

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: **May 17, 2019**

Time: **9:00am–5:00pm**

Place: **Cultural Center, Bethel**

**Lunch will not be provided and the Group may choose to take a lunch break.*

Time Called to Order:

Chair:

Time Adjourned:

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.*

PEOPLE TO BE HEARD:

A. 2018 Fishing Season Recap/ Presentations

- Assessment projects review (Weirs, Aerial, ASL)
- Chinook salmon total run and drainage wide escapement estimate
- Subsistence Division Presentation/Kuskokwim River King Salmon Permits
- Southern Bering Sea Survey
- Review of inconnu (sheefish) reseeach

B. 2019 FISHERY MANAGEMENT:

- 2019 Assessment projects
 - ADF&G
 - NVN
 - USFWS
 - BSFA
- 2019 Alaska Board of Fisheries Summary (Aaron Tiernan, ADF&G)
- 2019 Federal Subsistence Board Meeting Summary (Ray Born, USFWS)
- Kuskokwim River Inter-Tribal Fisheries Commission Meetings Summary (KRITFC Rep.)
- ADF&G Management Presentation & Discussion On Specific Management Actions For 2019
 - 2019 Chinook Salmon Forecast
 - Date to begin early season closure
 - 4-inch mesh gillnet fishing periods during early season closure
 - Tributary Management
 - Salmon Tributaries (Kwethluk, Kisaralik, Kasigluk, Tuluksak, and Aniak rivers)
 - Non-Salmon Tributaries (i.e. Gweek, Tunt, Johnson rivers)
 - Use of live release gear (fish wheels, dip nets, beach seines, and hook and line)
 - Chum/sockeye salmon management

C. WORKING GROUP BUSINESS:

- Election of Co-Chairs
- Working Group In-Season Meeting Schedule
- Nominate WG representative to serve at KRITFC inseason meetings

D. 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

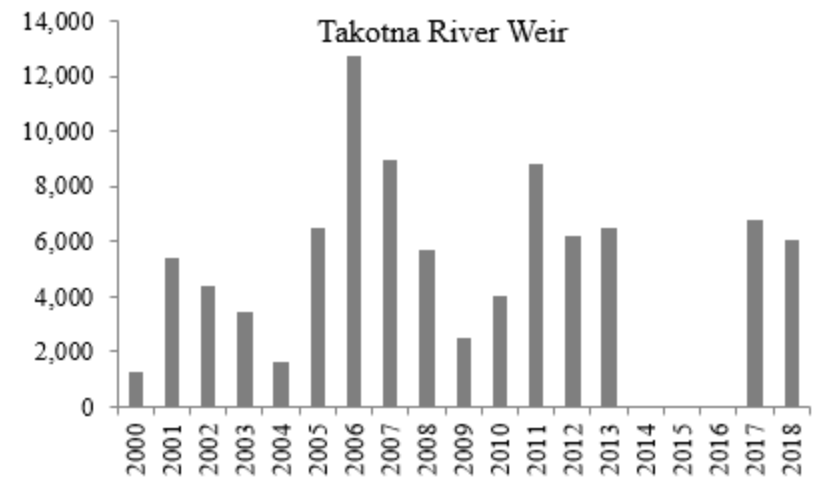
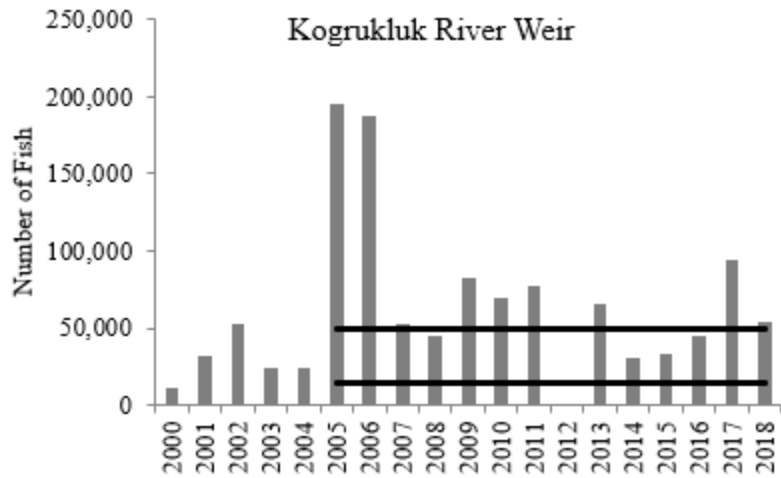
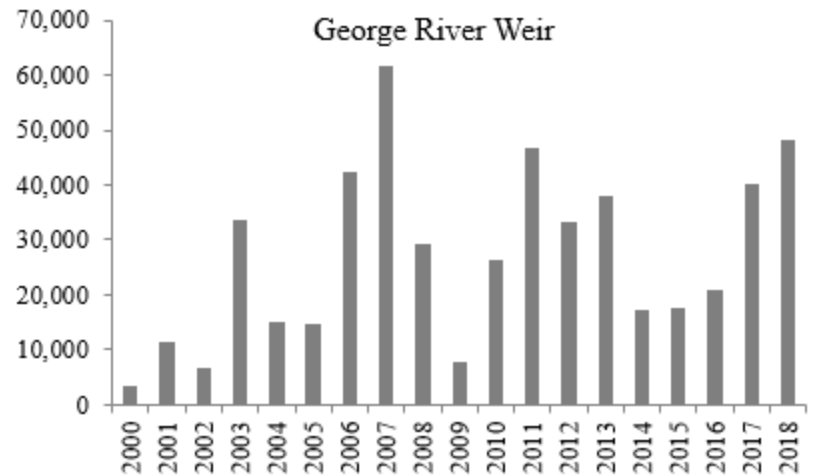
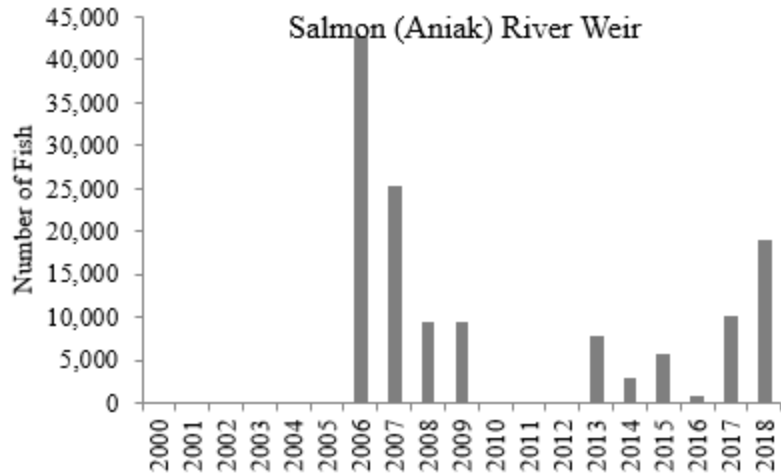
Viewing the information packet while listening to meetings/recordings will provide a better understanding of the information presented in this packet.

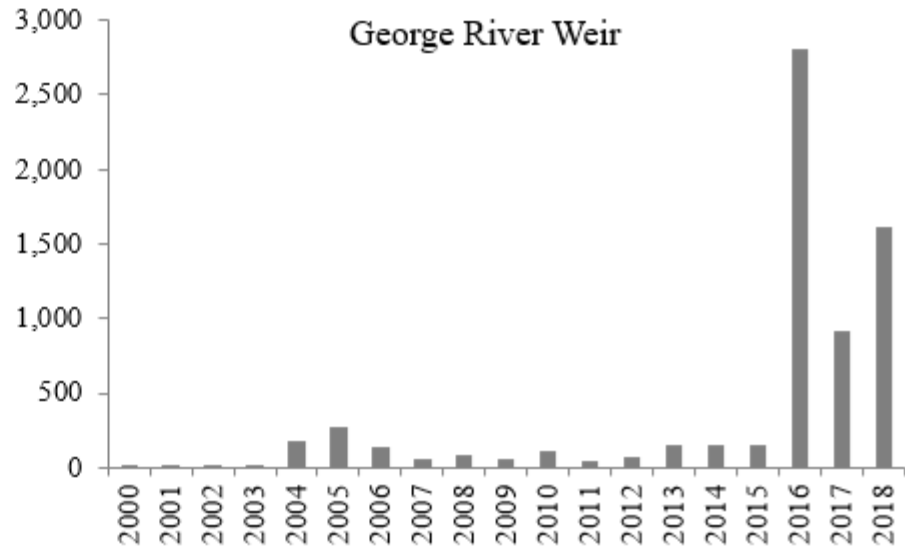
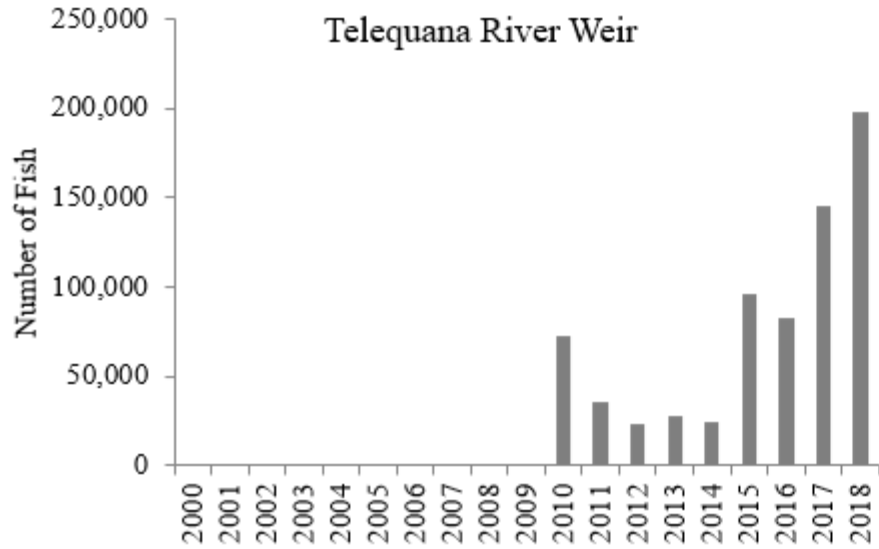
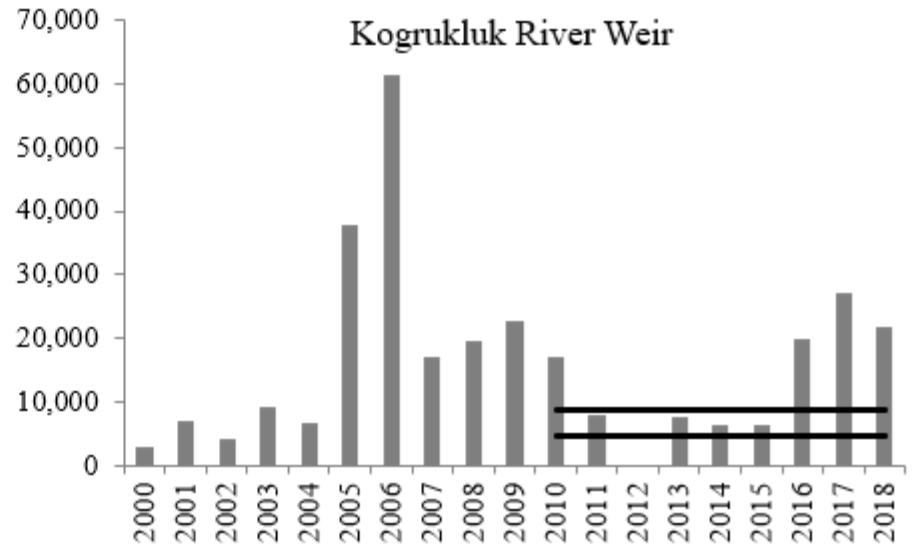
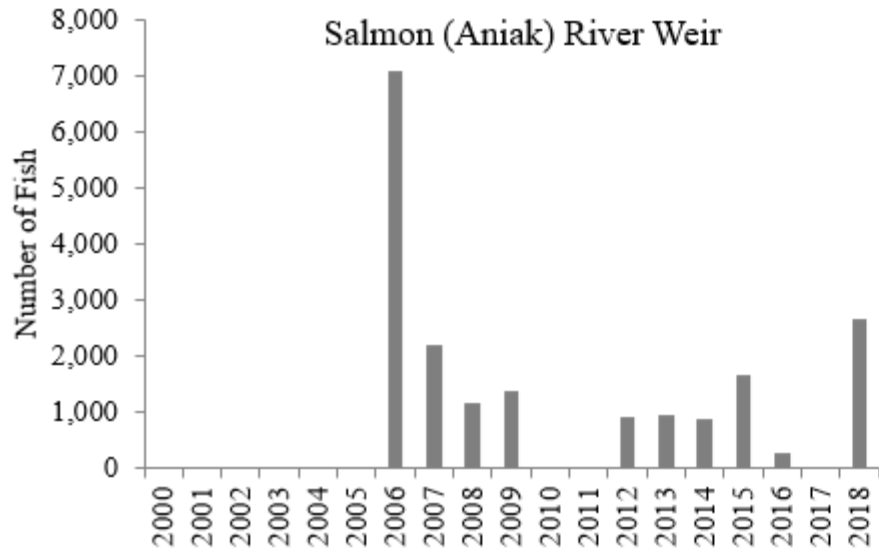
Thank you.
Jennifer Peeks
Aaron Tiernan
Working Group Coordinators

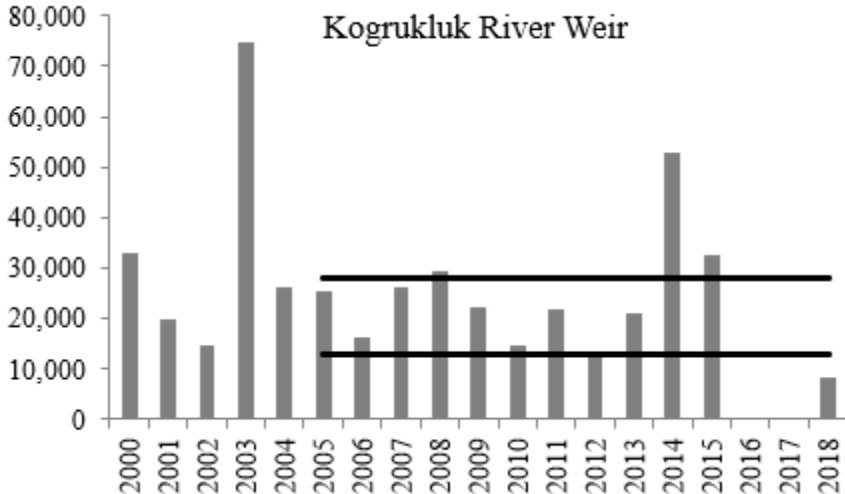
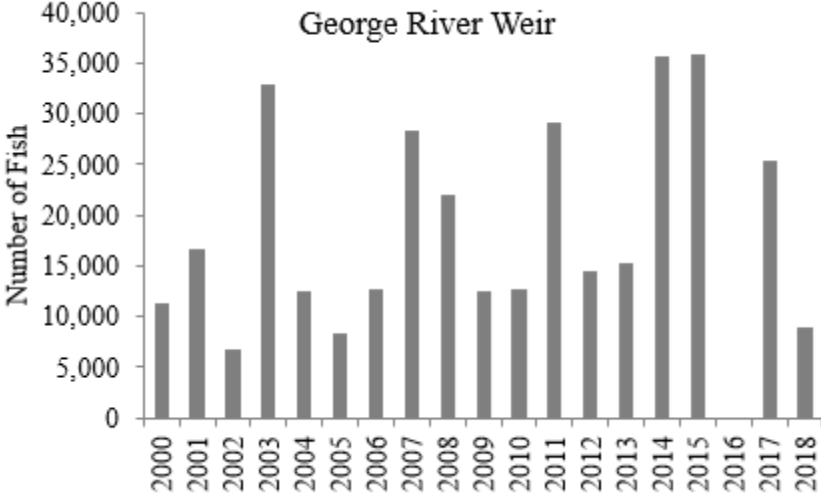
2018 Assessment Review

Chum, Coho, and Sockeye Salmon – escapement goal performance pg. 2/3

System	Escapement			
	2015	2016	2017	2018
CHUM SALMON				
Kogrukluk River	Met	Met	Exceeded	Exceeded
SOCKEYE SALMON				
Kogrukluk River	Met	Exceeded	Exceeded	Exceeded
COHO SALMON				
Kogrukluk River	Exceeded	NA	NA	Under
Kwethluk River	Met	NA	Met	NA



