

Kuskokwim River Salmon Management Working Group

1 (800) 315-6338 (MEET) Code: 58756# (KUSKO)

Meeting Agenda

Date: **June 8, 2012**

Time: **1:00 pm**

Place: **Bethel**

Time Called to Order

Chair

Time Adjourned

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

Upriver Elder:

Processor:

Downriver Elder:

Member at Large:

Commercial Fisher:

Sport Fisher:

Lower River Subsistence:

Western Interior RAC:

Middle River Subsistence:

Y-K Delta RAC:

Upper River Subsistence:

ADF&G:

Headwaters Subsistence:

INTRODUCTIONS:

INVOCATION:

APPROVAL OF AGENDA:

PEOPLE TO BE HEARD:

CONTINUING BUSINESS:

1. Subsistence Reports:
 - a. Lower River:
 - b. ONC Inseason Subsistence:
 - c. Middle River:
 - d. KNA Inseason Subsistence:
 - e. Upper River:
 - f. Headwaters:
2. Overview of Kuskokwim River salmon run assessment projects:
 - a. Bethel Test Fish:
 - b. Presentation by Kevin Schaberg (ADF&G) regarding the Bethel Test Fish Tool:
 - c. Weirs/Mark-Recapture/Aerial Surveys/Other:
3. Commercial Catch Report:
4. Processor Report:
5. Sport Fish Report:
6. Weather Forecast:
7. Recommendation:
8. Motion for Discussion and Action:

OLD BUSINESS:

1. Presentation by Kevin Schaberg (ADF&G) regarding information requested by AVCP and KNA:
2. KRSMWG Action Items from prior meetings:
 - a) Update on public outreach efforts
 - b) Beverly Hoffman's letter to the NPFMC
 - c) Lamont Albertson's letter in support of HB332?
 - d) Review of KRSMWG Bylaws
 - e) Update KRSMWG Seats (roll-call list, possible alternates)
 - f) Lamont Albertson's letter in support of USFWS participation in the KRSMWG

NEW BUSINESS:

1. Beverly Hoffman's request to the Kuskokwim River Watershed Council regarding creating a Calvin Simeon award
2. Beverly Hoffman's letter of recruitment for the Upriver Elder seat

COMMENTS:

NEXT MEETING DATE: _____ **Time:** _____ **Place:** _____

Kuskokwim River Salmon Management Working Group

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Information Packet

June 8, 2012

OVERVIEW OF KUSKOKWIM RIVER SALMON RUN ASSSSMENT PROJECTS

Bethel Test Fishery
Chinook Salmon Cumulative CPUE Index
UNCORRECTED

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
6/01	0	1	3	0	0	0	0	0	0	3	0
6/02	1	13	5	0	0	0	3	0	3	5	0
6/03	1	29	7	1	0	0	3	1	4	8	0
6/04	1	35	13	1	0	1	3	4	7	11	2
6/05	6	44	19	6	3	3	3	10	7	20	2
6/06	13	48	23	7	6	3	4	17	8	31	2
6/07	15	59	27	11	6	4	4	24	10	47	
6/08	18	70	40	23	8	7	10	28	10	63	
6/09	36	106	70	30	9	11	20	33	11	67	
6/10	51	131	75	49	9	19	36	40	13	70	
6/11	59	147	118	91	14	23	40	52	17	75	
6/12	82	172	147	118	18	30	46	62	23	78	
6/13	101	199	174	137	33	33	56	71	34	88	
6/14	127	221	217	173	48	42	63	81	42	102	
6/15	165	258	258	186	77	60	96	114	73	116	
6/16	181	285	311	236	96	62	115	171	112	136	
6/17	196	332	347	265	126	82	135	189	130	165	
6/18	217	362	396	299	170	97	142	209	168	192	
6/19	243	390	430	330	207	117	160	232	193	229	
6/20	248	413	484	389	208	138	195	255	210	247	

**Assessment of Kuskokwim River Chinook Salmon Return for 2012,
Using Bethel Test Fishery Data Inseason**
Kevin Schaberg (ADF&G)

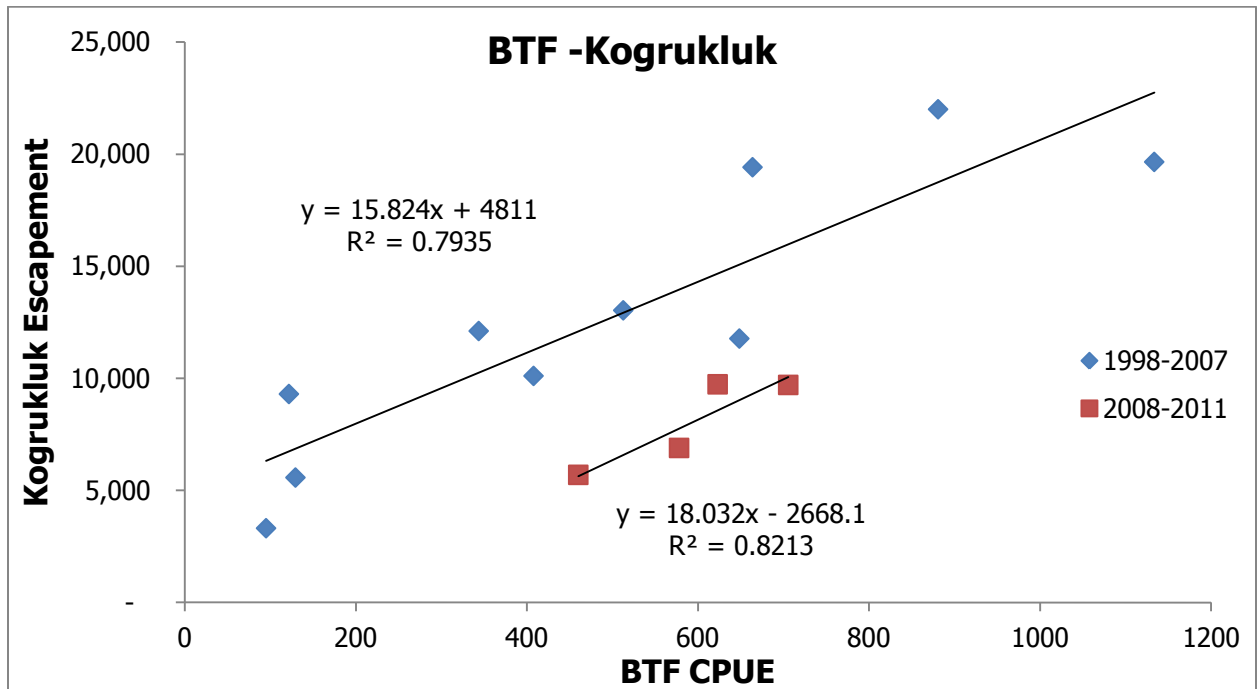
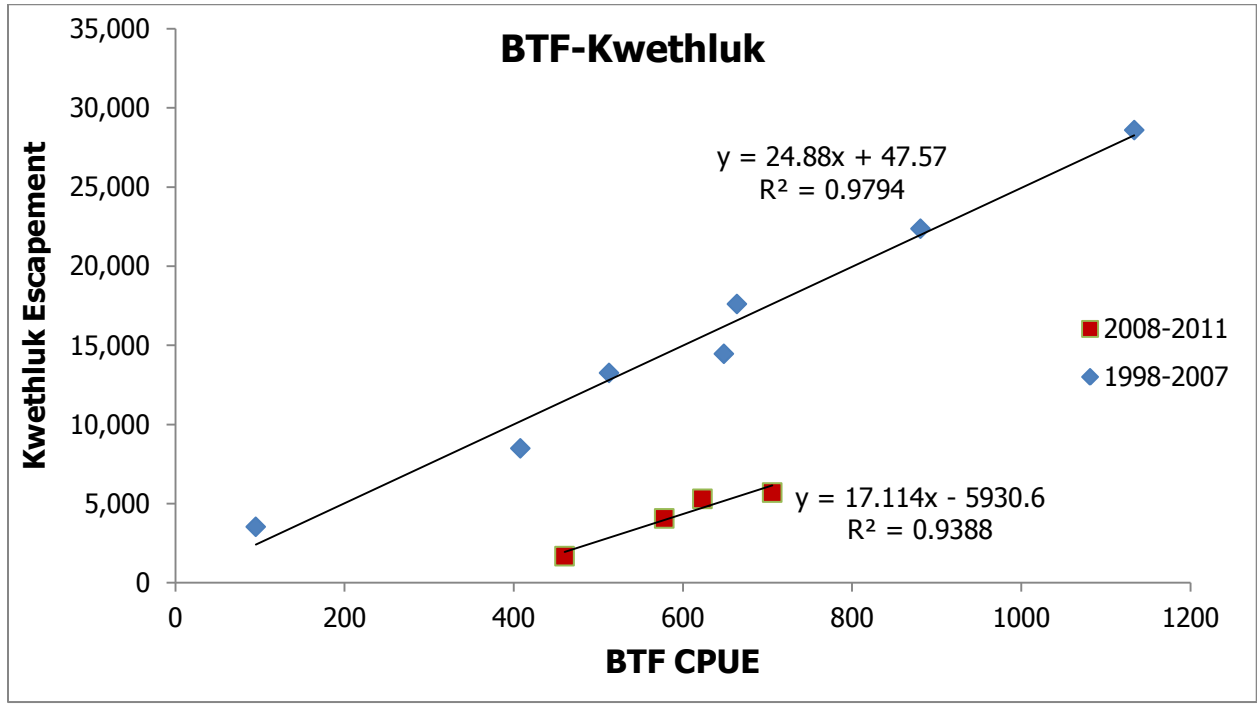
Inseason Assessment

