johnson R.	2	2	4	6	7	9
Johnson R. ↔ Napaskiak	58	1	15	29	47	65
Napaskiak ↔ Akiachak	56	0	11	28	40	110
All	116	0	14	28	43	110

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

Area	N	Min	25%	Mean	75%	Max
Tuntutuliak ↔ Johnson R.	2	0.4	0.7	1	1.3	1.6
Johnson R. ↔ Napaskiak	48	2.9	8.2	15.4	17.6	50
Napaskiak ↔ Akiachak	55	0	7.9	34.4	26.6	690
All	105	0	7.9	25.1	20.8	690

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

Area	N	Min	25%	Mean	75%	Max
Tuntutuliak ↔ Johnson R.	2	0%	1%	2%	3%	4%
Johnson R. ↔ Napaskiak	58	0%	5%	10%	17%	30%
Napaskiak ↔ Akiachak	56	0%	0%	8%	13%	50%
All	116	0%	0%	9%	16%	50%

TABLE A8. Summary of set net trip duration by fishing area.

Area	N	Min	25%	Mean	75%	Max
Tuntutuliak ↔ Johnson R.	2	5	5.1	5.2	5.4	5.5
Johnson R. ↔ Napaskiak	58	0.5	4	6.2	8.8	11
Napaskiak ↔ Akiachak	55	0.2	2	5.1	5.8	21
All	115	0.2	3	5.6	8	21

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

Area	N	Min	25%	Mean	75%	Max
Tuntutuliak ↔ Johnson R.	2	5	5.1	5.2	5.4	5.5
Johnson R. ↔ Napaskiak	58	0.2	3.8	5.8	8.5	10.5
Napaskiak ↔ Akiachak	55	0.2	2	4.2	5.3	15
All	115	0.2	2.8	5	7.5	15

Appendix B: Non-salmon Harvest Information

- An estimated total of **32 (5 – 67)** nonsalmon were harvested.
 - An estimated total of **23 (0 – 56)** sheefish were harvested.
 - An estimated total of **8 (1 – 16)** all whitefishes were harvested.

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

Stratum	Interviews	Effort Est.	Estimated Harvest		
			Sheefish	Whitefish	Total
Tuntutuliak ↔ Johnson R.	2	10	2 (0 – 5)	1 (0 – 1)	3 (0 – 6)
Johnson R. ↔ Napaskiak	58	9	2 (0 – 4)	1 (0 – 1)	3 (0 – 5)
Napaskiak ↔ Akiachak	56	70	14 (0 – 34)	5 (1 – 10)	19 (4 – 41)
Akiachak ↔ Akiak	0	18	4 (0 – 9)	1 (0 – 3)	5 (1 – 11)
Akiak ↔ Bogus Cr.	0	9	2 (0 – 4)	1 (0 – 1)	3 (0 – 5)
Total	116	116	23 (0 – 56)	8 (1 – 16)	32 (5 – 67)

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

Area	N	Min	25%	Mean	75%	Max
Tuntutuliak ↔ Johnson R.	2	0	0	0	0	0
Johnson R. ↔ Napaskiak	58	0	0	0	0	9
Napaskiak ↔ Akiachak	56	0	0	0	0	0
All	116	0	0	0	0	9

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

Area	N	Min	25%	Mean	75%	Max
Tuntutuliak ↔ Johnson R.	2	0	0	0	0	0
Johnson R. ↔ Napaskiak	58	0	0	0	0	1
Napaskiak ↔ Akiachak	56	0	0	0	0	1
All	116	0	0	0	0	1