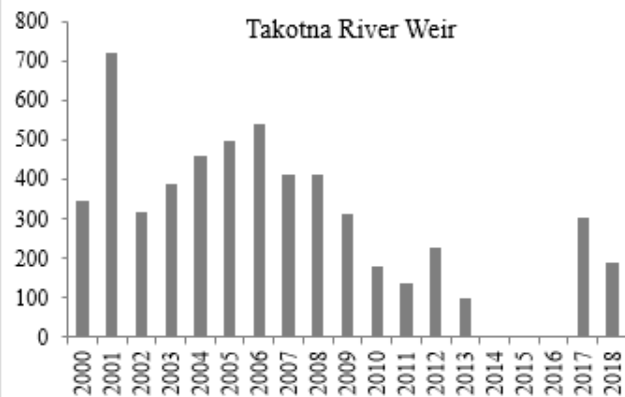
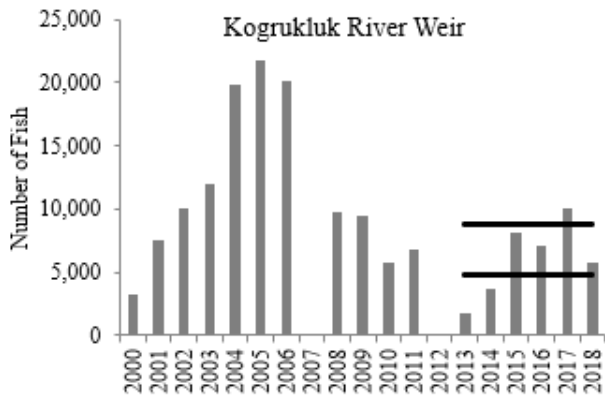
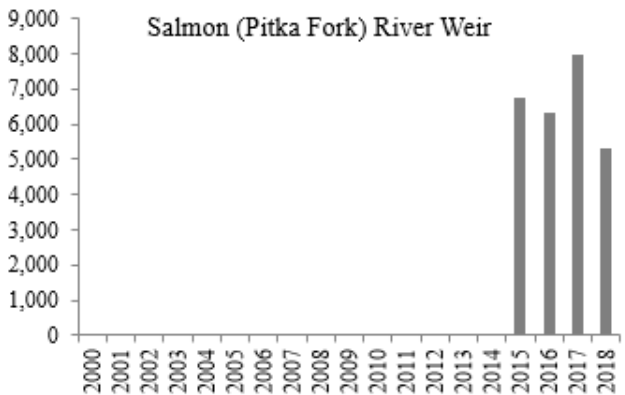
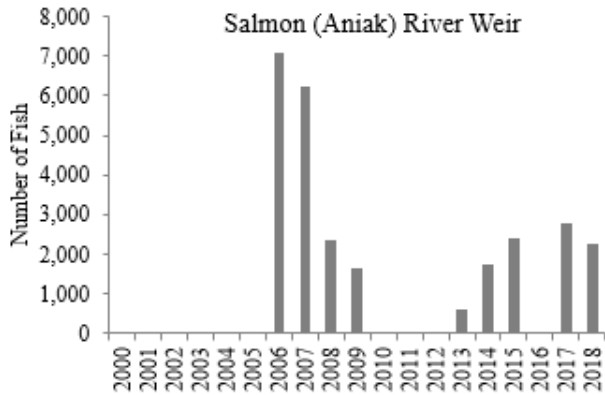
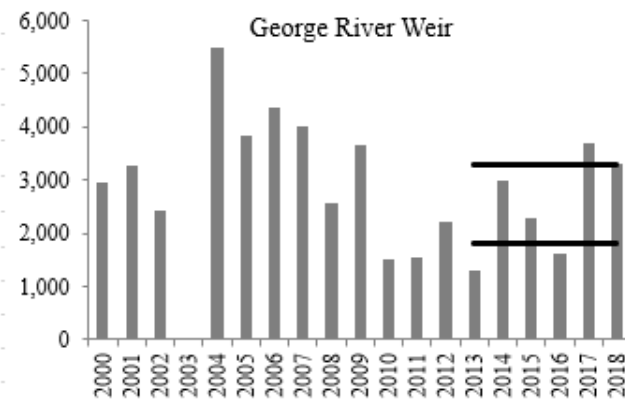
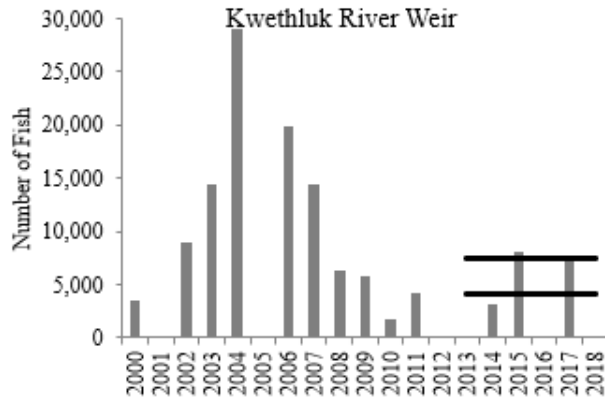


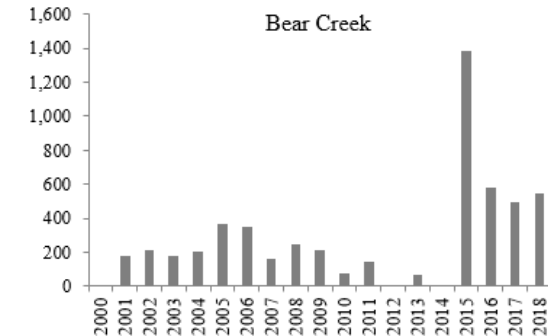
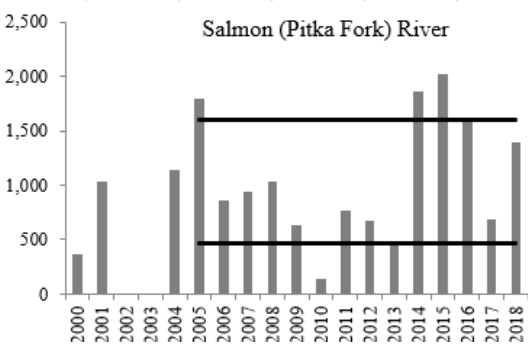
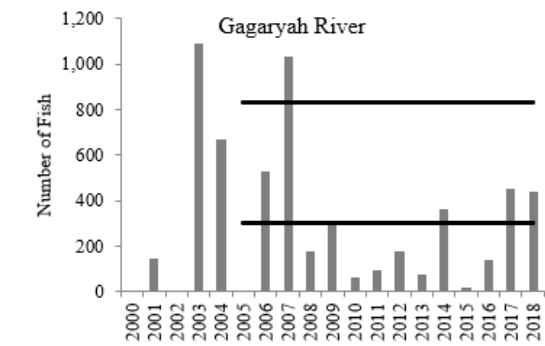
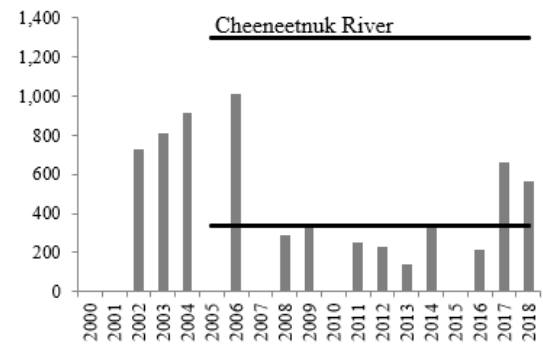
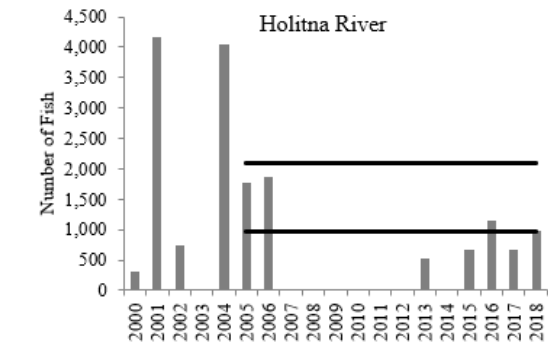
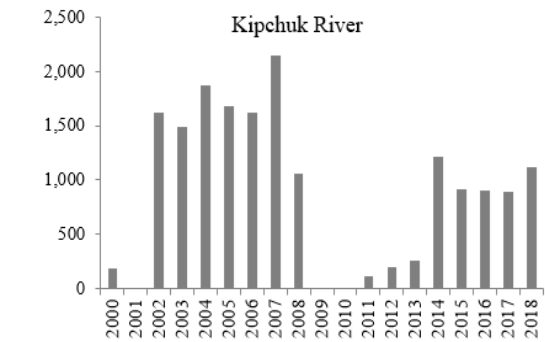
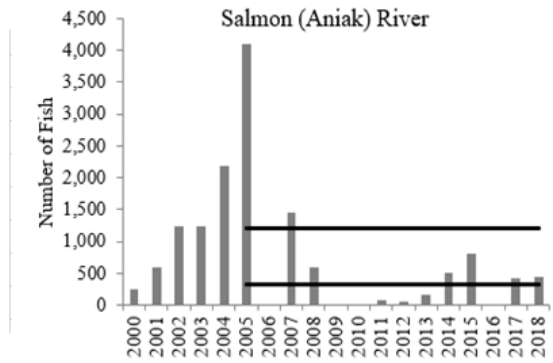
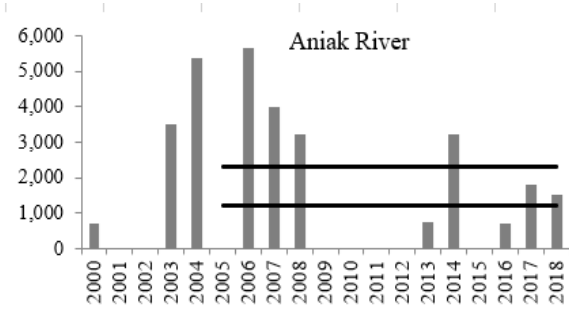
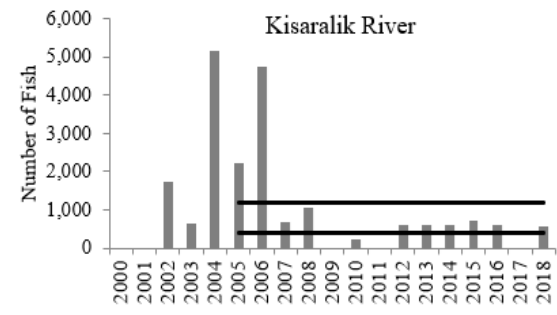


Chinook Salmon – escapement goal performance pg. 2/3

System	Escapement					
	2013	2014	2015	2016	2017	2018
CHINOOK SALMON						
Kuskokwim River	Under	Met	Met	Met	Met	Met
Kogrukuk River	Under	Under	Met	Met	Exceeded	Met
Kwethluk River	NA	Under	Exceeded	NA	Met	NA
George River	Under	Met	Met	Under	Exceeded	Exceeded
Kisaralik River	Met	Met	Met	Met	NS	Met
Aniak River	Under	Exceeded	NS	Under	Met	Met
Salmon River (Aniak R)	Under	Met	Met	NS	Met	Met
Holitna River	Under	NS	Under	Met	Under	Met
Cheeneetnuk River (Stony R)	Under	Met	NS	Under	Met	Met
Gagaryah River (Stony R)	Under	Met	Under	Under	Met	Met
Salmon River (Pitka Fork)	Under	Exceeded	Exceeded	Met	Met	Met