- **Limited information Inseason**
 - ONC/KNA Inseason Subsistence Surveys
 - KRSMWG input
 - Bethel Test Fishery (BTF)

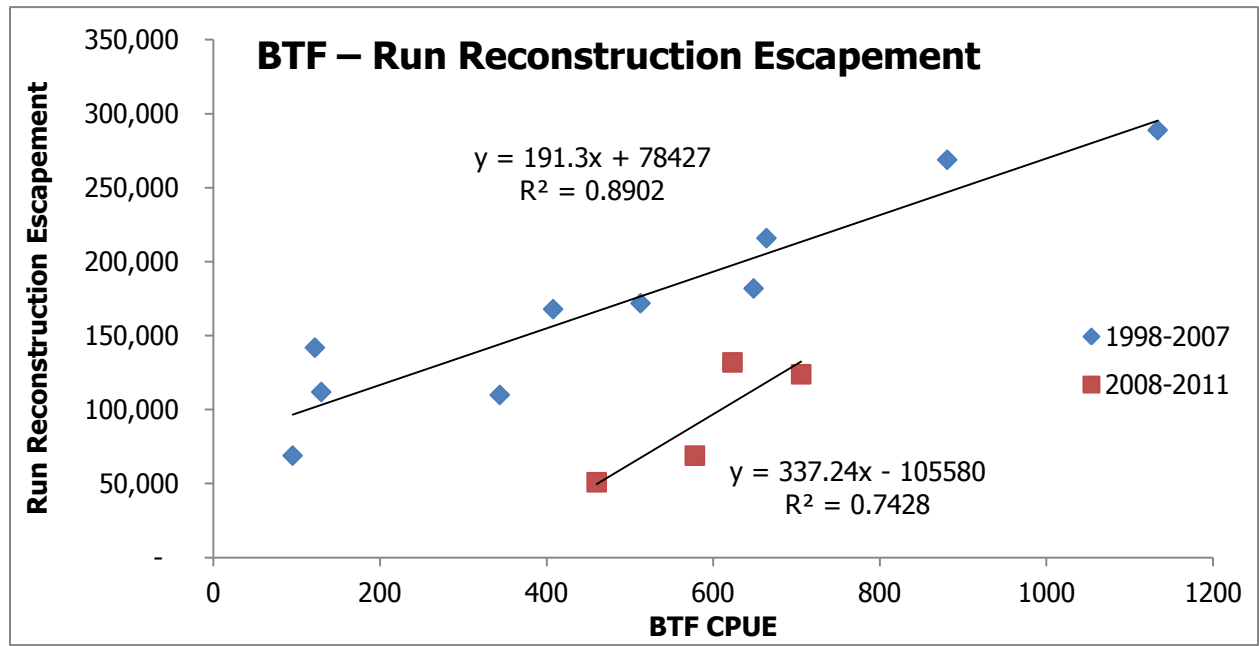
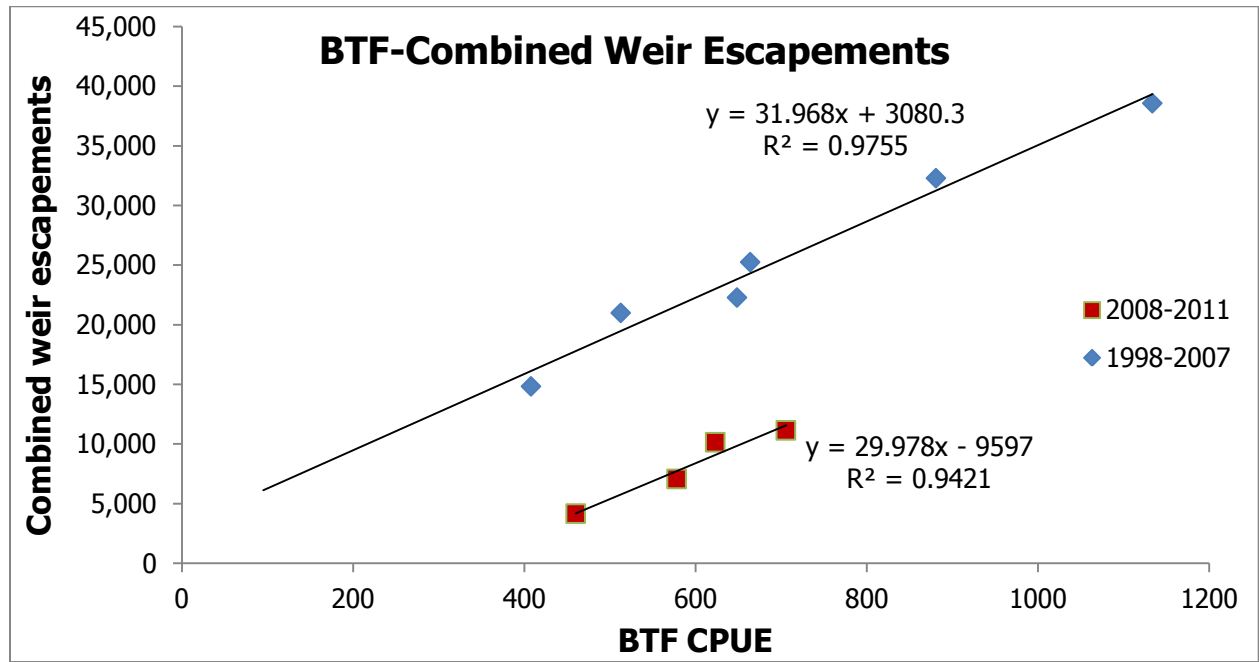
Inseason Tool Concept

- **Provide daily assessment**
 - BTF data daily
- **Meet management Objective**
 - Objective assessed daily based on relationship of BTF to escapement dataset: Kogrukluk River
- **Consider levels of uncertainty in our assessment in tool**
 - Reflect precision of tool more realistically
 - Precision of BTF in estimating escapement
 - Precision in our ability to estimate run timing inseason