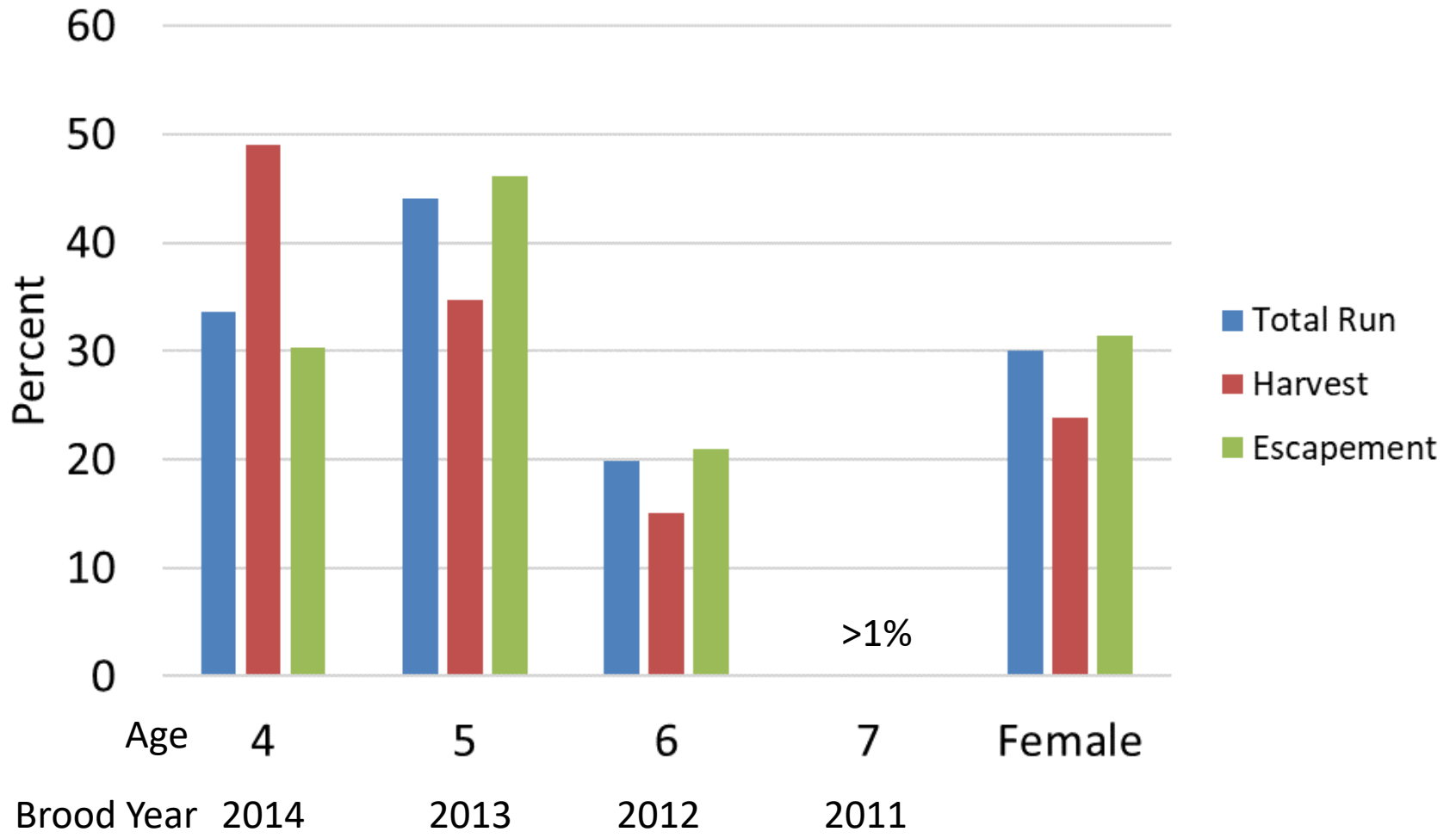
Chinook Salmon pg. 10-12



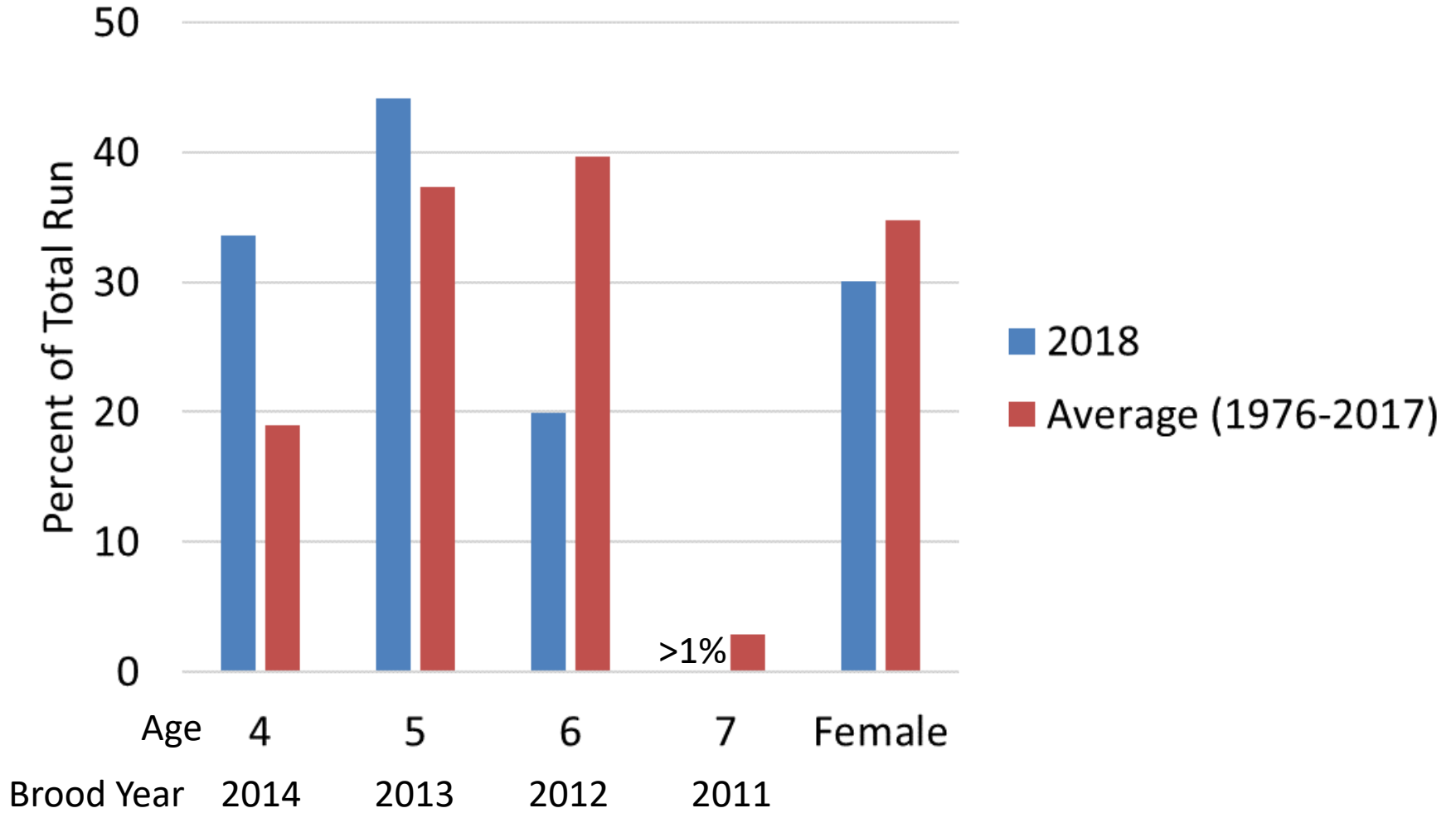


Chinook Salmon Age and Sex Summary

Chinook salmon - age/sex composition pg. 2-4



Chinook salmon - age/sex composition



2018 Kuskokwim River
Chinook Salmon
Run Reconstruction

Run Reconstruction Review

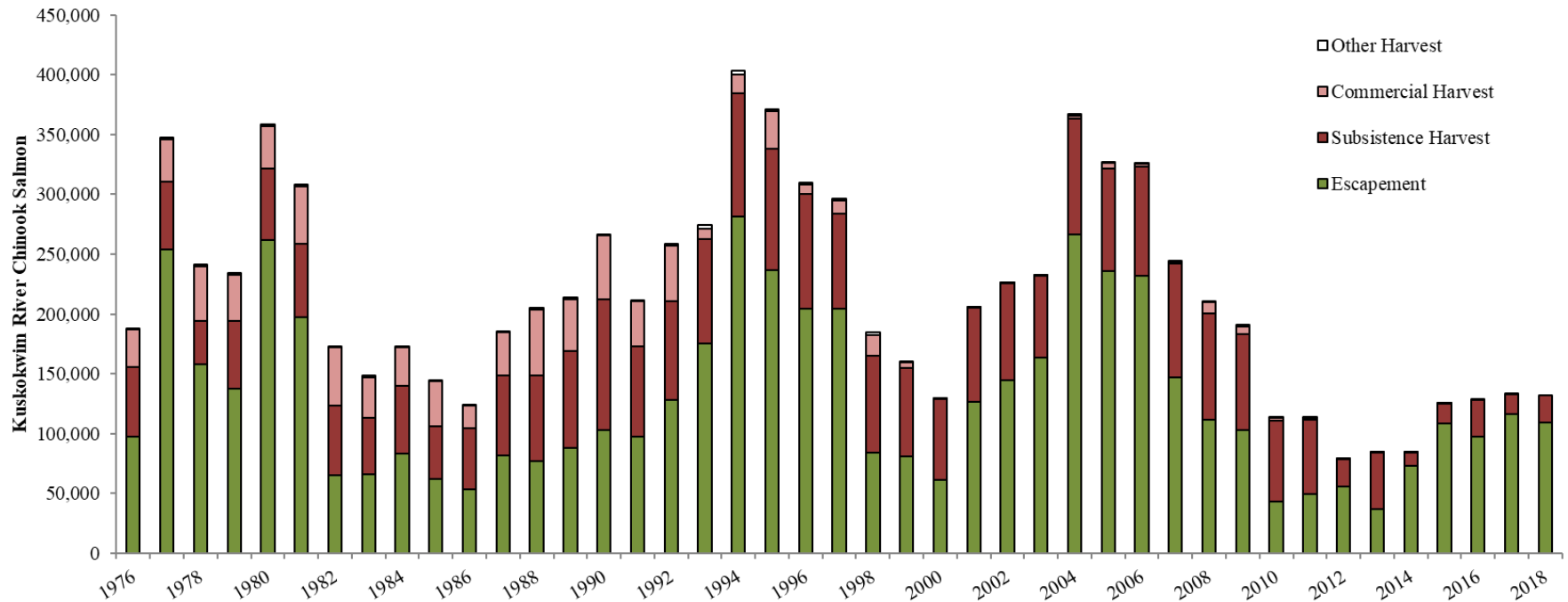
What refinements were made to the model and input data:

- Changed software used to run the model
- Changed underlying distribution for input data
- Change individual project variance to pooled variance by data type (e.g., aerial, weir).
- Revised 2003–2007 model scalars
- Added 2014–2017 model scalars
- Changed commercial catch formula

What are the effects:

- Improved estimation of total run and escapement
- Increased model stability
- Model changes resulted in smaller annual estimates (average approximately 11% or about 14,800 fish)
- Revised estimates decreased in 34 (81%) of 42 years (1976–2017) and increased in 8 years (19%)

Total Run Size – 132,312 (95% CI: 104,858–166,954)
Total Escapement – 109,583 (95% CI: 82,129–144,225)
Total Harvest – 22,729 (95% CI: 20,970–24,488)



Questions

2019 Board of Fisheries Summary

- **Proposal 106** – Passed with amendment
 - Originally proposed to allow set gillnets to be operated within 50 feet of each other, in tributaries of the Kuskokwim River from the north end of Eek Island to the Kolmakoff River
 - Distance amended to 75 ft.
- **Proposal 107** – Passed, allows gillnets as a legal gear type for the taking of salmon
 - Not just a conservation tool now

2019 Kuskokwim River Management Outlook and Strategy

What Guides Preseason Chinook Discussions?

- Drainage wide escapement goal of 65,000–120,000 Chinook salmon
- Forecast (115,000–150,000 fish)
 - Recent performance
- Management Plan
 - Developed through BOF process over many cycles
- Chinook Salmon ANS 67,200–109,800

Inseason Chinook Management

- Assessment Tools
 - Preseason forecast
 - Bethel Test Fishery
 - Sonar (ground truth BTF)
 - Inseason subsistence harvest reports
- Management Tool Box
 - Management Plan
 - Time and area authority
 - Tributary Closures (Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak Rivers)
 - Different gear types (gillnets, fish wheels, beach seines, dip nets, and hook and line)
 - Gillnet mesh size and length restrictions

Management Plan

- Front End Closure
 - Beginning date decided at this Working Group meeting
 - In place through June 11
 - Designed to distribute salmon for harvest
 - One 4" set gill-net opportunity/week

Management Plan

- Below escapement needs
 - All fisheries closed
- Within escapement goal range
 - After June 11, to the extent practicable, at least one subsistence fishing period per week
 - Excess of escapement and subsistence needs
 - Commercial and Sport fishing opportunity may be provided
- Exceeds drainage wide escapement goal range
 - After June 11, subsistence open seven days per week.
 - Commercial and sport fishing opportunity may be provided

Management Plan

- Within escapement goal range
 - After June 11, to the extent practicable, at least one subsistence fishing period per week
 - Excess of escapement and subsistence needs
 - Commercial and Sport fishing opportunity may be provided

ADF&G Pre-season Strategy

- Front End Closure
 - Start date, to be determined... June 1?
 - At least one 4" set gill-net opportunity/week
- Tributary Closures similar to prior years
 - Kwethluk, Kisaralik, Kasigluk, Tuluksak, and Aniak rivers
 - Non-Salmon (i.e. Johnson, Tunt, and Gweek rivers)
- After June 11, at least one fishing period per week

Strategy Cont.

- Gear restrictions would be consistent with prior years to begin the season.
 - 6” mesh or less gillnets
 - 25 fathoms in length
 - Live release gear types (Fish Wheels, Dipnets, beach seines, and hook and line).
- All restrictions subject to change depending on inseason assessment

Transition Period Management

- Same assessment tools as Chinook season
- Same management tool box is available as Chinook season
- Ratios of chum/sockeye to Chinook salmon in assessment projects as well as subsistence harvests to inform management decisions
- If abundances of chum, sockeye, and coho appear low, than same types of restrictions can be implemented as in the Chinook fishery

Working Group Input

- Beginning date of the front end closure for all sections?
- Day of week to have 4" fishing period during the Front End Closure?
 - Duration of period?

A close-up photograph of a textured surface, likely a book cover or fabric, featuring a repeating pattern of light blue and brownish-tan elements. The blue elements are roughly diamond-shaped and have a fine, pebbled texture. The brownish-tan elements are the spaces between the blue ones, also showing a similar texture. The overall appearance is that of a woven or knitted material. The word "Questions" is overlaid in the center in a bright yellow, sans-serif font.

Questions

Kuskokwim Management Area

Chinook Salmon Age and Sex Summary



Kuskokwim River Working Group Meeting

April 17, 2019

Table 1.— Total run, age and sex composition of Kuskokwim River Chinook salmon. Estimates based on samples from escapement and harvest monitoring projects.

Year	Sample Size	Percent by age class					Percent Female
		1.2	1.3	1.4	1.5	Other	
1990	805	20.9	48.5	27.2	2.1	1.2	27.8
1991	1,111	12.3	33.5	49.5	2.5	2.2	41.9
1992	2,393	26.6	33.4	35.1	1.9	2.8	29.8
1993	1,064	28.5	30.4	36.5	3.8	0.8	30.0
1994	935	11.4	52.8	31.9	1.5	2.2	29.7
1995	1,141	17.4	29.0	52.3	1.1	0.3	40.5
1996	1,293	10.3	42.7	35.4	11.1	0.4	33.1
1997	933	27.7	23.7	47.4	1.1	0.1	34.2
1998	643	13.6	48.2	35.5	2.3	0.3	35.3
1999	586	8.1	30.8	58.6	2.1	0.4	45.4
2000	586	12.7	38.5	45.2	3.2	0.3	37.4
2001	1,797	10.5	33.1	52.3	4.1	0.0	33.3
2002	4,365	20.8	35.6	40.0	3.5	0.1	31.8
2003	4,200	19.6	43.4	32.8	3.9	0.2	28.6
2004	5,483	38.7	30.8	29.2	1.3	0.4	23.3
2005	5,429	18.0	46.7	33.7	1.3	0.4	35.8
2006	4,910	25.8	30.1	39.1	4.6	0.4	36.5
2007	4,603	28.6	32.6	36.0	2.0	0.8	30.8
2008	4,910	19.4	48.7	28.8	2.2	0.9	30.2
2009	5,299	18.0	37.1	43.1	1.1	0.7	36.1
2010	3,021	19.9	42.4	34.6	2.7	0.4	38.0
2011	2,412	24.9	40.1	32.8	1.5	0.7	31.1
2012	1,017	18.1	52.7	27.2	1.2	0.7	36.7
2013	1,077	13.8	30.5	53.9	1.0	0.6	45.1
2014	1,466	17.6	40.1	36.7	1.0	4.4	42.5
2015	2,647	44.1	35.0	18.8	0.3	1.7	24.9
2016	1,478	29.8	55.5	12.0	0.0	2.7	29.8
2017	1,761	32.0	45.2	21.5	0.0	1.3	31.9
2018	1,630	33.6	44.1	19.9	0.1	2.3	30.1
(1976-2017)							
Average		19.0	37.4	39.6	2.8	1.1	34.7
Min.		7.3	15.6	12.0	0.0	0.0	23.3
Max.		44.8	55.5	59.6	11.1	9.0	47.2

^a Other category represents all uncommon age classes, generally comprising only a fraction of one percent.

Note: age class is shown as the number of years (winters) spent in freshwater and saltwater separated by a period. Total age from brood year is equal to the sum of the two numbers plus one to account for the time the egg was in the gravel. For example, an age 1.2 fish that returned to the Kuskokwim in 2017 is a four-year-old fish that was spawned during the 2013 brood year, spent one year in freshwater, and spent two years in the ocean.

Table 2.— Total escapement, age and sex composition of Kuskokwim River Chinook salmon. Estimates based on samples from Kwethluk, Tuluksak, Salmon (Aniak), George, Kogrukuk, Tatlawiksuk, Takotna, and Salmon (Pitka Fork) weirs.

Year	Sample Size	Percent by age class					Other	Percent Female
		1.2	1.3	1.4	1.5			
1990	367	23.7	62.3	11.2	0.2	2.7	22.2	
1991	661	7.3	29.0	59.7	1.8	2.3	47.4	
1992	1,646	31.5	30.6	31.6	1.4	4.7	27.2	
1993	932	37.2	25.4	32.5	4.2	0.7	27.3	
1994	697	12.2	57.4	26.6	0.8	2.7	27.0	
1995	533	19.1	25.5	55.1	0.2	0.2	42.9	
1996	671	10.6	43.5	30.5	15.0	0.4	31.3	
1997	741	34.0	17.2	48.5	0.3	0.0	33.6	
1998	176	16.5	52.9	29.0	1.3	0.0	35.8	
1999	366	6.6	22.0	69.9	1.0	0.4	53.4	
2000	556	17.6	35.8	43.4	3.2	0.0	37.2	
2001	643	14.0	34.9	47.2	3.9	0.0	33.1	
2002	2,153	28.2	37.0	32.2	2.5	0.2	27.0	
2003	1,854	25.0	43.1	29.0	2.8	0.2	25.0	
2004	2,776	47.2	28.9	23.2	0.8	0.5	19.8	
2005	2,197	22.2	45.5	30.8	1.2	0.4	35.9	
2006	2,798	33.0	27.9	33.9	4.8	0.4	34.6	
2007	2,518	43.0	29.8	25.1	1.6	0.6	23.3	
2008	1,653	26.7	44.8	25.8	2.0	0.8	29.0	
2009	1,305	22.7	39.4	36.0	1.0	1.0	35.7	
2010	1,036	37.8	31.9	27.3	2.5	0.4	31.7	
2011	1,215	39.8	30.5	28.0	0.9	0.7	26.9	
2012	495	20.4	52.9	25.2	0.7	0.9	38.5	
2013	343	24.3	30.8	43.6	0.6	0.3	50.1	
2014	966	15.1	42.2	40.2	1.2	1.3	44.0	
2015	1,983	45.9	34.8	17.5	0.3	1.5	22.8	
2016	788	25.8	57.9	13.3	0.0	3.1	35.8	
2017	1,318	31.4	44.9	22.5	0.0	1.2	32.6	
2018	857	30.4	46.1	20.9	0.2	2.5	31.4	
(1976-2017)								
Average		22.9	35.8	37.4	2.7	1.2	33.8	
Min.		4.1	10.5	11.2	0.0	0.0	13.3	
Max.		66.2	62.3	69.9	15.0	13.7	53.4	

^a Other category represents all uncommon age classes, generally comprising only a fraction of one percent.

Note: age class is shown as the number of years (winters) spent in freshwater and saltwater separated by a period. Total age from brood year is equal to the sum of the two numbers plus one to account for the time the egg was in the gravel. For example, an age 1.2 fish that returned to the Kuskokwim in 2017 is a four-year-old fish that was spawned during the 2013 brood year, spent one year in freshwater, and spent two years in the ocean.

Table 3.— Total harvest, age and sex composition of Kuskokwim River Chinook salmon. Estimates based on samples from lower river subsistence fishery, commercial fishery, and Bethel Test Fishery.

Year	Sample Size	Percent by age class					Other	Percent Female
		1.2	1.3	1.4	1.5			
1990	438	19.2	39.9	37.2	3.4	0.3	31.2	
1991	450	16.6	37.5	40.7	3.1	2.1	37.1	
1992	747	21.9	36.2	38.6	2.5	0.8	32.2	
1993	132	13.2	39.3	43.5	3.0	1.0	34.8	
1994	238	9.6	42.3	44.0	3.1	1.0	35.8	
1995	608	14.4	35.2	47.4	2.7	0.4	36.2	
1996	622	9.7	41.1	44.9	3.7	0.5	36.5	
1997	192	13.5	38.2	44.9	3.0	0.4	35.4	
1998	467	11.1	44.2	41.0	3.1	0.6	34.9	
1999	220	9.6	40.0	46.8	3.2	0.5	37.1	
2000	30	8.4	41.0	46.9	3.3	0.5	37.7	
2001	1,154	4.7	30.2	60.5	4.3	0.1	33.6	
2002	2,212	7.9	33.0	53.8	5.2	0.0	40.4	
2003	2,346	6.9	44.1	41.9	6.7	0.2	37.1	
2004	2,707	16.4	35.7	45.0	2.5	0.4	32.6	
2005	3,232	7.2	49.7	41.1	1.7	0.3	35.5	
2006	2,112	8.0	35.4	52.0	4.0	0.6	41.2	
2007	2,085	6.6	37.0	52.6	2.6	1.0	42.1	
2008	3,257	11.1	53.1	32.1	2.5	1.1	31.7	
2009	3,994	12.5	34.3	51.5	1.3	0.4	36.6	
2010	1,985	8.9	48.8	39.1	2.9	0.4	41.9	
2011	1,197	13.4	47.6	36.5	1.9	0.6	34.4	
2012	522	12.7	52.5	32.2	2.4	0.3	32.6	
2013	734	5.7	30.3	62.0	1.2	0.9	41.2	
2014	500	33.1	27.1	14.8	0.0	23.9	33.5	
2015	664	32.4	36.3	27.6	0.4	3.3	38.2	
2016	690	42.3	48.3	7.7	0.0	1.7	10.9	
2017	443	36.5	47.2	14.5	0.0	1.8	26.9	
2018	773	49.0	34.7	15.0	0.0	1.3	23.8	
(1976-2017)								
Average		13.3	39.3	43.0	3.1	1.3	36.0	
Min.		3.8	25.3	7.7	0.0	0.0	10.9	
Max.		42.3	53.1	66.5	6.7	23.9	49.1	

^a Other category represents all uncommon age classes, generally comprising only a fraction of one percent. The large percentage of “others” in 2014 was due to age-1.1 fish which accounted for 22.9% of the total harvest. The increased harvest of this age-class was due to the use of small gillnets commonly used to target whitefish throughout much of the salmon run.

Table 4.— Percent females of the Kuskokwim River Chinook salmon total run, harvest, and escapement.

Year	Total run	Harvest	Escapement	Diff. ^a
1990	27.8	31.2	22.2	- 5.6
1991	41.9	37.1	47.4	+ 5.5
1992	29.8	32.2	27.2	- 2.5
1993	30.0	34.8	27.3	- 2.7
1994	29.7	35.8	27.0	- 2.6
1995	40.5	36.2	42.9	+ 2.4
1996	33.1	36.5	31.3	- 1.7
1997	34.2	35.4	33.6	- 0.6
1998	35.3	34.9	35.8	+ 0.5
1999	45.4	37.1	53.4	+ 8.0
2000	37.4	37.7	37.2	- 0.3
2001	33.3	33.6	33.1	- 0.2
2002	31.8	40.4	27.0	- 4.8
2003	28.6	37.1	25.0	- 3.6
2004	23.3	32.6	19.8	- 3.5
2005	35.8	35.5	35.9	+ 0.1
2006	36.5	41.2	34.6	- 1.9
2007	30.8	42.1	23.3	- 7.4
2008	30.2	31.7	29.0	- 1.3
2009	36.1	36.6	35.7	- 0.4
2010	38.0	41.9	31.7	- 6.3
2011	31.1	34.4	26.9	- 4.2
2012	36.7	32.6	38.5	+ 1.7
2013	45.1	41.2	50.1	+ 5.0
2014	42.5	33.5	44.0	+ 1.5
2015	24.9	38.2	22.8	- 2.0
2016	29.8	10.9	35.8	+ 6.0
2017	31.9	26.9	32.6	+ 0.7
2018	30.1	23.8	31.4	+ 1.3
Average (1976-2017)	34.7	36.0	33.8	

^a Difference between total run and total escapement. "+" means the percent females was greater in the escapement compared to the total run due to a relatively low percent harvest of females. "-" means the percent females was reduced in the escapement compared to the total run due to a relatively high percent harvest of females.