BTF as Indicator of Escapement



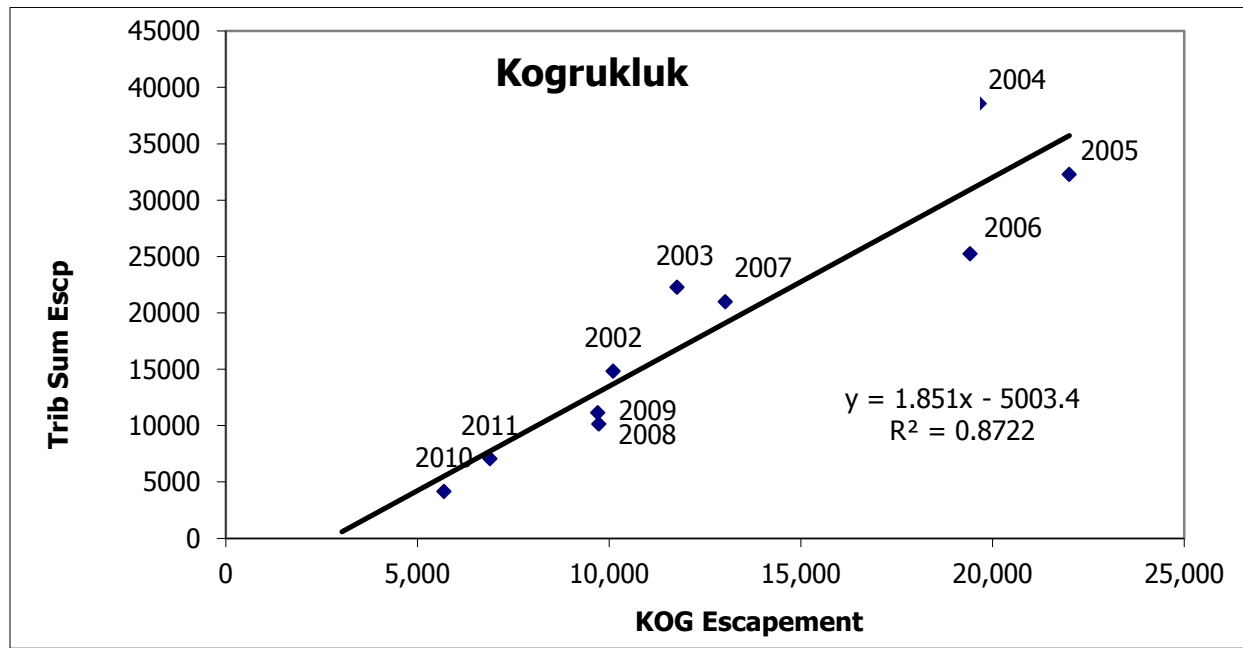
BTF as Indicator of Escapement (CONTINUED)



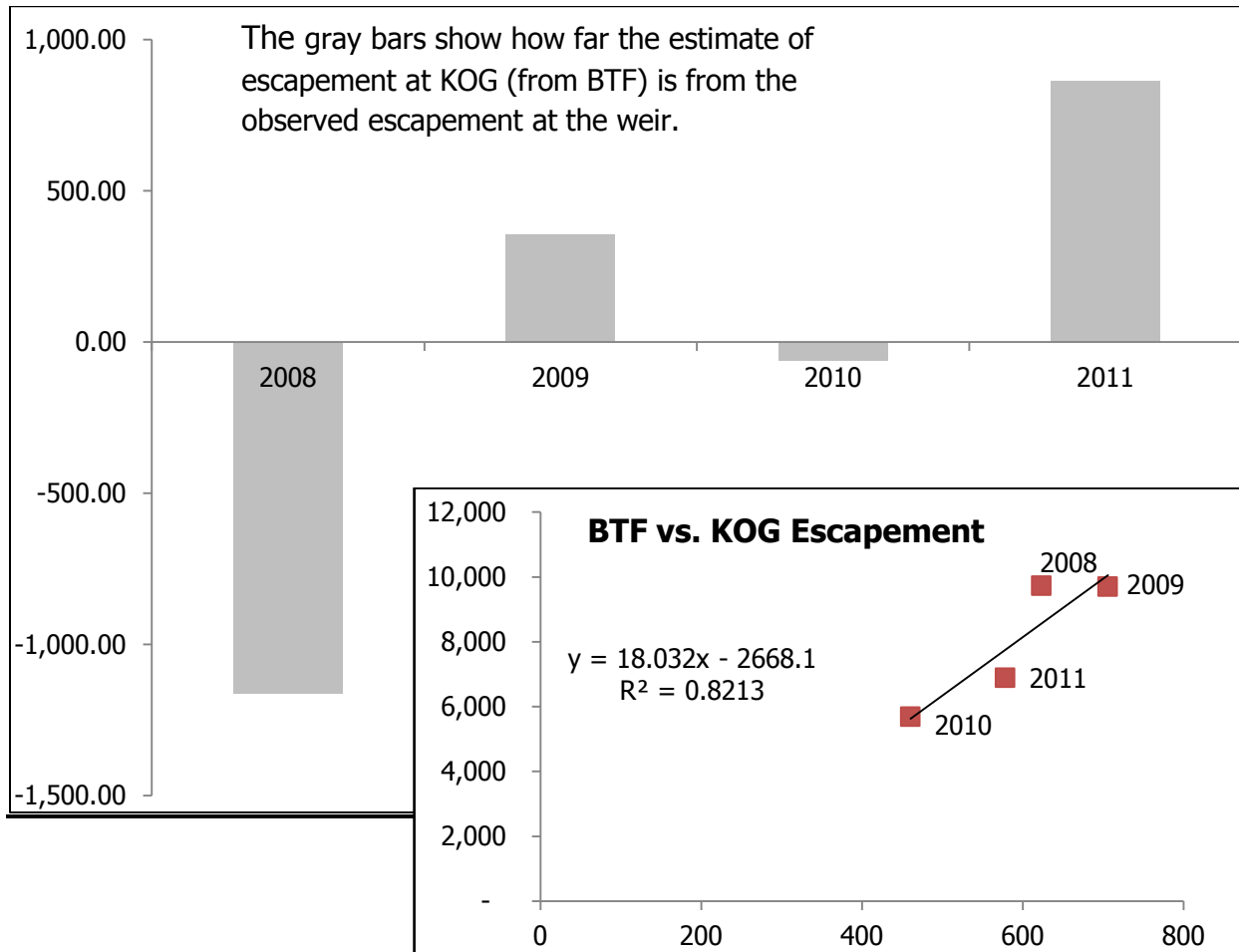
BTF as Indicator of Escapement (CONTINUED)

- **Strong relationships between BTF and observed Escapement**
- **Kogrukluk as indicator for other escapements:**
 - has longest dataset (30+ yrs)
 - Kogrukluk has been used historically for assessing system wide run strength
- **And...**

KOGRUKLUK/Other Tributary Escapements



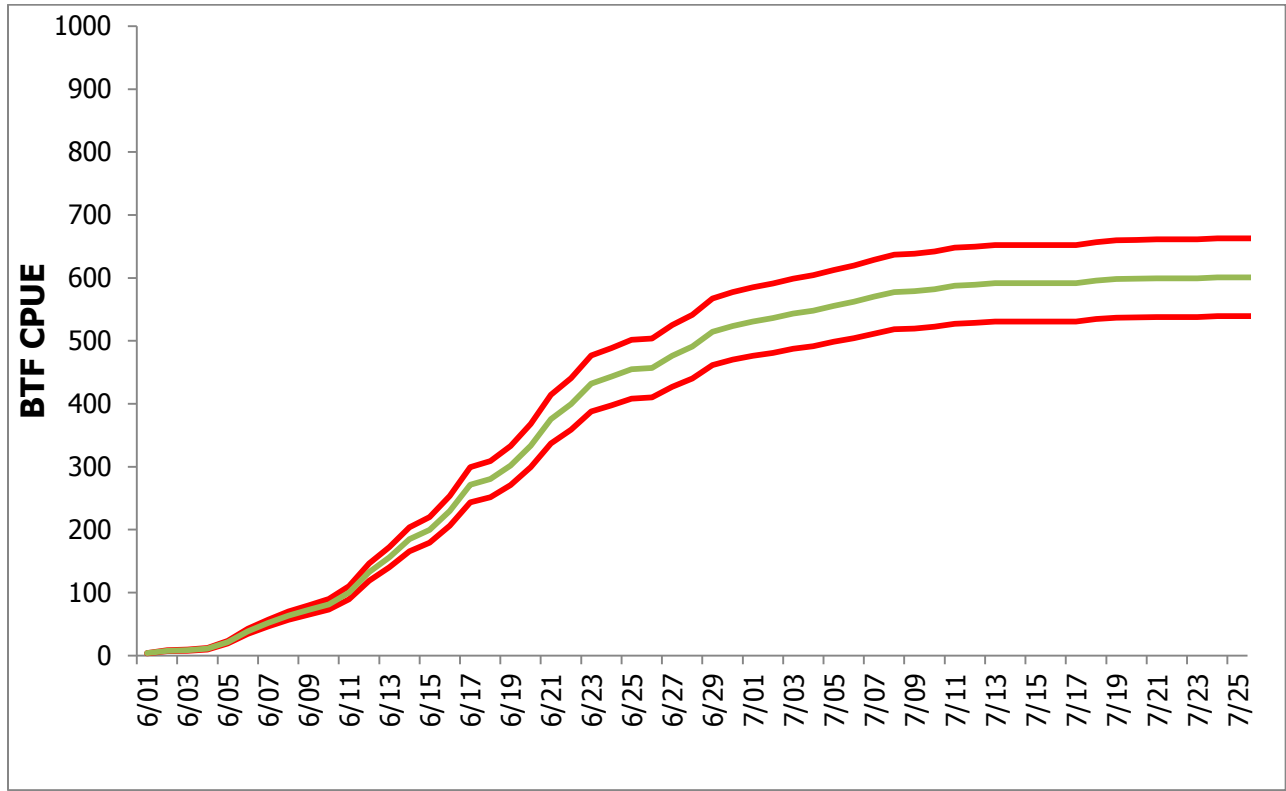
Uncertainty with BTF-KOG Relationship



Accounting for Uncertainty with BTF-KOG Relationship

- **Indicates likely KOG escapement from BTF data**
- **Estimate 95% CI's around BTF target**
 - Incorporates uncertainty in BTF - KOG relationship
 - Something within this range has a 95% chance of resulting in management objective.