Kuskokwim Management Area

Escapement Information Packet



Kuskokwim River Working Group Meeting

April 17, 2019

Table 1.—Kuskokwim Area Chinook, chum, coho, and sockeye salmon escapement goals.

System	2018 Goal		Assessment	Type	Initial Year
	Lower	Upper			
CHINOOK SALMON					
North (Main) Fork Goodnews R.	640	3,300	AS	SEG	2005
Middle Fork Goodnews River	1,500	2,900	Weir	BEG	2007
Kanektok River	3,900	12,000	AS	SEG	2016
Kuskokwim River	65,000	120,000	Model	SEG	2013
Kogrukluk River	4,800	8,800	Weir	SEG	2013
Kwethluk River	4,100	7,500	Weir	SEG	2013
George River	1,800	3,300	Weir	SEG	2013
Kisaralik River	400	1,200	AS	SEG	2005
Aniak River	1,200	2,300	AS	SEG	2005
Salmon River (Aniak R)	330	1,200	AS	SEG	2005
Holitna River	970	2,100	AS	SEG	2005
Cheeneetnuk River (Stony R)	340	1,300	AS	SEG	2005
Gagaryah River (Stony R)	300	830	AS	SEG	2005
Salmon River (Pitka Fork)	470	1,600	AS	SEG	2005
CHUM SALMON					
Middle Fork Goodnews River	12,000		Weir	LB SEG	2005
Kogrukluk River	15,000	49,000	Weir	SEG	2005
COHO SALMON					
Middle Fork Goodnews River	12,000		Weir	LB SEG	2005
Kogrukluk River	13,000	28,000	Weir	SEG	2005
Kwethluk River	19,000		Weir	LB SEG	2010
SOCKEYE SALMON					
North (Main) Fork Goodnews R.	9,600	18,000	AS	SEG	2016
Middle Fork Goodnews River	18,000	40,000	Weir	BEG	2007
Kanektok River	15,300	41,000	AS	SEG	2016
Kogrukluk River	4,440	17,000	Weir	SEG	2010

Note: LB SEG = lower-bound SEG; AS = Aerial Survey.

Kuskokwim Area Chinook, chum, coho, and sockeye salmon escapement goal performance, 2005 to 2018.

System	Escapement													
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CHINOOK SALMON														
Kuskokwim River	–	–	–	–	–	–	–	–	Under	Met	Met	Met	Met	Met
Kogruklu River	–	–	–	–	–	–	–	–	Under	Under	Met	Met	Exceeded	Met
Kwethluk River	–	–	–	–	–	–	–	–	NA	Under	Exceeded	NA	Met	NA
George River	–	–	–	–	–	–	–	–	Under	Met	Met	Under	Exceeded	Exceeded
Kisaralik River	Exceeded	Exceeded	Met	Met	NS	Under	NS	Met	Met	Met	Met	Met	NS	Met
Aniak River	NS	Exceeded	Exceeded	Exceeded	NS	NS	NS	NS	Under	Exceeded	NS	Under	Met	Met
Salmon River (Aniak R)	Exceeded	NS	Exceeded	Met	NS	NS	Under	Under	Under	Met	Met	NS	Met	Met
Holitna River	Met	Met	NS	NS	NS	NS	NS	NS	Under	NS	Under	Met	Under	Met
Cheeneetnu River (Stony R)	NS	Met	NS	Under	Under	NS	Under	Under	Under	Met	NS	Under	Met	Met
Gagaryah River (Stony R)	NS	Met	Exceeded	Under	Met	Under	Under	Under	Under	Met	Under	Under	Met	Met
Salmon River (Pitka Fork)	Exceeded	Met	Met	Met	Met	Under	Met	Met	Under	Exceeded	Exceeded	Met	Met	Met
CHUM SALMON														
Middle Fork Goodnews River	Met	Met	Met	Met	Met	Met	Met	Under	Met	Under	Under	Met	Met	NS
Kogruklu River	Exceeded	Exceeded	Exceeded	Met	Exceeded	Exceeded	Exceeded	NA	Exceeded	Met	Met	Met	Exceeded	Exceeded
COHO SALMON														
Middle Fork Goodnews River	Met	Met	Met	Met	Met	Met	Met	NA	NA	NA	Met ^a	NA	NA	NA
Kogruklu River	Met	Met	Met	Exceeded	Met	Met	Met	Met	Met	Exceeded	Exceeded	NA	NA	Under
Kwethluk River	–	–	–	–	–	NA	NA	Met	NA	Met	Met	NA	Met	NA
SOCKEYE SALMON														
North (Main) Fork Goodnews R.	–	–	–	–	–	–	–	–	–	–	–	Exceeded	NS	NS
Middle Fork Goodnews River	–	–	Exceeded	Exceeded	Met	Met	Met	Met	Met	Exceeded	Exceeded	Exceeded	Exceeded	NS
Kanektok River	–	–	–	–	–	–	–	–	–	–	–	Exceeded	NS	Exceeded
Kogruklu River	–	–	–	–	–	Exceeded	Met	NA	Met	Met	Met	Exceeded	Exceeded	Exceeded

Note: NA = data not available; NS = no survey; LB SEG = lower-bound SEG; AS = Aerial Survey; (–) = Escapement goal not yet established.

^a Middle Fork Goodnews River coho salmon escapement for 2015 is minimum escapement because weir operations ended early.

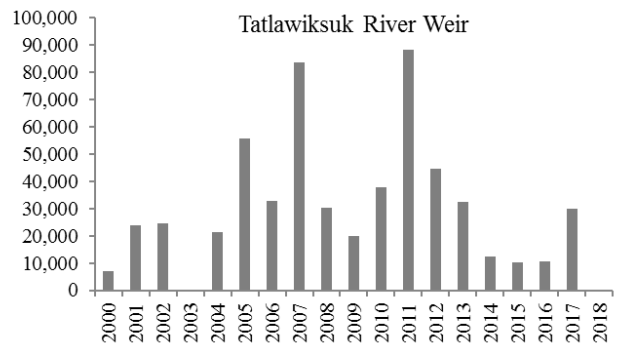
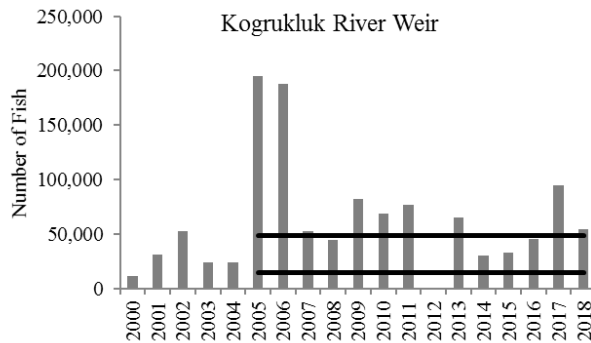
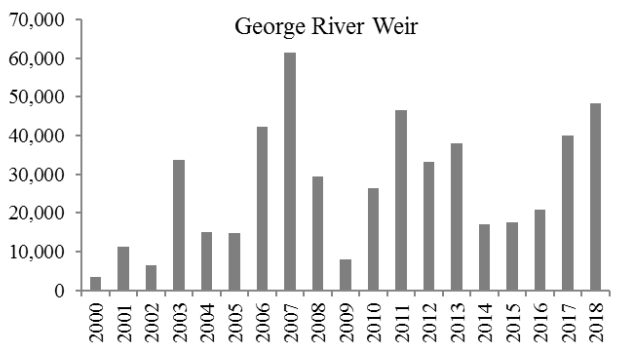
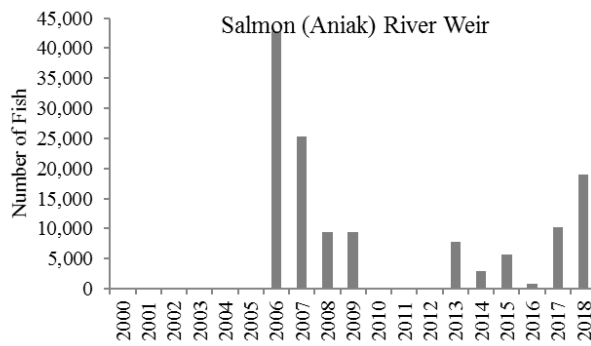
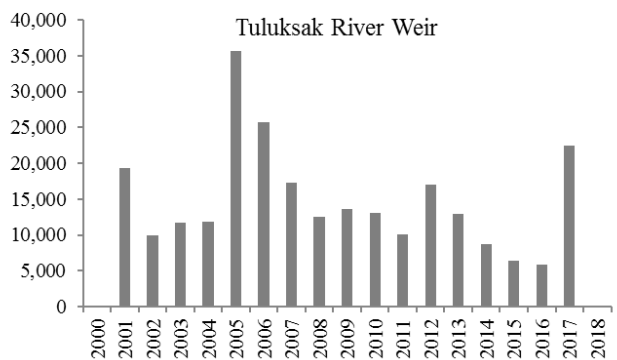
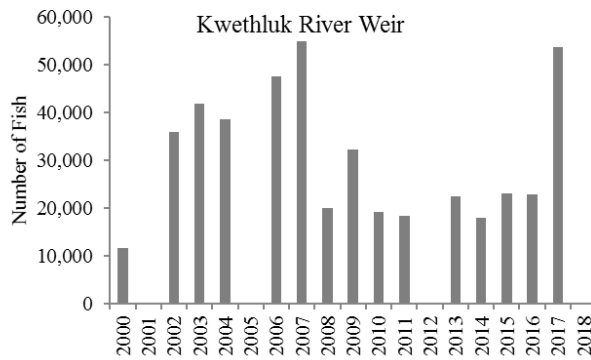
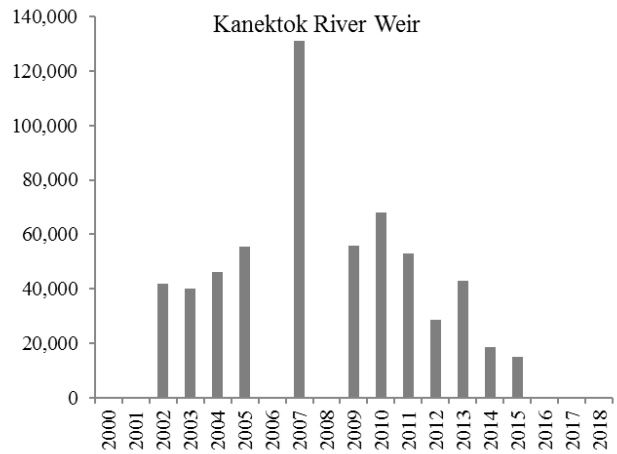
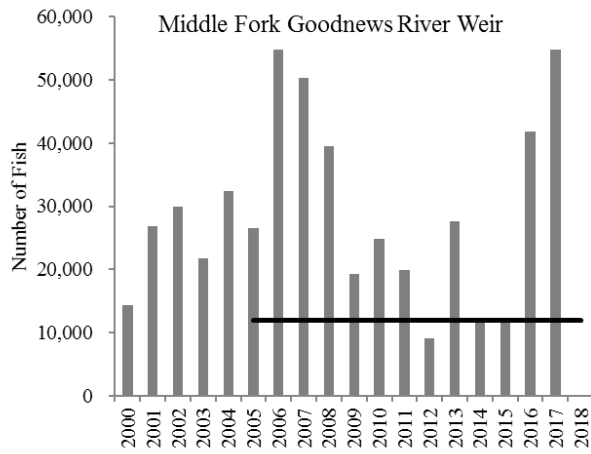
Annual escapement of chum salmon past Kuskokwim Area weir projects, 2000–2018.

Year	Kuskokwim Bay			Kuskokwim River						
	Middle Fork		Kwethluk River	Tuluksak River	Salmon (Aniak) River		George River	Kogrukluk River	Tatlawiksuk River	Takotna River
	Goodnews River	Kanektok River			George River	Salmon (Aniak) River				
2000	14,405	a	11,691	a	a	3,507	11,416	7,076	1,265	
2001	26,820	b	b	19,310	a	11,287	31,587	23,863	5,408	
2002	29,905	41,912	35,854	9,958	a	6,534	52,973	24,539	4,425	
2003	21,778	40,086	41,812	11,725	a	33,648	23,779	b	3,430	
2004	32,442	46,008	38,646	11,796	a	15,012	24,405	21,245	1,633	
2005	26,501	55,340	b	35,696	a	14,834	194,887	55,599	6,488	
2006	54,689	a	47,491	25,652	42,825	42,318	188,003	32,776	12,729	
2007	50,232	131,000	54,913	17,286	25,340	61,531	52,961	83,484	8,950	
2008	39,548	b	20,030	12,550	9,459	29,396	44,744	30,129	5,704	
2009	19,236	55,846	32,191	13,671	9,392	7,944	82,483	19,975	2,528	
2010	24,789	68,186	19,222	13,042	a	26,275	69,258	37,737	4,039	
2011	19,974	53,050	18,329	10,011	a	46,650	76,823	88,202	8,822	
2012	9,065	28,726	b	16,981	b	33,310	b	44,569	6,180	
2013	27,682	43,040	22,380	12,911	7,723	37,879	65,644	32,249	6,465	
2014	11,518	18,602	17,941	8,726	2,890	17,148	30,763	12,455	a	
2015	11,517	15,048	23,039	6,337	5,657	17,551	33,201	10,379	a	
2016	41,815	a	22,914	5,868	817	20,834	45,329	10,564	a	
2017	54,799	a	53,718	22,405	10,173	40,028	94,387	29,875	6,755	
2018	a	a	a	a	18,922	48,277	54,211	a	6,024	
Average	27,508	49,737	30,673	14,397	12,697	24,023	48,150	31,914	5,267	
Median	26,501	44,524	26,817	12,911	9,392	20,834	37,310	24,539	5,408	
Percentile Rank	–	–	–	–	77%	95%	73%	–	58%	
Escapement goal	SEG: >12,000	–	–	–	–	–	SEG: 15,000–49,000	–	–	

Note : Average, median, and percentile rank was derived from all annual escapements on record at each project except 2018, and may include escapements prior to 2000. Escapement data for all projects' entirety are archived in the Arctic-Yukon-Kuskokwim salmon database management system (<http://www.adfg.alaska.gov/CommFishR3/WebSite/AYKDBMSWebsite/Default.aspx>).

^a Weir did not operate.

^b Historical run timing indicates that more than 40% of the run was missed; annual escapement was not determined.



Annual escapement of chum salmon past Kuskokwim Area weir projects, 2000-2018.

Note: Horizontal black bars indicate the upper and/or lower bound of established SEG's for years they were in place.

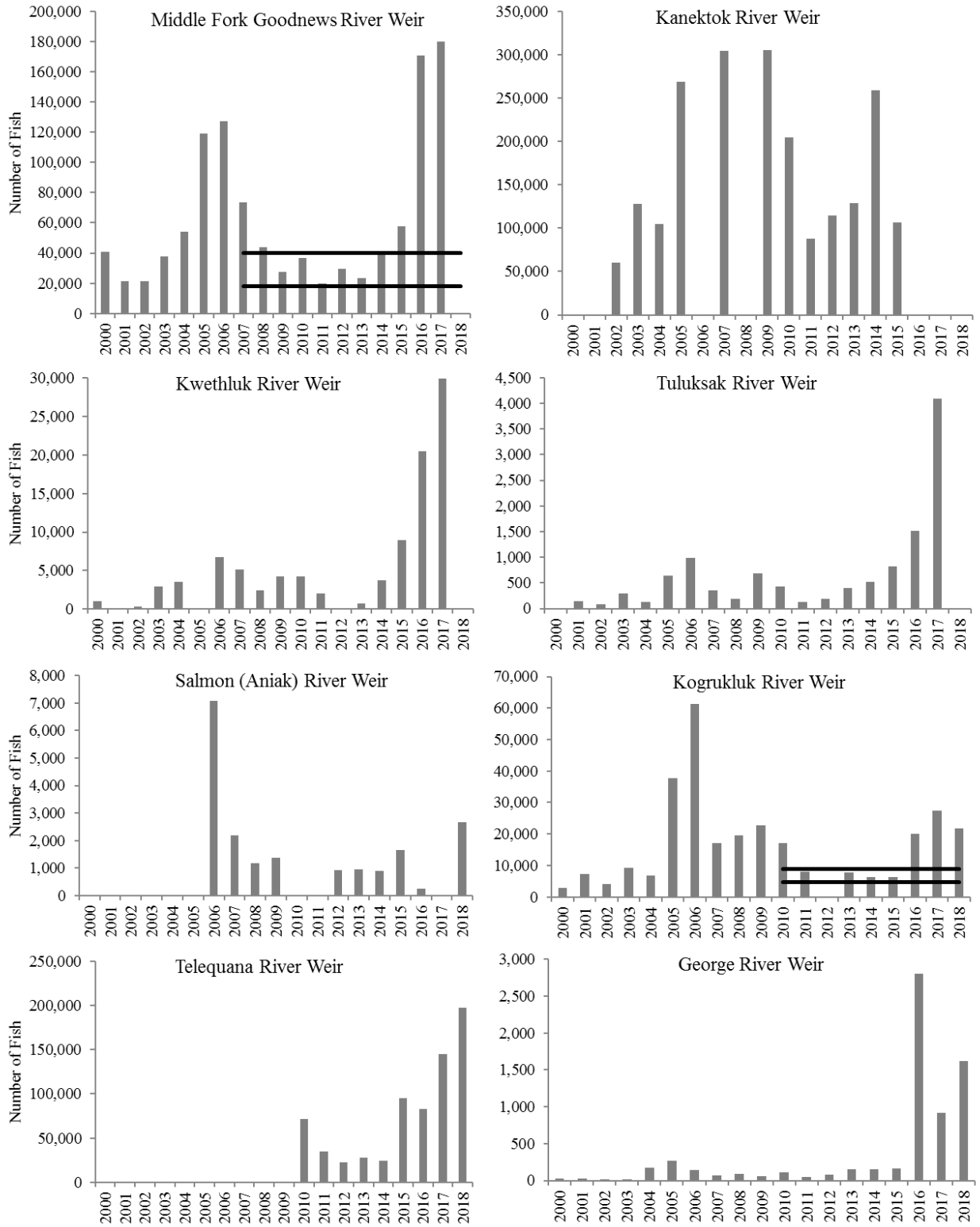
Annual escapement of sockeye salmon past Kuskokwim Area weir projects, 2000–2018.