Accounting for Uncertainty with BTF-KOG Relationship (CONTINUED)

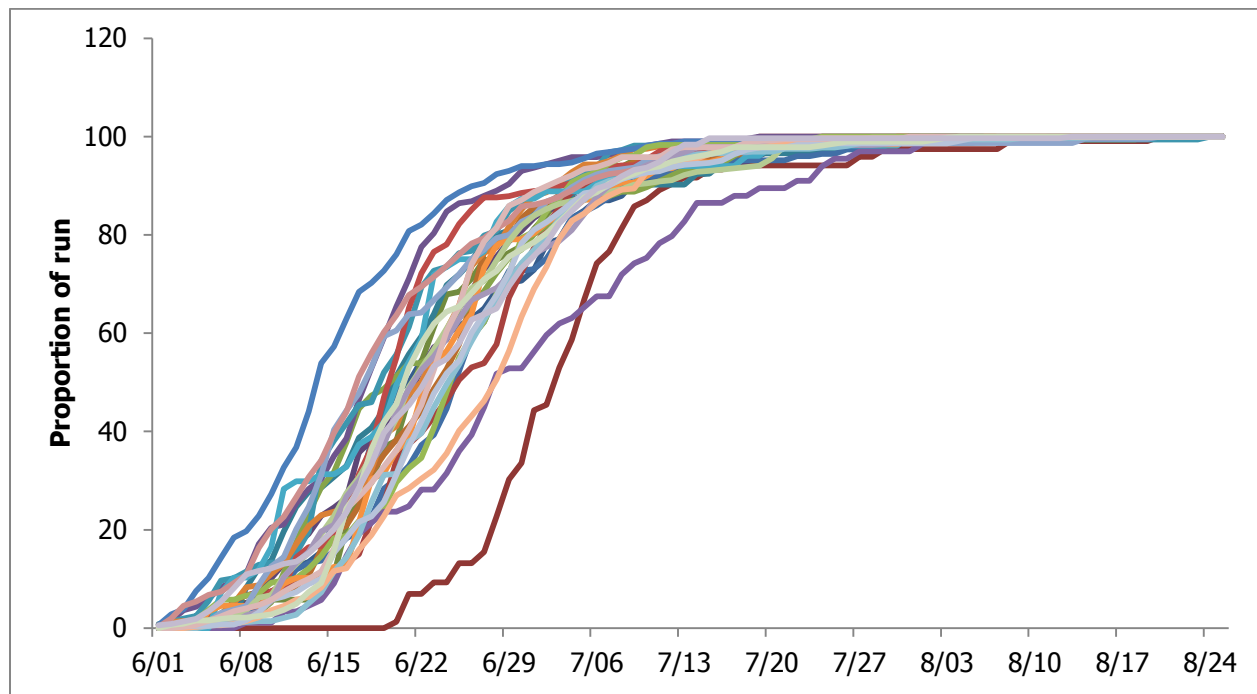


- **So that is why the target throughout the season is to achieve an identified escapement objective at KOG**
- **Questions?**

Projections

- **Apply daily BTF Cumulative number to BTF-KOG relationship to estimate the escapement.**
 - We can project how KOG escapement is looking at any given point.
 - Uncertainty is greatest early in the season.
 - By examining BTF with respect to run timing (early, middle, and late) we take a greater range of possibilities into account and can begin to narrow our projection of run strength.

Run Timing Variability at BTF

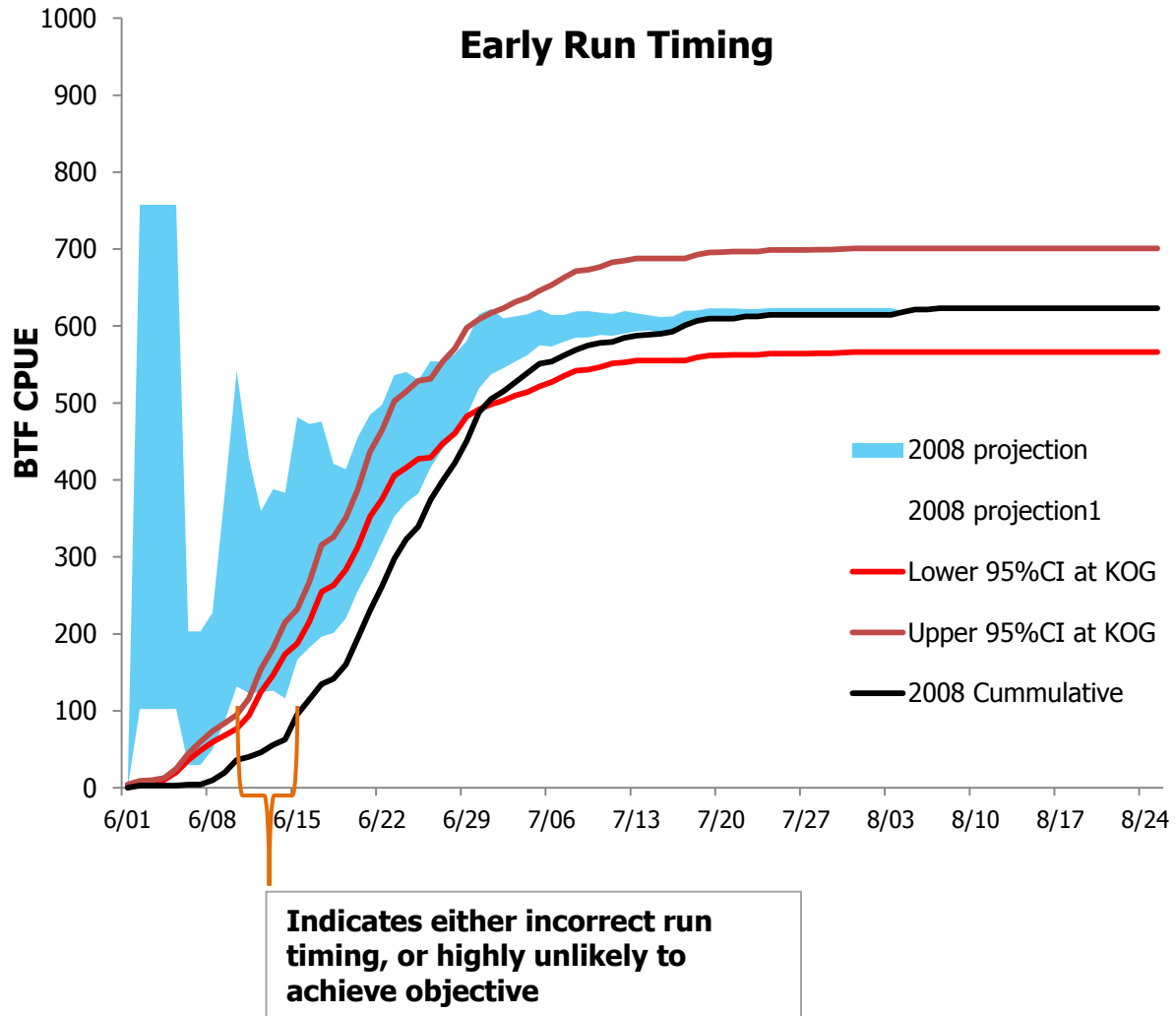


- **To simplify for assessment we split run timing:**
 - Early, Average, or Late
- **Each of these has variability since they represent averages of years that fit each category**
 - Become more certain as run progresses (more data)

Run Timing Variability at BTF (CONTINUED)

Management Objective = 127,280

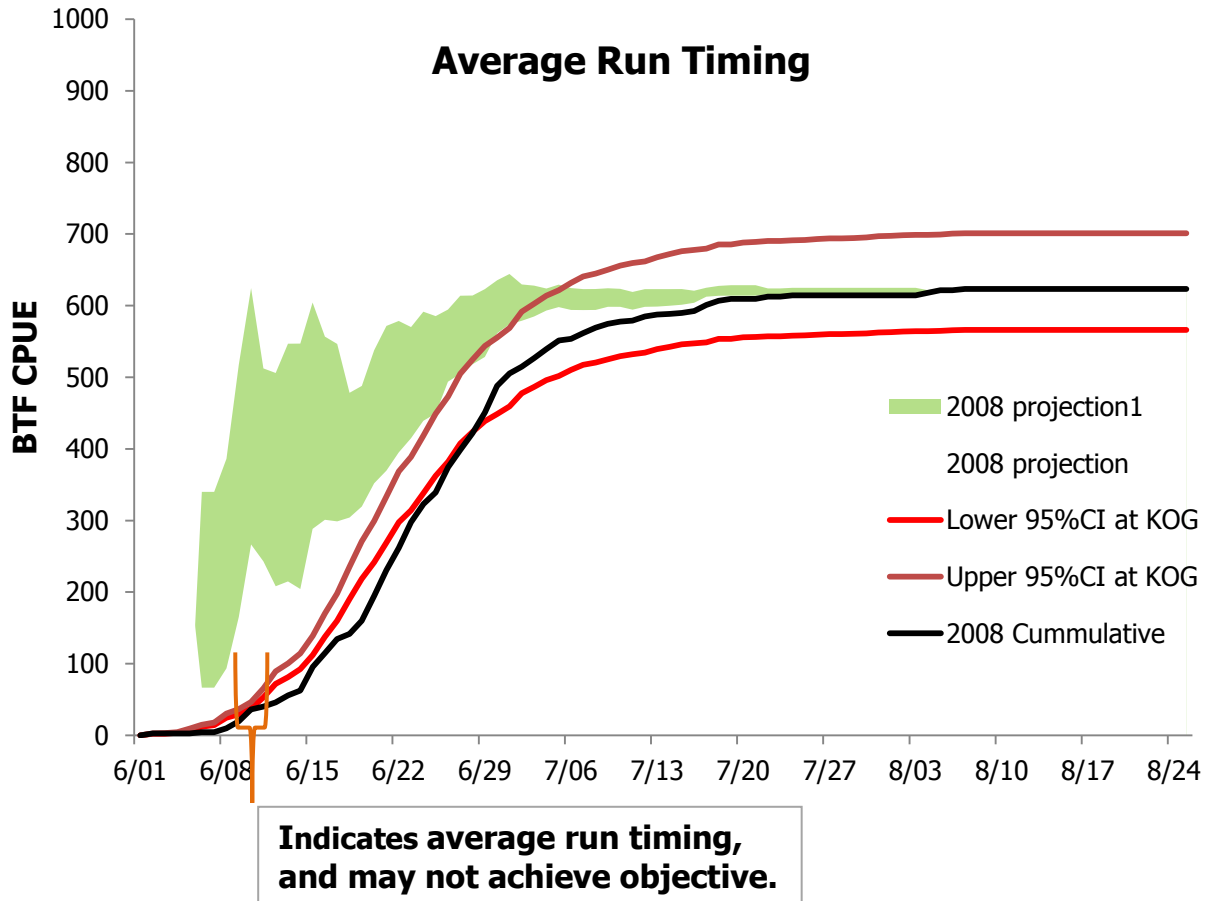
2008 Escapement Estimate was 129,950



Run Timing Variability at BTF (CONTINUED)

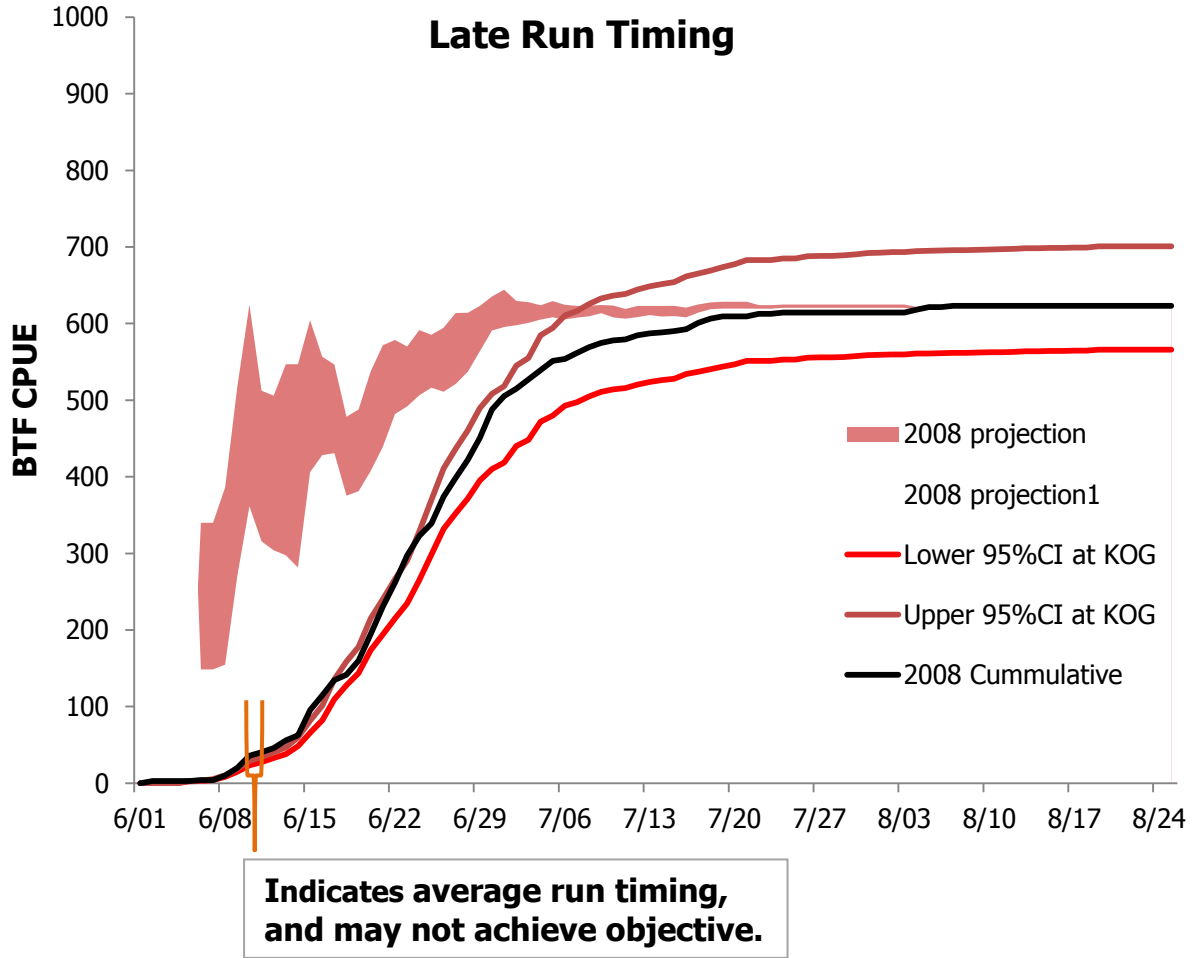
Management Objective = 127,280

2008 Escapement Estimate was 129,950



Run Timing Variability at BTF (CONTINUED)

Management Objective = 127,280
2008 Escapement Estimate was 129,950



BTF Inseason Tool

- **Our tool projects/estimates end of year escapement at KOG**
- **We won't know how many fish actually return until the end of the season.**
- **Requires daily assessment and incorporation of information from elsewhere to inform decisions**
- **Severity of management restrictions will reflect concern identified with tool and other information**

How Do Changes in Harvest Effect BTF Tool?

- **The tool estimates escapement from BTF CPUE**
- **This includes harvest both above and below BTF**
- **Since most harvest comes from the relatively stable subsistence fishery, it is incorporated in the assessment of escapement.**
- **The effect of changes in harvest patterns both above and below BTF effect the tool differently.**

How Do Changes in Harvest Effect BTF Tool? (CONTINUED)

Harvest Below BTF		Assume 1 BTF CPUE = 1,000 fish	
BTF Cumulative CPUE	100	80	120
Harvest Downriver of BTF	Average	Higher than Average	Below Average
Escapement Estimate	100,000	80,000	120,000

- **Changes to harvest below BTF do affect the BTF CPUE number.**
- **With or without changes in harvest, the BTF CPUE number estimates escapement with the same confidence.**

Harvest Above BTF		Assume 1 BTF CPUE = 1,000 fish	
BTF Cumulative CPUE	100	100	100
Harvest Upriver of BTF	Average	Higher than Average	Below Average
Escapement Estimate	100,000	<100,000	>100,000

- **Changes to harvest Above BTF do not affect the BTF CPUE number.**
- **The BTF CPUE estimates of escapement do not reflect the increase/decrease in escapement relative to changes in harvest above BTF.**
 - These changes in harvest are difficult to estimate inseason.
 - We will use subsistence reports to give us an idea of how much change in harvest happens above BTF.