Year	Kuskokwim Bay			Kuskokwim River					
	Middle Fork Goodnews River	Kanektok River	Kwethluk River	Tuluksak River	Salmon (Aniak) River	Kogrukluk River	Telaquana River	George River	Tatlawiksuk River
2000	40,828	a	1,049	a	a	2,895	a	22	0
2001	21,194	b	b	137	a	7,177	a	24	3
2002	21,329	60,228	272	82	a	4,084	a	17	1
2003	37,933	128,030	2,928	288	a	9,302	a	14	a
2004	54,035	105,135	3,490	136	a	6,895	a	177	10
2005	118,969	268,537	b	642	a	37,787	a	272	74
2006	127,245	a	6,733	985	7,086	61,382	a	146	38
2007	73,768	304,086	5,148	352	2,189	17,211	a	65	25
2008	43,879	b	2,451	188	1,181	19,675	a	92	39
2009	27,494	305,756	4,230	686	1,366	22,826	a	54	39
2010	36,574	204,954	4,188	437	a	17,139	71,932	113	28
2011	19,643	88,177	2,031	130	a	7,974	35,102	43	15
2012	29,531	115,021	b	189	924	b	23,005	79	9
2013	23,545	128,761	746	394	966	7,808	28,050	150	37
2014	41,473	259,406	3,778	514	894	6,413	24,293	156	9
2015	57,809	106,751	8,975	824	1,669	6,411	95,516	159	0
2016	170,574	a	20,495	1,509	254	20,087	82,706	2,807	240
2017	179,897	a	29,940	4,094	b	27,315	145,287	912	59
2018	a	a	a	a	2,656	21,768	197,352	1,615	a
Average	51,202	172,904	6,112	568	1,837	13,105	63,236	340	35
Median	39,661	128,396	3,634	288	1,181	7,974	53,517	103	20
Percentile Rank	–	–	–	–	88%	82%	100%	93%	–
Escapement goal	BEG: 18,000–40,000	–	–	–	–	SEG: 4,400–17,000	–	–	–

Note : Average, median, and percentile rank was derived from all annual escapements on record at each project except 2018, and may include escapements prior to 2000. Escapement data for all projects' entirety are archived in the Arctic-Yukon-Kuskokwim salmon database management system (<http://www.adfg.alaska.gov/CommFishR3/WebSite/AYKDBMSWebsite/Default.aspx>).

^a Weir did not operate.

^b Historical run timing indicates that more than 40% of the run was missed; annual escapement was not determined.



Annual escapement of sockeye salmon past Kuskokwim Area weir projects, 2000-2018.
Note: Horizontal black bars indicate the upper and/or lower bound of established SEG's for years they were in place.

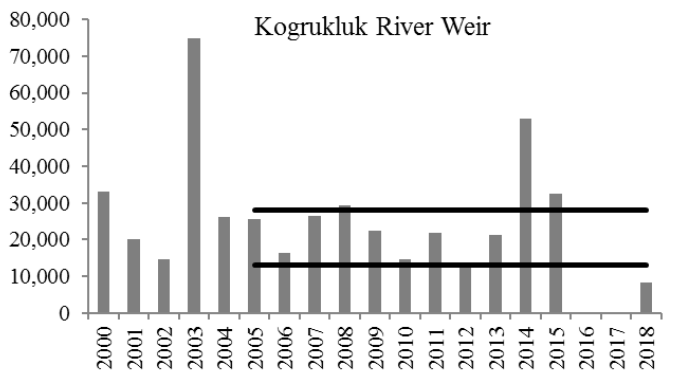
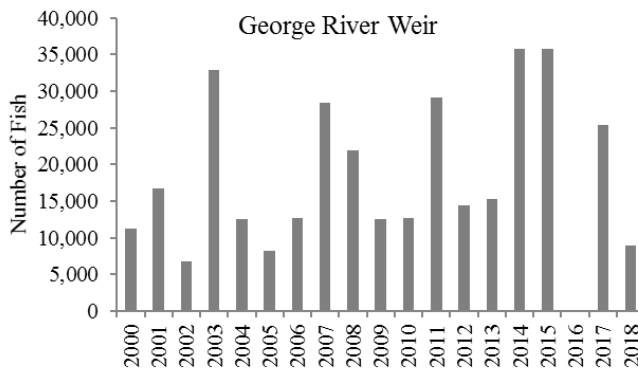
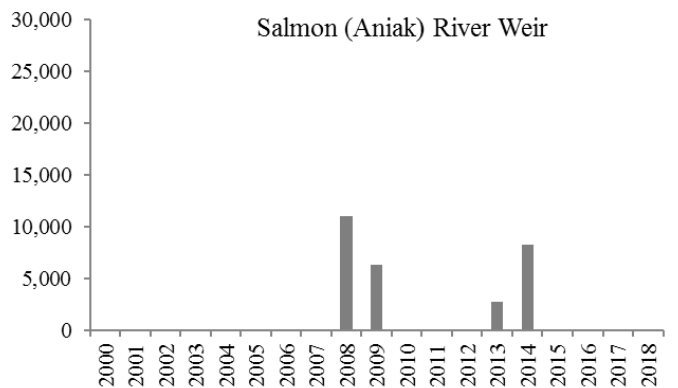
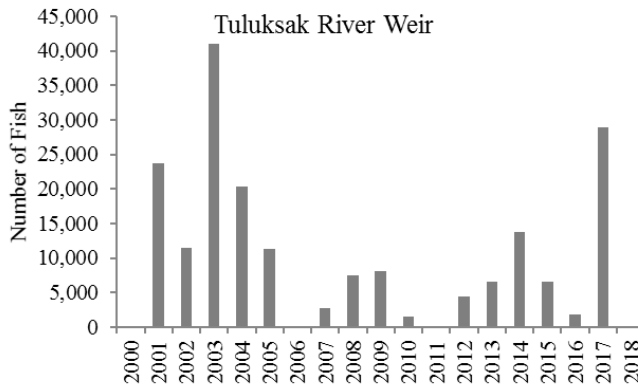
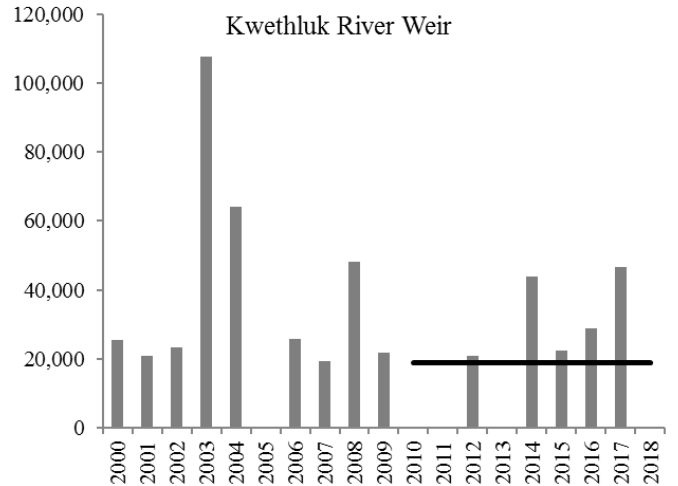
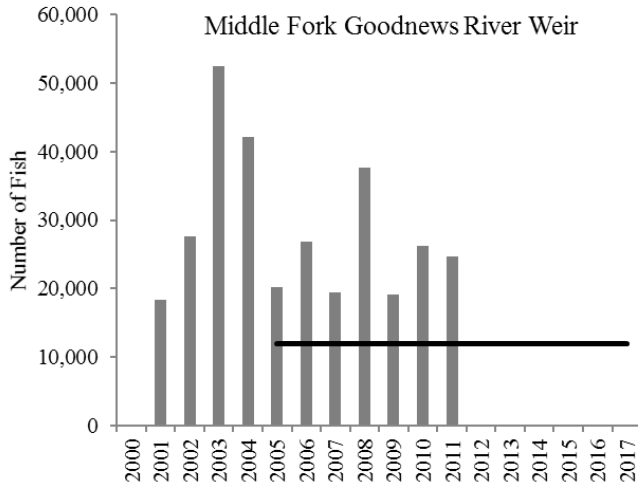
Annual escapement of coho salmon past Kuskokwim Area weir projects, 2000–2018.

Year	Kuskokwim Bay		Kuskokwim River				
	Middle Fork Goodnews River	Kwethluk River	Tuluksak River	Salmon (Aniak) River	George River	Kogrukluk River	Tatlawiksuk River
2000	a	25,610	a	b	11,269	33,063	a
2001	18,300	20,725	23,768	b	16,724	19,983	a
2002	27,643	23,298	11,487	b	6,759	14,515	11,156
2003	52,504	107,789	41,071	b	32,873	74,915	a
2004	42,049	64,216	20,336	b	12,499	26,078	16,446
2005	20,168	b	11,324	b	8,294	25,407	7,076
2006	26,909	25,667	b	b	12,705	16,268	a
2007	19,442	19,473	2,807	a	28,398	26,423	8,500
2008	37,690	48,049	7,457	10,974	21,931	29,237	11,022
2009	19,123	21,911	8,137	6,351	12,490	22,289	10,148
2010	26,287	b	1,525	b	12,639	14,689	3,773
2011	24,668	b	b	b	29,120	21,800	14,184
2012	a	20,895	4,407	b	14,478	13,421	8,015
2013	a	b	6,490	2,797	15,308	21,207	12,764
2014	a	43,945	13,767	8,254	35,771	52,975	19,814
2015	a	22,443	6,611	a	35,812	32,457	17,701
2016	a	28,852	1,857	a	a	a	11,897
2017	a	46,594	28,922	a	25,348	a	a
2018	b	b	b	a	8,999	8,174	b
Average	26,634	37,671	11,384	7,094	18,459	23,644	11,151
Median	25,478	25,667	8,045	7,303	14,478	21,800	11,089
Percentile Rank	–	–	–	–	15%	6%	–
Escapement goal	SEG: >12,000	SEG: >19,000	–	–	–	SEG: 13,000–28,000	–

Note : Average, median, and percentile rank was derived from all annual escapements on record at each project except 2018, and

^a Historical run timing indicates that more than 40% of the run was missed; annual escapement was not determined.

^b Weir did not operate.



Annual escapement of coho salmon past Kuskokwim Area weir projects, 2000-2018.

Note: Horizontal black bars indicate the upper and/or lower bound of established SEG's for years they were in place.

Chinook salmon aerial survey escapement indices, Kuskokwim Area, 2000–2018.

Year	Kuskokwim Bay			Lower / Middle Kuskokwim River									Upper Kuskokwim River		
	North Fork Goodnews	Middle Fork Goodnews	Kanektok	Kisaralik	Aniak	Salmon (Aniak)	Kipchuk	Holokuk	Oskawalik	Holitna	CheeneetnuK	Gagaryah	Salmon (Pitka Fork)	Pitka Fork	Bear Creek
2000	–	–	–	–	714	238	182	–	–	301	–	–	362	151	–
2001	–	–	–	–	–	598	–	52	–	4,156	–	143	1,033	–	175
2002	1,470	1,195	–	1,727	–	1,236	1,615	513	295	733	730	–	–	165	211
2003	3,935	2,131	6,206	654	3,514	1,242	1,493	1,096	844	–	810	1,093	–	197	176
2004	7,482	2,617	28,375	5,157	5,362	2,177	1,868	539	293	4,051	918	670	1,138	290	206
2005	–	–	12,780	2,206	–	4,097	1,679	510	582	1,760	–	–	1,801	744	367
2006	–	–	–	4,734	5,639	–	1,618	705	386	1,866	1,015	531	862	170	347
2007	–	–	–	692	3,984	1,458	2,147	–	–	–	–	1,035	943	131	165
2008	2,155	2,190	–	1,074	3,222	589	1,061	418	213	–	290	177	1,033	242	245
2009	–	–	–	–	–	–	–	565	379	–	323	303	632	187	209
2010	–	–	1,208	235	–	–	–	229	–	–	–	62	135	67	75
2011	853	–	–	–	–	79	116	61	26	–	249	96	767	85	145
2012	378	355	–	588	–	49	193	36	51	–	229	178	670	–	–
2013	–	–	2,277	599	754	154	261	–	38	532	138	74	469	–	64
2014	630	612	1,840	622	3,201	497	1,220	80	200	–	340	359	1,865	–	–
2015	991	515	4,919	709	–	810	917	77	–	662	–	19	2,016	–	1,381
2016	1,120	1,301	5,631	622	718	–	898	100	47	1,157	217	135	1,578	–	580
2017	–	–	–	–	1,781	423	889	140	136	676	660	453	687	234	492
2018	–	–	4,246	584	1,534	442	1,123	162	–	980	565	438	1,399	471	550
Average	1,847	1,347	8,099	1,143	2,636	781	1,013	335	284	1,589	700	447	1,008	222	299
Median	1,174	1,222	6,172	643	2,184	586	694	231	193	1,365	660	362	862	179	208
Percentile Rank	–	–	33%	29%	26%	40%	56%	43%	–	40%	47%	59%	75%	91%	88%
Escapement goal	640–3,300	–	3,500–8,500	400–1,200	1,200–2,300	330–1,200	–	–	–	970–2,100	340–1,300	300–830	470–1,600	–	–

Note: Average, median, and percentile rank was derived from all annual escapements on record at each project except 2018, and may include escapements prior to 2000. Escapement data for all projects' entirety are archived in the Arctic-Yukon-Kuskokwim salmon database management system (<http://www.adfg.alaska.gov/CommFishR3/WebSite/AYKDBMSWebSite/Default.aspx>).

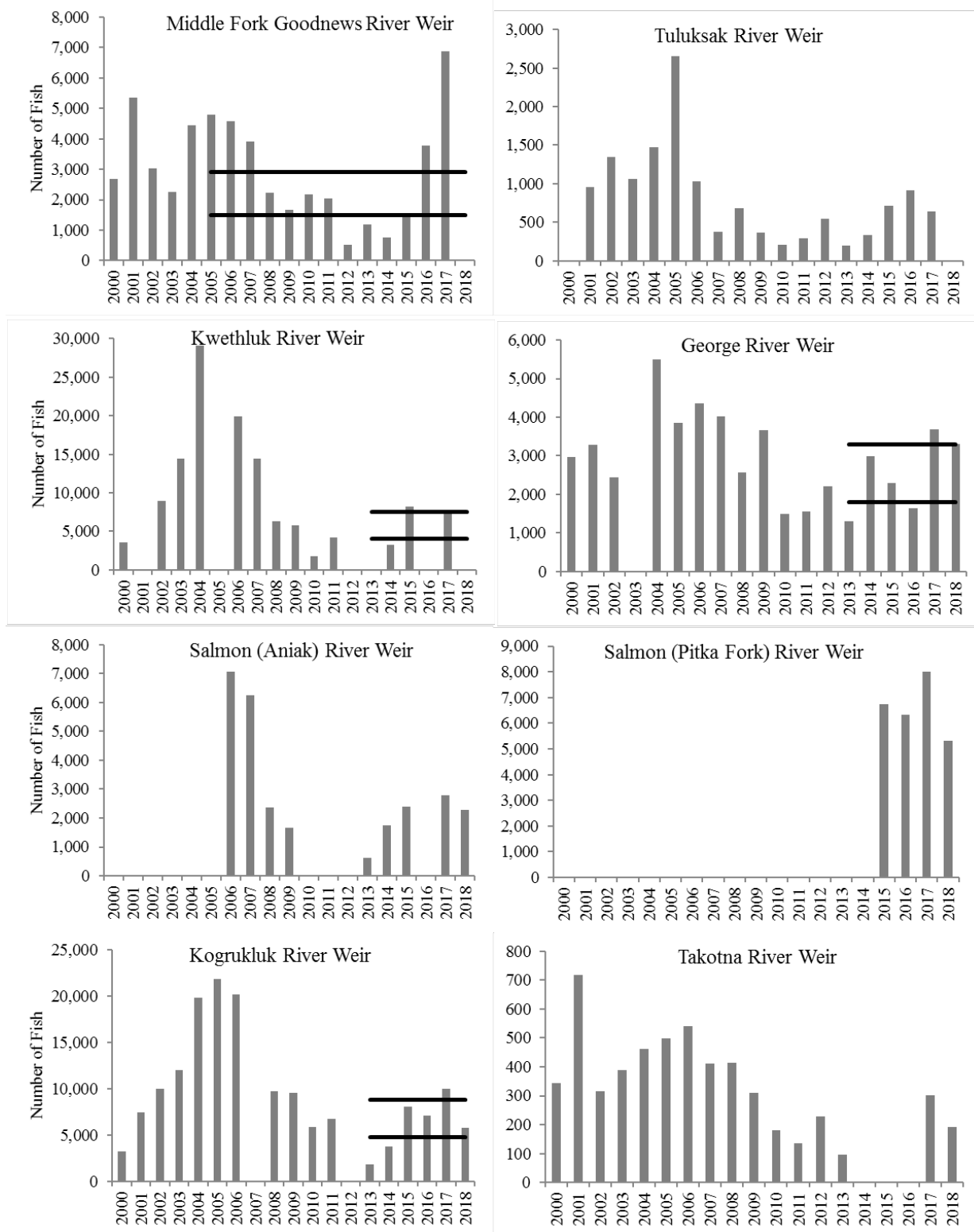
Annual escapement of Chinook salmon past Kuskokwim Area weir projects, 2000–2018.

Year	Kuskokwim Bay		Kuskokwim River							
	Middle Fork Goodnews River	Kanektok River	Kwethluk River	Tuluksak River	Salmon (Aniak) River	George River	Kogrukluk River	Tatlawiksuk River	Takotna River	Salmon (Pitka Fork) River
2000	2,670	a	3,547	a	a	2,959	3,242	807	345	a
2001	5,351	b	b	954	a	3,277	7,475	1,978	718	a
2002	3,025	5,304	8,963	1,346	a	2,443	10,025	2,237	316	a
2003	2,248	8,211	14,474	1,064	a	b	12,008	b	390	a
2004	4,438	19,569	29,111	1,475	a	5,488	19,819	2,833	461	a
2005	4,781	14,177	a	2,653	a	3,845	21,819	2,864	499	a
2006	4,572	a	19,899	1,033	7,075	4,355	20,205	1,700	541	a
2007	3,914	13,965	14,438	377	6,255	4,011	b	2,032	412	a
2008	2,223	b	6,300	683	2,376	2,563	9,750	1,075	413	a
2009	1,669	7,065	5,828	362	1,656	3,663	9,528	1,071	311	a
2010	2,176	6,537	1,772	207	a	1,498	5,812	546	181	a
2011	2,045	5,170	4,217	287	a	1,547	6,731	992	136	a
2012	524	1,561	b	542	b	2,201	b	1,116	228	a
2013	1,187	3,569	b	194	625	1,292	1,819	495	97	a
2014	750	3,594	3,213	338	1,757	2,993	3,732	1,904	a	a
2015	1,494	10,416	8,163	711	2,404	2,282	8,081	2,104	a	6,736
2016	3,767	a	b	909	b	1,633	7,056	2,494	a	6,326
2017	6,881	a	7,345	645	2,800	3,685	9,992	2,156	301	8,003
2018	a	a	a	a	2,277	3,306	5,770	a	191	5,317
Average	2,972	8,262	9,782	985	3,119	3,439	10,134	1,660	410	7,022
Median	2,670	6,801	7,754	810	2,390	2,993	9,639	1,700	390	6,736
Percentile Rank	–	–	–	–	37%	57%	21%	–	18%	0%
Escapement goal	BEG: 1,500–2,900	–	SEG: 4,100–7,500	–	–	SEG: 1,800–3,300	SEG: 4,800–8,800	–	–	–

Note : Escapement data for all projects' entirety are archived in the Arctic-Yukon-Kuskokwim salmon database management system (<http://www.adfg.alaska.gov/CommFishR3/WebSite/AYKDBMSWebsite/Default.aspx>).

^a Weir did not operate this year.

^b Historical run timing indicates that more than 40% of the run was missed; annual escapement was not determined.



Annual escapement of Chinook salmon past Kuskokwim Area weir projects, 2000-2018.

Note: Horizontal black bars indicate the upper and lower bound of established escapement goals for years they were in place.

Kuskokwim King Salmon Household Harvest Permit

David Runfola
ADF&G Division of Subsistence
Working Group Preseason
Meeting
May 17, 2019



2018 Permit Program

- 191 permits issued in 2018
- 11 Middle and Upper river communities and Bethel
- 61 permits returned to ADF&G
- 194 king salmon total harvest
- Average 22 king salmon per community
- Average 3.2 king salmon per permit



*2018 Permit Report available online.
www.adfg.alaska.gov/specialpubs/SP2_SP2018-006.pdf*

2018 Permit Program, contd.

Community*	No. permits dist. to vendor	No. permits issued	No. permits returned to ADF&G	Total reported king salmon harvest	Average king salmon harvest/ permit
Upper and Lower Kalskag	25	11	0	-	-
Aniak	100	83	30	100	3.3
Chuathbaluk	30	24	6	17	2.8
Napaimute	20	2	1	9	9.0
Crooked Creek & Georgetown	30	28	6	30	5.0
Red Devil	15	9	5	21	4.2
Sleetmute	26	22	9	17	1.9
Stony River	16	2	1	0	0.0
McGrath	50	3	1	0	0.0
Nikolai	20	0	-	-	-
Bethel	90	7	2	0	0.0
Anchorage	30	0	-	-	-
TOTAL	452	191	61	194	-
AVERAGE				21.6	3.2

** Takotna and Lime Village declined to receive vendor packets to issue permits.*

2019 Permit Program

- Vendor packets sent out week of April 15
- 1 permit per household with multiple fishers allowed
- Open after June 11
- Limit of 10 kings per permit
- Permits must be mailed to ADF&G by October 31, 2019



An Ethnographic Overview of the Kuskokwim River King Salmon Subsistence Fishery



David Runfola
ADF&G Division of Subsistence
Working Group Preseason Meeting
May 17, 2019

Summary of BOF Oral Report Slides Not Included in this Presentation

- Overview of salmon run timing
- KMA geographic information
- Regional differences in the river and the fishery
- ADF&G survey harvest data by river section
- Discussion of ANS ranges
- Historical Chinook run sizes

Full presentation can be found on the BOF January 2019 AYK meeting website.

<https://www.adfg.alaska.gov/index.cfm?adfg=fisheriesboard.meetinginfo&date=01-15-2019&meeting=anchorage>



Demographics

15,200 residents and 1,800 fishing households in 3 sections

- Lower Kuskokwim
 - 88% of population in 16 communities, Bethel (~6,150)
 - 1,500 fishing households, 88% of harvest
- Middle Kuskokwim
 - 7% of population in 4 communities, Aniak (~500)
 - 170 fishing households, 9% of harvest
- Upper Kuskokwim
 - 5% of population in 8 communities, McGrath (~300)
 - 115 fishing households, 3% of harvest

Subsistence King Salmon Fishing in the Kuskokwim, 2012—2018



- **Decreased king salmon run sizes**
- **Unprecedented fishing closures**
- **Lowest subsistence harvests observed since 1990**
- **Federal management**

Changes to the Kuskokwim Subsistence Salmon Fishery



- **Fishing restrictions make it more difficult to catch chum and sockeye**
- **Adapting to infrequent and short openers**
- **Derby fishing results in more competitive fishing**
- **Fishers traveling to locations outside of traditional fishing areas**
- **Fishers desire more predictable schedule and more reliable sources of information**

Changes to the Kuskokwim Subsistence Salmon Fishery (continued)

- Late season fishing and processing in cooler, wetter weather
- Less time spent catching and processing fish
- Middle and Upper river fishers targeting more coho late in the season
- Dipnets slowly increasing in use
- Many fishers supportive of conservation efforts



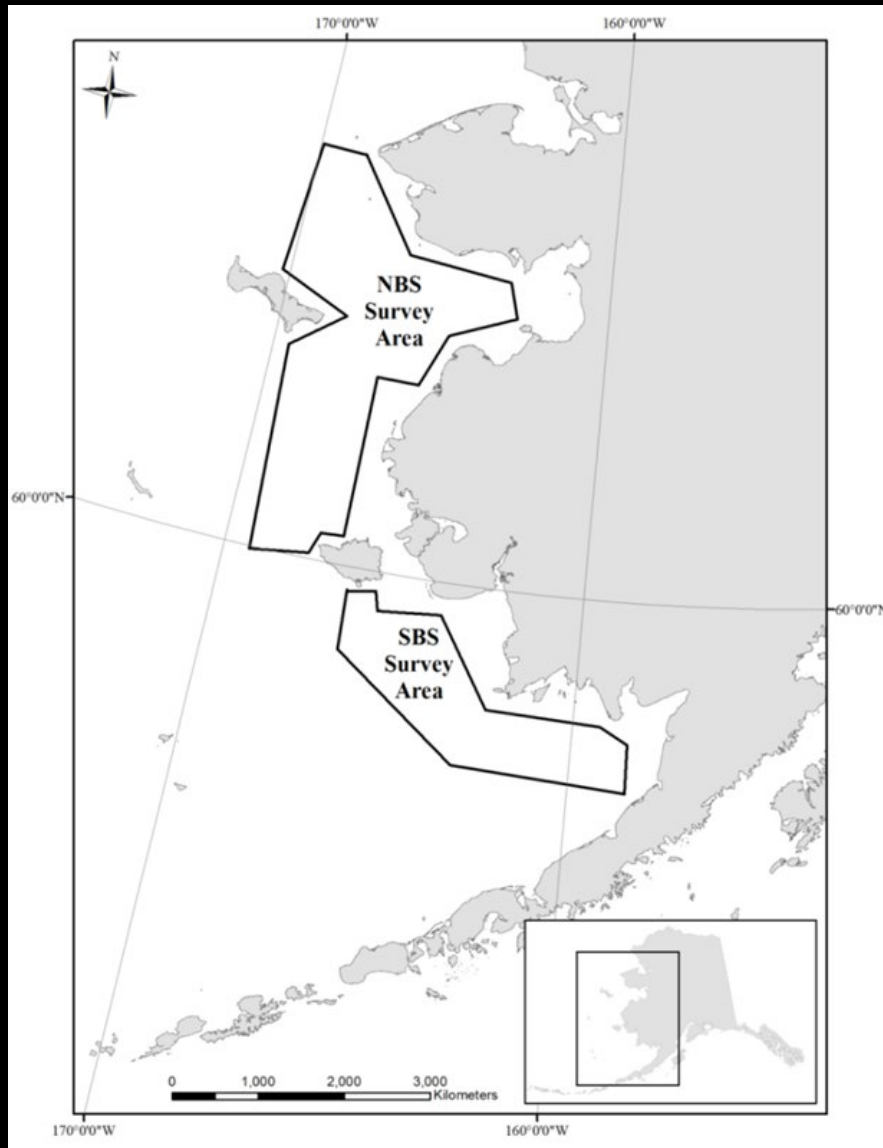
Southern Bering Sea Juvenile Chinook Salmon Survey Update

Sabrina Garcia

Kuskokwim River Spring Working Group Meeting

May 2019

Southern Bering Sea survey



- Two-year project funded by the Saltonstall-Kennedy Grant
- Surface trawl survey in the southern Bering Sea
 - 2018 was first year at sea
- ADF&G led survey with collaboration from Alaska Pacific University and support from NOAA

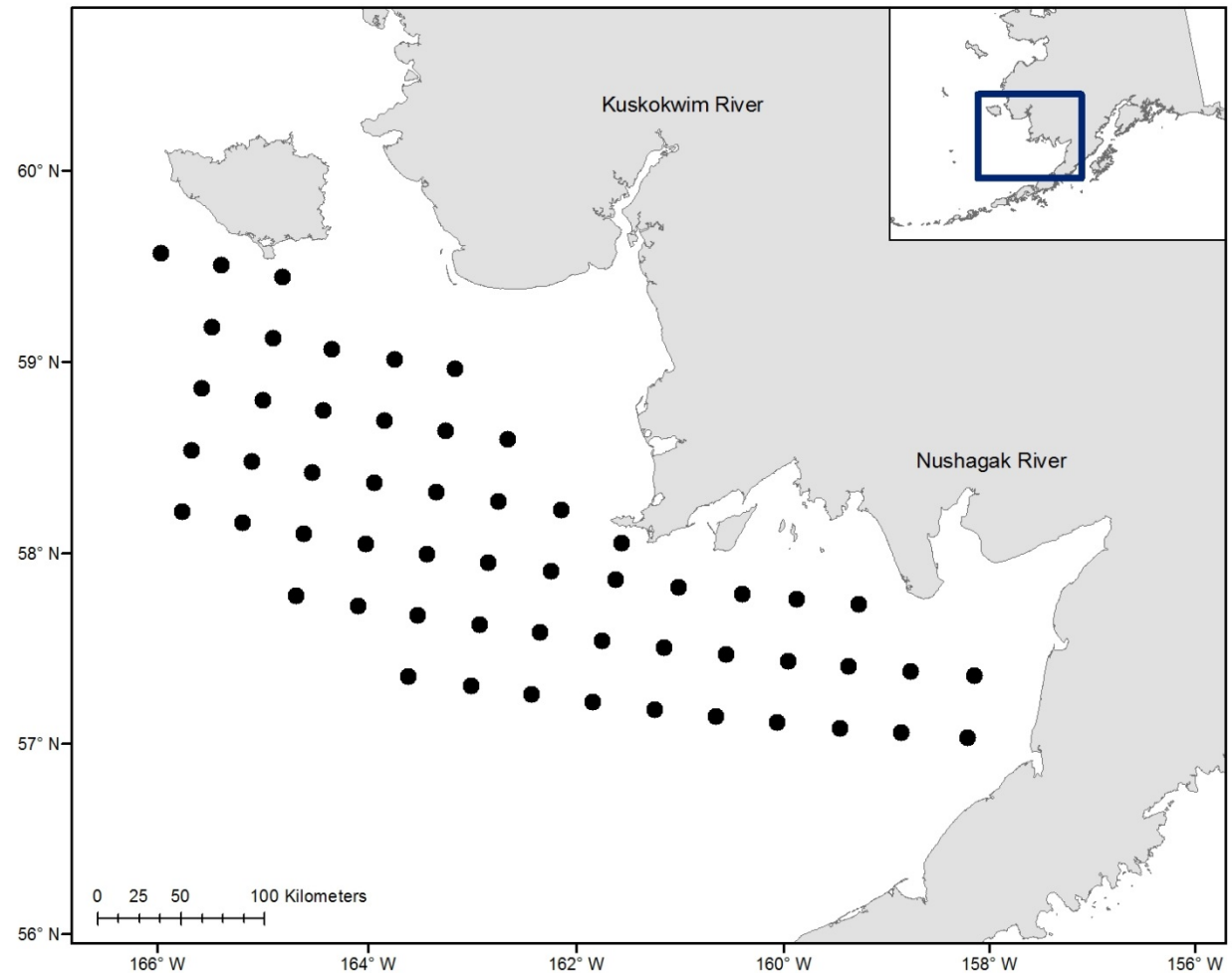
Survey objectives

- 1) Estimate abundance of southern Bering Sea (Kuskokwim and Bristol Bay) juvenile Chinook salmon in 2018 and 2019
- 2) Evaluate life history and health characteristics of southern Bering Sea juvenile Chinook salmon populations
- 3) Determine the feasibility of using a small vessel such as the Pandalus for survey operations



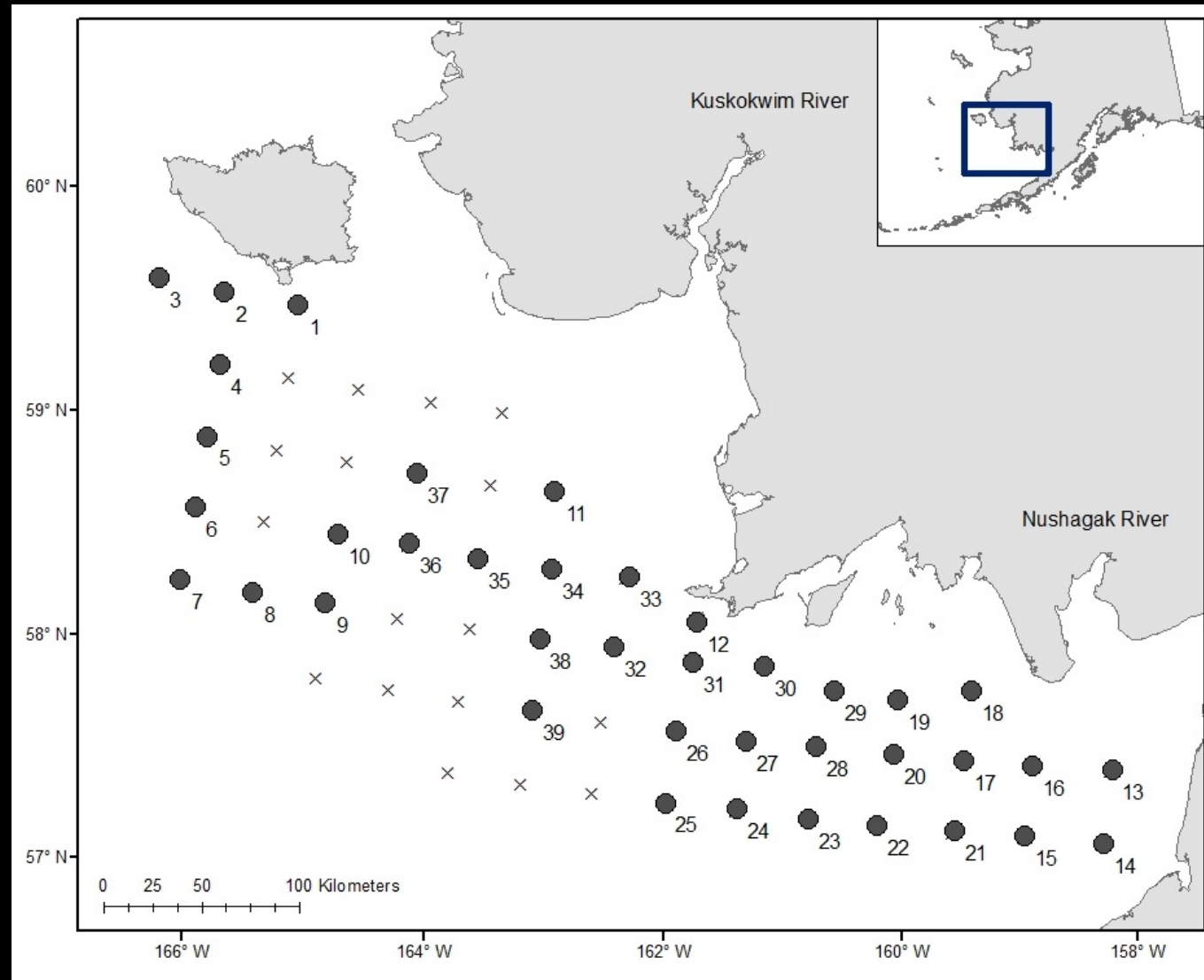
Sampling plan

- Conduct surface trawl surveys in the southern Bering Sea to capture juvenile Chinook salmon
- First survey in the southern Bering Sea to focus on inshore juvenile salmon habitat