2012 Estimates of Escapement Using BTF CPUE

- **Decreases in harvest throughout the Kuskokwim (Above BTF) may result in higher escapement than estimated by BTF CPUE.**
- **The scale of this change depends on the scale of conservation.**

ESCAPEMENT MONITORING

Status of Salmon Assessment Projects as of June 8, 2012

- Weirs are currently being installed on the Kwethluk, Tuluksak, Salmon, George, Kogrukuk, Tatlawikusuk, Telaquana, and Takotna Rivers.

RECOMMENDATION

Rolling Closure Section Descriptions

Lower Section of Subdistrict 1-B: Section 1

This area is defined as, that portion of the Kuskokwim River and its tributaries upstream from a line from Apokak Slough to the southernmost tip of Eek Island to Popokamiut to a line between ADF&G regulatory markers located between the Kialik and Johnson Rivers. This area is also known as the Lower Section of commercial fishing Subdistrict 1-B.

Excluded waters are non-salmon spawning tributaries; those portions of Kinak, Kialik, and Tagayarak rivers more than 100 yards upstream from the mouth of these rivers, are open with any mesh size gillnet and are not affected by these closures.

Upper Section of Subdistrict 1-B to Tuluksak: Section 2

This area is defined as that portion of the Kuskokwim River and its tributaries upstream from a line between ADF&G regulatory markers located between the Kialik and Johnson Rivers to a line between ADF&G regulatory markers located approximately half a mile upstream of the Tuluksak River mouth. This section includes the slough (locally known as Utak Slough) on the northwest side of the Kuskokwim River adjacent to the Tuluksak River mouth.

Excluded waters are non-salmon spawning tributaries; the Whitefish Lake drainage near Aniak and those portions of Discovery, Birch, and Swift creeks more than 100 yards upstream from the mouth of these rivers, are open with any mesh size gillnet and are not affected by these closures.

Tuluksak to Chuathbaluk: Section 3

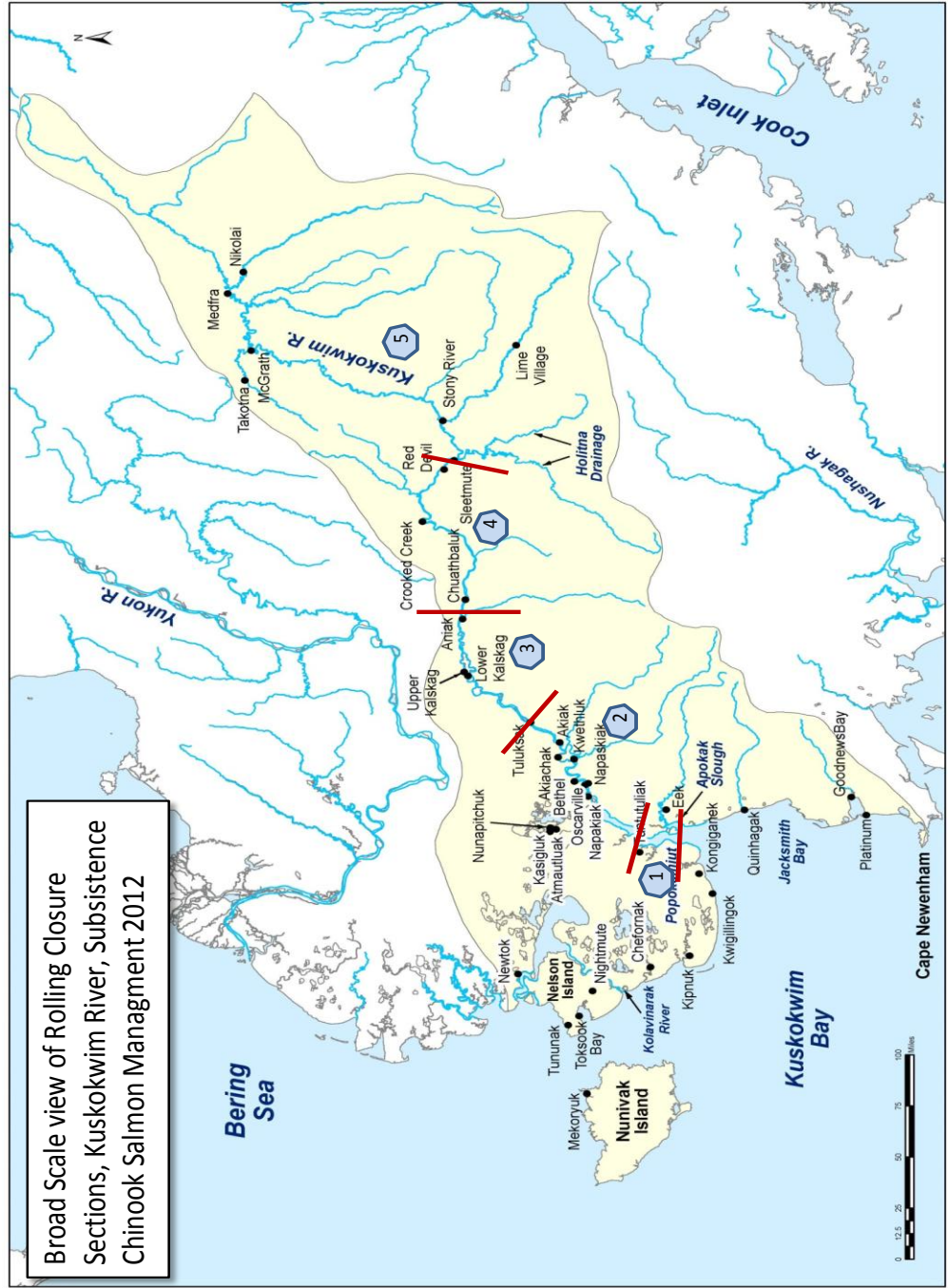
This area is defined as that portion of the Kuskokwim River and its tributaries upstream from a line between ADF&G regulatory markers located approximately half a mile upstream of the Tuluksak River mouth to a line between ADF&G regulatory markers located at the downstream edge of Chuathbaluk. This section does NOT include the slough (locally known as Utak Slough) on the northwest side of the Kuskokwim River adjacent to the Tuluksak River mouth.