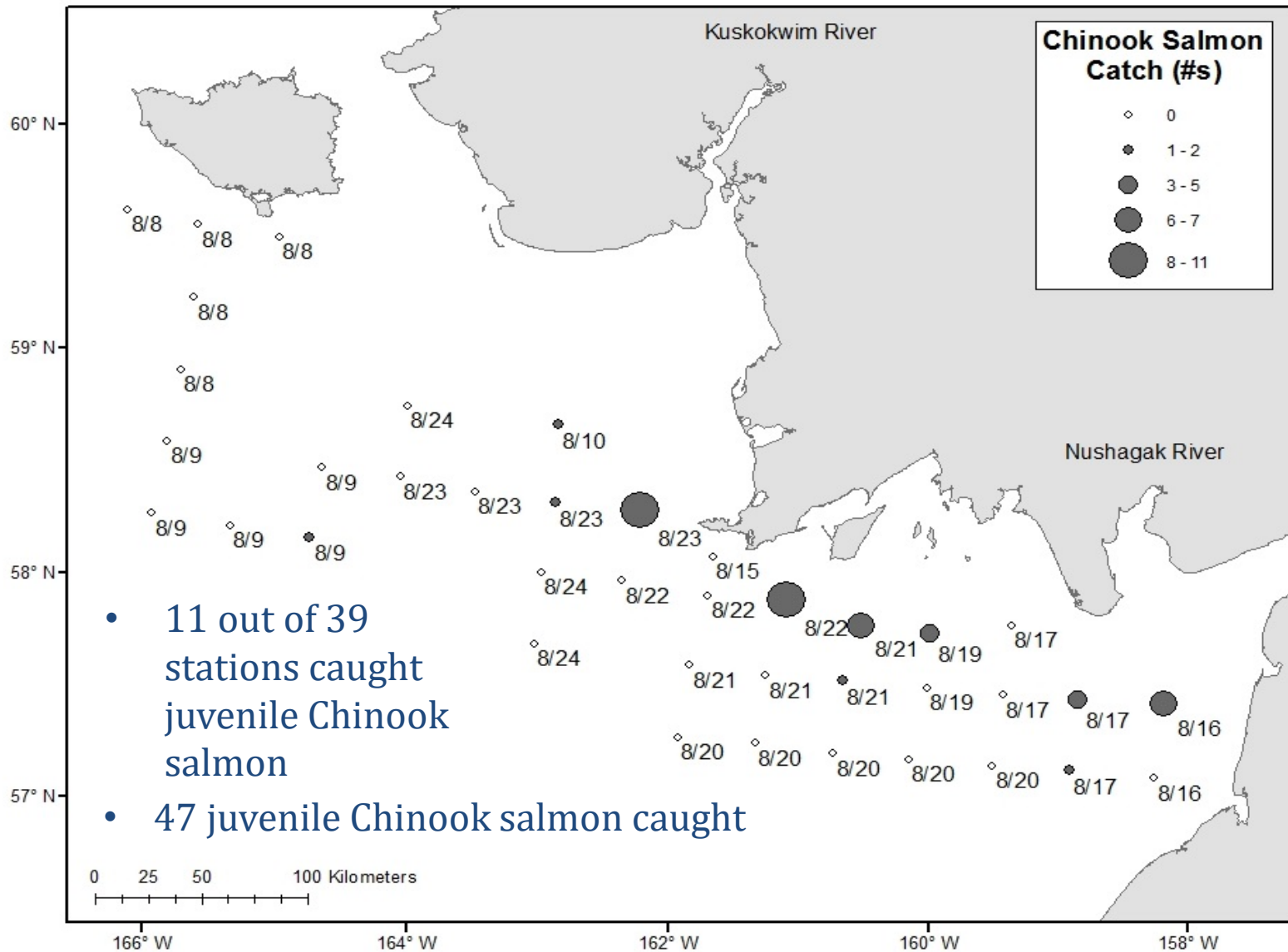
2018 sampling

- 39 out of 56 stations successfully sampled
 - Better coverage in Bristol Bay than Kuskokwim Bay
 - Weather issues
 - Crew swap in Dillingham was not ideal
- Overall net dimensions and tow speeds were indicative of good fishing



*Gray-filled circles = sampled stations, X's = missed stations

2018 survey juvenile Chinook



2018 salmon catch

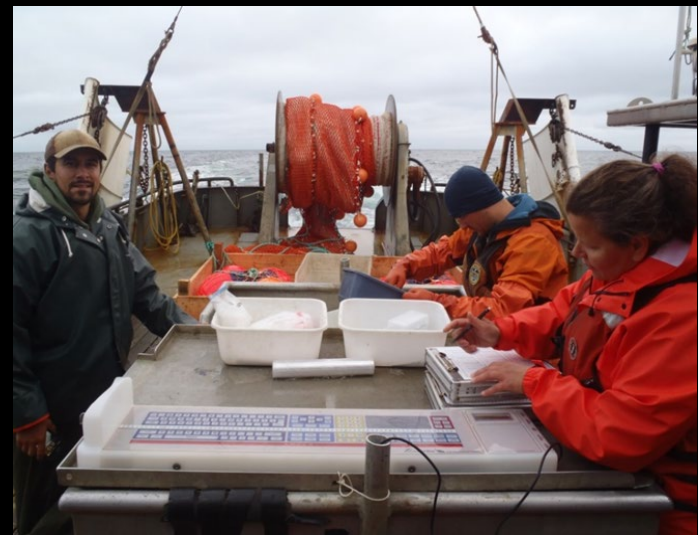
- Salmon proportions make sense for SBS ecosystem

2018 southern Bering Sea survey (August 8 - August 24)				
Species	Length Range (cm)	Avg. Length (cm)	Avg. Weight (g)	Total Catch (n)
Chum salmon	6.5-20.0	12.2	35	403
Sockeye salmon	12.5-22.3	16.9	53	218
Chinook salmon	12.1-23.1	19.4	102	47
Pink salmon	7.5-15.4	12.3	18	36
Coho salmon	20.5-31.9	24.3	197	27
TOTAL				731

2018 survey questions

Why didn't we catch more Chinook salmon?

1. Missed stations
2. Outmigration timing
 - Longer residency in Kuskokwim Bay?
 - Longer travel time for juvenile Chinook to reach sampling area?
3. Hydrodynamics
 - Water movement across the shallow Kuskokwim Bay shelf may be affecting juvenile salmon movement?



2018 survey other species

Alaska plaice-1



Capelin-211



Pacific sandfish-3



Pacific herring-129



Threesp



Jellyfish - 1,806 kg

ry flounder-3



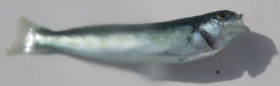
Arct

Ber



Walleye pollock - 3,537

Greenling-1



Pacific sand lance- 2,091



n poacher-1

Pacific cod-470



Plain sculpin-1



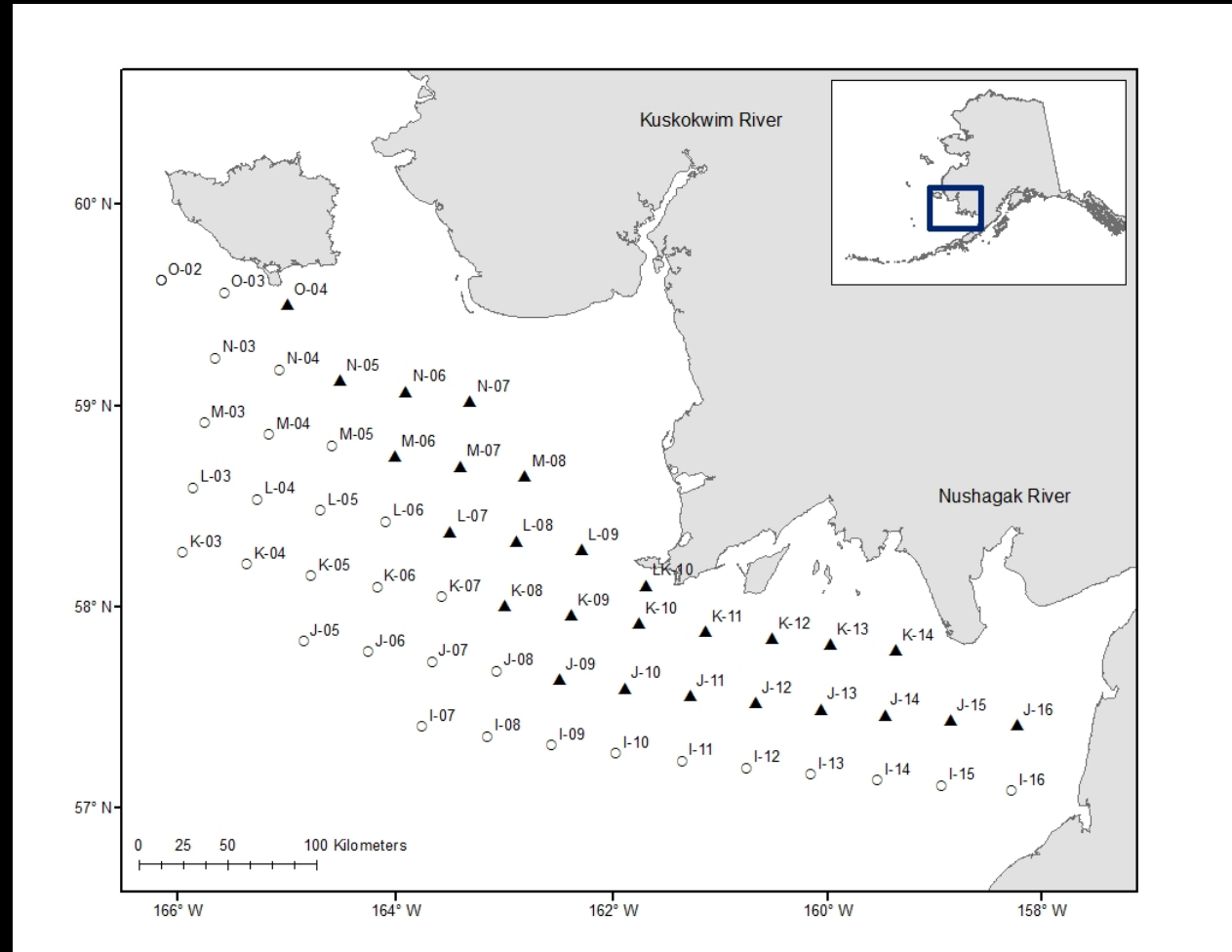
Yellowfin sole - 104



Mecklenburg

Changes for 2019 survey

- Extend Pandalus charter to 30-days using leftover funds from 2018
 - Reduced Pandalus costs
- Sample nearshore priority stations first and then move offshore
- Remove crew swap in Dillingham



*Triangles are nearshore priority stations, open circles are core stations

Sabrina Garcia
907-267-2180
Sabrina.garcia@alaska.gov



Thank you!

2019 Kuskokwim River Assessment Projects

Overview:

Project	Location	Start Date	End Date	Species	Data Availability	Organization
<u>Test Fishery</u>						
Bethel Test Fishery	Bethel	May 25	August 20	K, C, R, S	Daily	ADF&G
Aniak Test Fishery	Aniak	June 01	July 15	K, C, R	Daily	Napaimute
<u>Mainstem</u>						
Sonar	Bethel	June 01	July 26	K, C, R, W,	Daily	ADF&G
<u>Harvest</u>						
Subsistence Surveys	Bethel	June 08	July 15	K, C, R	Weekly	ONC
Subsistence Surveys	Lower River	June 12	Open	K, C, R, W	As needed	KRITFC
Subsistence ASL	Bethel	June 02	Open	K	End of season	ONC
Subsistence ASL	Lower River	June 02	Open	K	End of season	KRITFC
<u>Weir</u>						
Goodnews River	Bay	June 25	July 31	K	Daily	ADF&G
Kwethluk River	Lower River	June 01	Sept. 10	K, C, R, S	Daily	USFWS/KRITFC
George River	Middle River	June 15	Sept. 20	K, C, S	Daily	ADF&G
Kogruklu River	Holitna River	June 26	Sept. 20	K, C, R, S	Daily	ADF&G
Telaquana River	Stony River	July 03	August 15	R	Daily	NPS
Takotna River	Upper River	June 24	August 15	K, C	Daily	KRITFC
Salmon (Pitka) Fork	Upper River	June 20	August 15	K	Daily	ADF&G
<u>Air Survey</u>	Drainage	July 17	August 05	K	End of season	ADF&G
<u>Juvenile Salmon Survey</u>	Southern Bering Sea	August 7	Sept. 7	K, C, R, S	End of season	ADF&G

Species Key: **K** = "King" or Chinook; **C** = chum; **R** = "Red" or sockeye; **S** = "Silver" or coho; **W** = whitefish.

Daily Assessment Document:

- USFWS and ADF&G will continue to produce a daily assessment document summarizing the most relevant inseason data about Chinook, chum, sockeye, and coho salmon run timing and abundance.
- This document will focus exclusively on inseason data from Bethel Test Fishery, Aniak Test Fishery, Harvest estimates, and mainstem Sonar.
- The assessment documents will be publicly available via email and posted online. ADF&G will distribute the document to the Kuskokwim River Salmon Management Working Group email distribution list. Contact Jen Peeks jennifer.peeks@alaska.gov if want to be added or removed from this list.

Project Descriptions:

- **Bethel Test Fishery** – ADF&G, Division of Commercial Fisheries will operate the Bethel Test Fishery in the same location and use the same methods as in prior years. This project will produce daily catch-per-unit-effort (CPUE) for Chinook, chum, sockeye, and coho salmon. Data will provide information about inseason run timing, relative abundance (e.g., species ratios), and run strength. Data will be included in the daily assessment update and posted to the ADF&G Fish Counts webpage by 10AM, Monday through Friday:
<http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareakuskokwim.salmon#fishcounts>

Note: The top of the head will be removed from all Chinook salmon to collect otoliths (ear bones) for a separate study designed to determine where each fish was born.

- **Aniak Test Fishery** – Native Village of Napaimute will operate the Aniak Test Fishery in the same location and use the same methods as in 2015 – 2018. This project will produce daily catch-per-unit-effort (CPUE) for Chinook, chum, and sockeye salmon. Data will provide information about inseason run timing and relative abundance (e.g., species ratios). Data will be included in the daily assessment update.
- **Kuskokwim Sonar** – ADF&G, Division of Commercial Fisheries will operate sonar upriver from Bethel near the upper end of Church Slough and just downriver from the Kwethluk “Y”. This is the first year of project operations. This project will produce daily inseason estimates of abundance for Chinook, chum, sockeye, whitefish, and other species passing the sonar site. Total cumulative abundance with 95% confidence intervals will be estimated daily. Data will be included in the daily assessment update.
- **Subsistence Harvest Surveys** – There will be several overlapping and complimentary efforts to collect inseason information about subsistence harvest, catch, and effort. Information will be used to monitor fishing progress as the salmon run develops. In addition, detailed catch and effort information may be used by USFWS to estimate inseason subsistence harvest within specific areas of the Yukon Delta National Wildlife Refuge during specified fishery openers.
 - Orutsarmiut Native Council (ONC) – will conduct weekly fish camp surveys throughout the Bethel area similar to past years. Additional survey effort will be conducted at the Bethel boat harbor as needed and provided to USFWS for estimating inseason subsistence harvest. Survey results will be presented weekly at scheduled Working Group meetings.
 - Kuskokwim River Intertribal Fish Commission (KRITFC) – will collect catch and effort information from the following seven communities: Tuntutuliak, Nunapitchuk, Napakiak, Napaskiak, Kwethluk, Akiachak, Akiak.
- **Subsistence Age-Sex-Length (ASL) Sampling** – As in past years, ONC will recruit and train subsistence fishermen to collect scales, sex, and length data from Chinook salmon harvested by subsistence fishermen in the Bethel area. KRITFC will also assist with collection of Chinook

salmon ASL from seven lower river communities through their community monitoring program. ASL summaries will be generated post-season.

*Note: Training and sampling supplies will be provided for anyone who wants to participate in the ASL program. Training is scheduled in Bethel for **June 1 and June 8, 2019 from 11AM–4PM at the Cultural Center.** Contact Janessa (ONC) or Nick (ADF&G) if you want to schedule training in your home community.*

- **Weirs** – A total of six weirs will be operated (3 – ADF&G; 1 – USFWS/BSFA; 1 – NPS; 1 – BSFA) to monitor salmon escapement throughout the lower, middle, and upper portions of the Kuskokwim River drainage. Final estimates of escapement for each location will be made post-season. Daily escapement counts will be updated on the ADF&G Fish Counts webpage daily by 10AM, Monday through Friday:
<http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareakuskokwim.salmon#fishcounts>
- **Aerial Surveys** – Surveys will be flown throughout select lower, middle, and upper river tributaries to index Chinook salmon escapement in late July. Aerial survey results will be provided post-season once surveys are completed.
- **Juvenile Salmon Survey** – ADF&G in collaboration with NOAA and Alaska Pacific University will be conducting the second year of feasibility work in the southern Bering Sea. A main objective of this study is to estimate the abundance of southern Bering Sea juvenile Chinook salmon. Results will be provided post-season once the survey is completed.