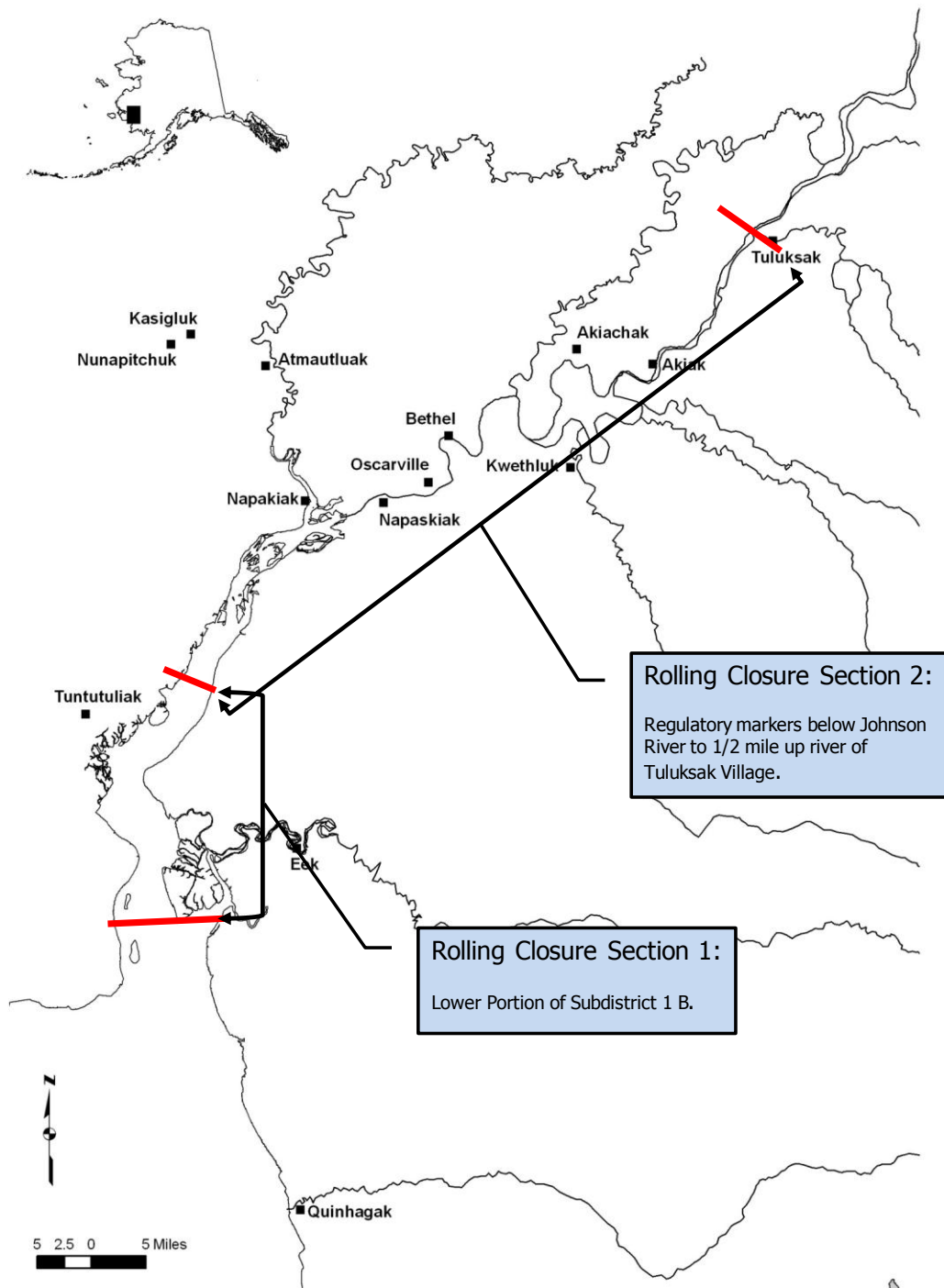
Chuathbaluk to the Holitna River mouth: Section 4

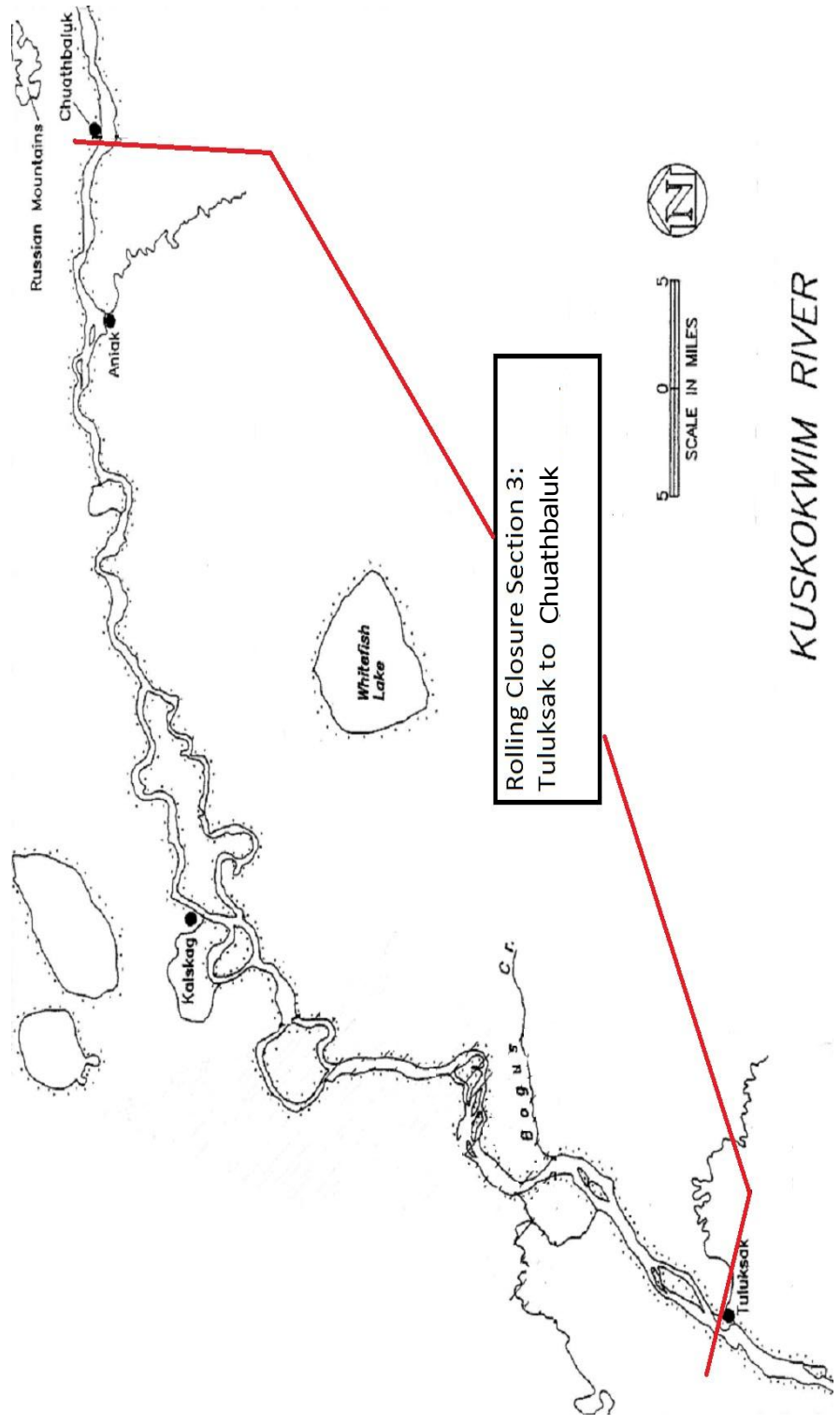
This area is defined as that portion of the Kuskokwim River and its tributaries upstream from a line between ADF&G regulatory markers located at the downstream edge of Chuathbaluk to a line between ADF&G regulatory markers located downstream of the Holitna River mouth.

The Holitna River mouth to the Headwaters of Kuskokwim River: Section 5

This area is defined as that portion of the Kuskokwim River and its tributaries upstream from a line between ADF&G regulatory markers located downstream of the Holitna River mouth upstream to the headwaters of the Kuskokwim River.