Yukon Delta NWR Updates



Assessment Projects for 2019

- **Kwethluk weir is operation and fish tight, will have permanent crew in place by mid-June, video will be operating before crew is in place. Crew will be exclusively Kwethluk community members.**
- **In-season subsistence harvest surveys will continue this year like in past years. Aerial surveys will be flown at least once a week before directed Chinook Salmon opportunities begin. Multiple aerial surveys flown during opportunities similar to past years.**

Regulatory Updates

- **FSB actions approved on April 15-18, 2019.**
 - **No restrictions to <6” gear before June 1.**
 - **No restrictions past 100 yards non salmon tributaries.**
 - **Federal Management from June 1 to July 1. 2019**
- **Questions on these actions?**

Closure areas once date of closure decided

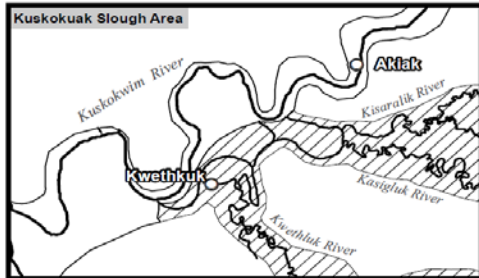


U.S. Fish and Wildlife Service

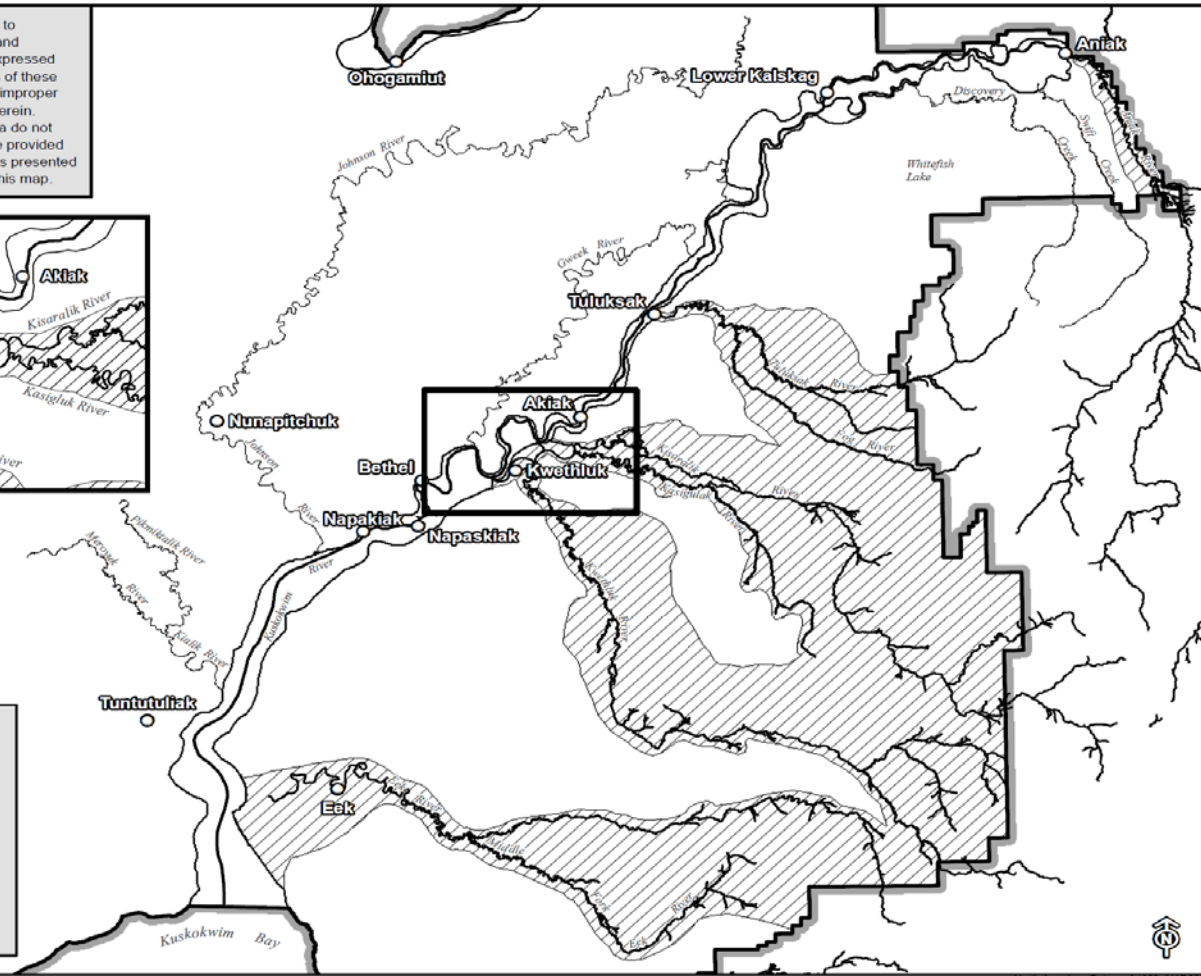
Closed Waters during Federal Management

Yukon Delta National Wildlife Refuge

While the U.S. Fish & Wildlife Service makes every effort to represent the data shown on these maps as completely and accurately as possible, the USFWS gives no warranty, expressed or implied, as to the accuracy, reliability, or completeness of these data. In addition, the USFWS shall not be held liable for improper or incorrect use of the data described and/or contained herein. Graphical representations provided by the use of this data do not represent any legal description of the data herein and are provided only as a general representation of the data. Descriptions presented in special actions supersede any depictions provided in this map.



- Chinook Anadromous Waters
- Mainstem of Kuskokwim River
- Chinook Salmon Closure
- Yukon Delta Refuge Boundary





P.O. BOX 190 BETHEL, AK 99559-190
PHONE: (907) 543-4524 EMAIL: INFO@KRITFC.ORG

The Kuskokwim River Inter-Tribal Fish Commission (KRITFC) is a tribal agency representing 33 federally-recognized tribes located throughout the Kuskokwim River drainage in sustainable fisheries management on the Kuskokwim River. The KRITFC consists of Commissioners, tribal members appointed by each member tribe to represent that tribe on the Commission. The KRITFC is operated by a 7-member Executive Council, which represents 7 different geographic units in the 900-mile Kuskokwim watershed.

Currently on the Kuskokwim River, data to inform salmon fishery management is very limited. Historically, subsistence harvests are not assessed until after the season, information on run timing, strength, and composition from the upper three quarters of the drainage is extremely limited to inform in-season management decisions. For some time, communities have shown strong interest in participating in a community-based salmon monitoring program.

The 42-year historical average of the Chinook salmon total run is estimated at 216,900, with a drainage-wide harvest of 66,800 Chinook salmon/year and a record estimated subsistence harvest of 110,000. But the average total run since 2010 was 107,700 with a river-wide harvest of 34,100 Chinook salmon. In 2012, when the State of Alaska, Department of Fish and Game implemented restrictions and closures, tribal members responded by protest fishing, resulting in about 4 or 5 dozen court convictions. In 2013, there were no restrictions and only about 37,000 Chinook salmon spawned that year. Since 2015, the KRITFC's in-season managers have successfully worked with the Yukon Delta National Wildlife Refuge Manager to meet both escapement and harvest goals. With the involvement of respected local leaders, compliance with closures has been maintained and spawner goals have been achieved.

In February 2016, the KRITFC entered into a Memorandum of Understanding with the U.S. Fish and Wildlife Service (USFWS) to cooperatively manage Kuskokwim River Chinook salmon stocks and to ensure a self-determined management structure.

2018 accomplishments of the Kuskokwim River Inter-Tribal Fish Commission:

- KRITFC maintained four in-season managers (representing four sections of the Kuskokwim river: Upper, Middle, Lower, and Bethel) who, together with Federal and State managers, made important decisions about fishing openings and closures. In May of 2018, the KRITFC added an in-season manager to represent Bethel, increasing the number of in-season managers from three to four.
- The four 2018 KRITFC in-season managers - Nick Kameroff, Jr. from Aniak, James Nicori from Kwethluk, Robert Lekander from Bethel, and James Charles from Tuntutuliak - have fished on the Kuskokwim for decades and bring a wealth of traditional knowledge to the table.
- While there is a role for both Western science and traditional knowledge in co-management, the in-season managers' traditional knowledge fills informational gaps that can otherwise hinder in-season management decisions. In 2018, the KRITFC consistently and successfully advocated for the integration of traditional knowledge into the in-season management decision-making process.
- Traditional knowledge requires possessing a detailed and deep understanding of an ecosystem, and using that understanding to help make informed decisions about where and when to use that ecosystem's resources.

TELIDA | NIKOLAI | TAKOTNA | MCGRATH | LIME VILLAGE | STONY RIVER | SLEETMUTE | RED DEVIL
GEORGETOWN | CROOKED CREEK | NAPAIMUTE | CHUATHBALUK | ANIAK | UPPER KALSKAG
LOWER KALSKAG | TULUKSAK | AKIAK | AKIACHAK | KWETHLUK | BETHEL | OSCARVILLE | NAPASKIAK
NAPAKIAK | KASIGLUK | ATMAUTLUAK | NUNAPITCHUK | TUNTUTULIAK | EEK | QUINHAGAK
KONGIGANAK | KWIGILLINGOK | KIPNUK | CHEFORNAK

- For example, Western science cannot accurately predict run timing or what percentage of the run has passed a given location. Acknowledging and incorporating traditional knowledge enables more accurate and consistent run timing prediction. In 2018, the Kuskokwim River had a later Chinook salmon run. Rather than coming in in late May/early June, Chinook salmon started to come back in mid-June. By the last week of June, Kuskokwim subsistence fishermen had only had 2 chances to fish because of FWS concerns about the run.
- Instead of relying on Western science to conclude that the run was under projected estimates, one of KRITFC's In-Season Managers, James Nicori, relied on his traditional knowledge to help answer these questions. James predicted that more Chinook salmon were coming, because he knew that for the area below the "Kwethluk Y", when catches are successful on the Kuskokwim side of the river, and unsuccessful on the Kuskokwim Slough side, it is still early in the run. As of the 22nd of June, James had observed fishermen catching on the Kuskokwim side, and skunking on the Slough side. To him, this meant that we were not yet half way through the run.
- Federal and State managers were reluctant to accept James's knowledge because no "proven" "scientific" or "reliable" data supported it. But KRITFC firmly recommended additional fishing opportunity based on this traditional knowledge, and two limited openings were held on June 24th and on June 29th. Qualified subsistence users were able to fish, and the additional openers did not compromise overall escapement goals.
- The Chinook salmon escapement (spawner) goal for the Kuskokwim River Inter Tribal Fish Commission was 110,000. The Alaska Department of Fish and Game's (ADFG) 2018 total run return was 132,312 and escapement of 109,583.
- Many Commissioners believe that 2018 was the most successful salmon harvesting season we have had since 2009. While restrictions over the last nine seasons have caused grief and anxiety for a largely food insecure region, 2018 provided for more wellness and healing and happiness than we have experienced for years. Many fish cutters told their fishermen not to harvest for them during the last opportunities (their needs had been met) and fishermen reported harvesting for other families and other fish camps during the last openers, as is our normal custom.
- Traditional knowledge is also critical to address climate change in the Kuskokwim River region and its effect on our natural resources. Climate change impacts our lands, waters, and natural resources. Climate change is affecting our ability to harvest enough Chinook salmon to meet our nutritional needs. Traditional knowledge represents the most significant data set of systematic observations of our ecosystem. Using traditional knowledge to address climate change ensures that our responses can adapt and be flexible.
- From May 25th to July 9th, KRITFC operated a toll-free public teleconference call in with FWS and ADFG Monday mornings at 10am to share information and answer questions from Kuskokwim residents about fishing regulations, openings and closures in both federal and state waters.
- KRITFC hired a Biologist, Kevin Whitworth who lives in McGrath. Kevin has been instrumental in operating the Takotna and Kwethluk weirs. He has hired and trained locally raised employees who have biology degrees and/or are qualified to work on projects he oversees.
- KRITFC hired a Commission Liaison, Jonathan Samuelson, who grew up in Georgetown, Bethel and McGrath, along the Kuskokwim River.

- In 2018, the KRITFC's Executive Director Mary Peltola testified before the United States Senate Indian Affairs Committee and the United States Senate Commerce Committee about the work the KRITFC has been engaged in and the importance of co-management of traditional resources. Both opportunities provided a broad audience to spread the word about the important role of Traditional Knowledge and tribal co-management. It also laid the foundation for future federal appropriations necessary to continue the KRITFC's work.
- KRITFC continued to engage in the Federal Subsistence Board process in support of its members. The Kuskokwim River Salmon Management Working Group has included a seat on their State advisory body for a representative from KRITFC, and our groups share information and advice.
- KRITFC respects and appreciates the critical harvest information from both Bethel's Orutsararmuit Native Council and the Bering Sea Fishermen's Association (BSFA), collected during the subsistence salmon fishing season. This information, collected by tribal members themselves, provides key information to the In-Season Managers.
- KRITFC appreciates the 26-member tribes who have formally joined our commission to ensure continued opportunities to fully co-manage our resources on an equal footing with our Federal and State partners. The KRITFC believes that the tribes' recognition that the only effective way to co-manage our resources is by fully integrating our traditional knowledge into co-management.
- BSFA developed the Community-Based Harvest Monitoring (CBHM) program for an integrated set of community-based monitoring projects. CBHM provides for the best-informed salmon management throughout the watershed. This program hires local residents – typically Alaska Native teenagers from Kuskokwim villages – to work as harvest monitors in participating villages. The harvest monitors are trained and mentored to collect data for in-season assessment, and to provide public outreach regarding the goals of harvest management and assessment. In 2018, the CBHM program worked in the following villages: The CBHM hired X NUMBER of harvest monitors. The data collected by those harvest monitors was used by the KRITFC's in-season managers to make important in-season management decisions.

2019 (to date) accomplishments of the Kuskokwim River Inter Tribal Fish Commission:

- The Executive Council approved accounting policies & procedures, an employee policy handbook, and policies regarding hiring, travel, communications and redistributing unmarked gillnets confiscated by U.S. Fish & Wildlife Service Law Enforcement back to tribes along the Kuskokwim.
- Secured a Jesuit Volunteer to work on communications and outreach from August 2019-2020.
- Continued our partnership with Inuit Circumpolar Council's Food Sovereignty and Self-Governance study (conducted with the Eskimo Walrus Commission, Inuvialuit Game Council and the Fisheries Joint Management Committee. The 2.5-year project is led by Carolina Behe (ICC Alaska), Dalee Sambo Dorough (University of Alaska) and David Roche (The Environmental Law Institute). Additionally, the Association of Village Council Presidents and the Inuit Circumpolar Canada participate through the project advisory committee.
- Conducted five pre-season consultation meetings with the Yukon Delta National Wildlife Refuge Acting Manager Vernon "Ray" Born. The Chinook salmon escapement goal was set at 110,000 with a Chinook salmon harvest target of 22,000 (same targets as 2018).

- Continuously working with the FWS on preparing for the 2019 salmon harvest season.
- KRITFC Annual Meeting was held in Bethel on May 2 and 3, during which an election was held for officer positions.
 - The new chair is Charlene Erik, Chefornak Commissioner. Her term is from 2019-2021.
 - The Vice Chair is Mike Williams, Sr. of Akiak.
 - The Secretary/Treasurer is Jonathan Samuelson, Georgetown.
- The KRITFC also held elections for its Executive Council representatives from Units 2, 4, 6 & 7. The Executive Council consists of the following members:
 - Unit 1: Claude “Joe” Petruska, Nikolai (Betty Magnuson, alternate)
 - Unit 2: Jonathan Samuelson, Georgetown (Tim Zaukar, alternate)
 - Unit 3: Gerald Kameroff, Upper Kalskag (Megan Leary, alternate)
 - Unit 4: Mike Williams, Sr. (alternate TBD)
 - Unit 5: Robert Lekander, Bethel (Henry Hunter, alternate)
 - Unit 6: Golga Frederick, Nunapitchuk (Ralph Nelson, alternate)
 - Unit 7: Charlene Erik, Chefornak (Adolph Lupie, alternate)
- And, four new 2019 In-Season Managers were elected:
 - Upper River: Megan Leary, Napaimute (Walter Morgan, alternate)
 - Middle River: James Nicori, Kwethluk (Mike Williams, Sr., alternate)
 - Bethel: Robert Lekander, Bethel (Henry Hunter, alternate)
 - Lower River: Jackie Cleveland, Quinhagak (Adolph Lupie, alternate)
- The KRITFC also created an Elder Advisor position for the Executive Council. . James Charles, Tuntutuliak, was unanimously appointed. This position will attend all KRITFC meetings as an ex officio member.
- At the conclusion of the Annual Meeting, the KRITFC held a lottery for each tribe to choose a gill net confiscated by USFWS Law Enforcement from between 2014-2017. Tribes are lending their net to people in need in their community. Bethel’s tribe already has five elders scheduled to receive white fish from Bethel’s net.

2019 Goals of the Kuskokwim River Inter Tribal Fish Commission:

- Implement a Kuskokwim Chinook Salmon Management Plan so Federal management is put into place without the need of a Special Action Request every year.
- Continue to co-manage Chinook salmon escapement and harvest with USFWS.
- Continue to increase the use of traditional knowledge to be used for fish management.
- Continue to increase knowledge of tribal members to be involved in fish management and fish monitoring.
- Schedule tentative fishing dates before the fishing season begins to ensure proper notification of opportunities to fish. In-season managers hope to fish 4 or 5 times in June, with at least one fishing opportunity per week.

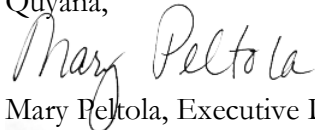


**Kuskokwim River
Inter-Tribal Fish Commission**
our river, our people, our fish

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- Continue to provide a toll-free public teleconference call in with USFWS and ADFG Monday mornings at 10am to share information and answer questions from Kuskokwim residents about fishing regulations, openings and closures in both federal and state waters. The first 2019 teleconferences will be at 10am on May 20th and the final teleconference will be at 10am on July 1, 2019.
The call-in number is 1-800-315-6338, access code: 34515.
- Continue working with BSFA, our fiscal agent, to timely submit complete financial reports to AVCP.
- In December 2018, the Executive Council decided to continue working with and supporting the CBHM program, and to have the KRITFC play a heightened role in the implementation of the program. In 2019, the KRITFC will continue working with BSFA to implement the CBHM program in the following villages: Akiak, Kwethluk, Napaskiak, Napakiak, Nunapitchuk and Tuntutuliak.
- Serve as project lead on the Takotna River weir and as a partner on the Kwethluk weir.

Quyana,



Mary Peltola, Executive Director
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TELIDA | NIKOLAI | TAKOTNA | MCGRATH | LIME VILLAGE | STONY RIVER | SLEETMUTE | RED DEVIL
GEORGETOWN | CROOKED CREEK | NAPAIMUTE | CHUATHBALUK | ANIAK | UPPER KALSKAG
LOWER KALSKAG | TULUKSAK | AKIAK | AKIACHAK | KWETHLUK | BETHEL | OSCARVILLE | NAPASKIAK
NAPAKIAK | KASIGLUK | ATMAUTLUAK | NUNAPITCHUK | TUNTUTULIAK | EEK | QUINHAGAK
KONGIGANAK | KWIGILLINGOK | KIPNUK | CHEFORNAK