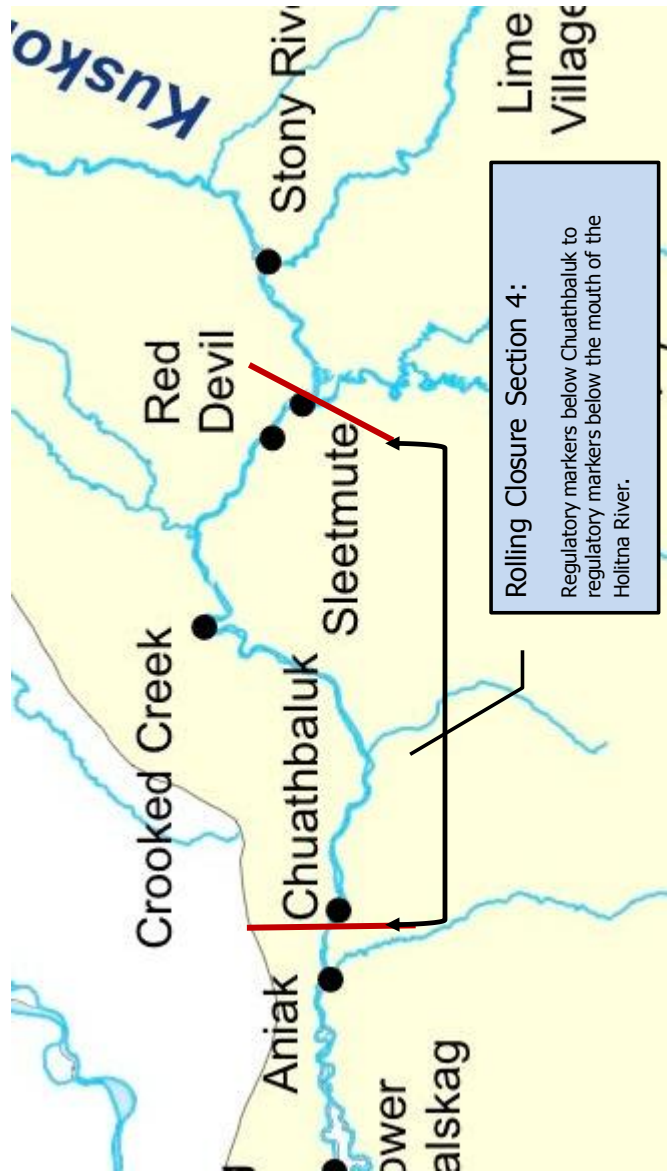






Rolling Closure Section 3:
Tuluksak to Chuathbaluk

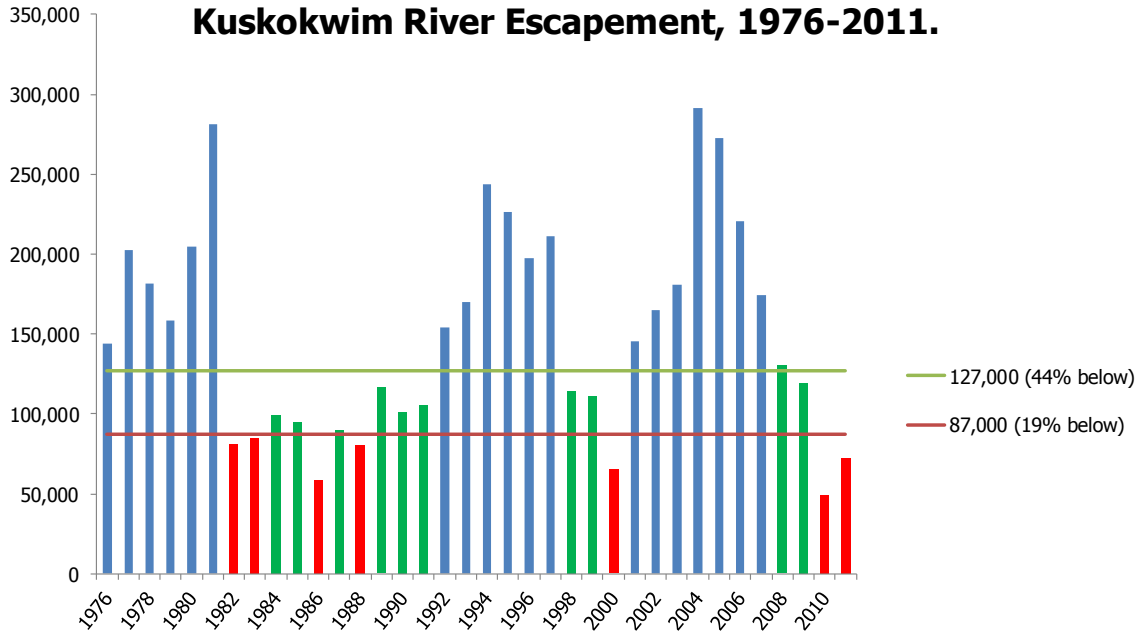
KUSKOKWIM RIVER



INFORMATION REQUEST

From the June 6, 2012, letter to the KRSMWG from AVCP and KNA

1. How many times has escapement on the Kuskokwim been in the range of 87,000?

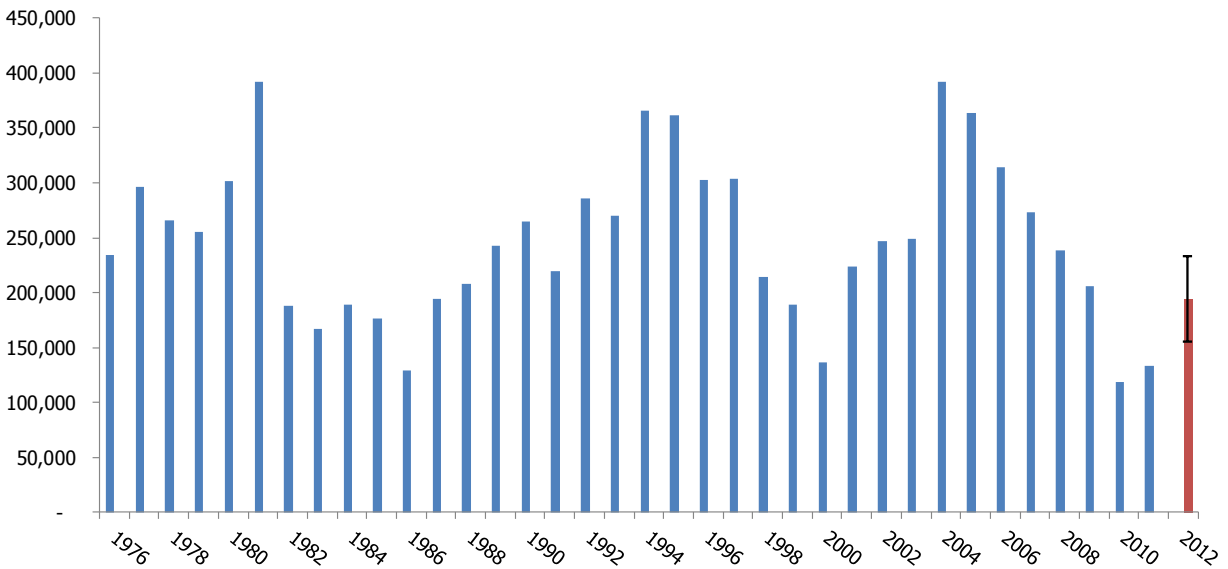


2. Due to the fact that *current changes* are linked to the nearly completed Kuskokwim River Chinook Run Reconstruction.

- **The management objective for 2012 was developed based on KOG escapements.**
- **Run reconstruction escapement was only used to put KOG escapement numbers in context of the Kuskokwim.**

3. We would like to see in a powerpoint, a bar chart of the run reconstruction with the 2012 forecast.

Kuskokwim River Chinook salmon Total Return 1976-2011, and 2012 Forecast



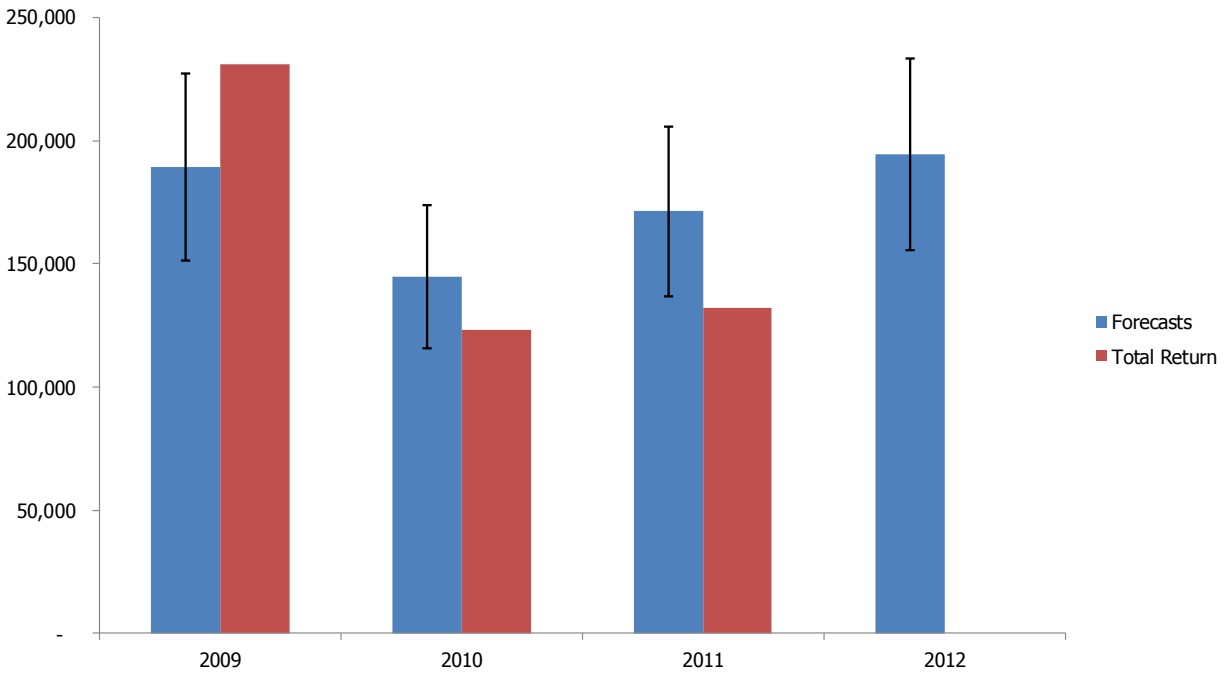
4. We would like to know how the 2012 forecast was reached and what confidence the department has in this forecast.

- **We make a forecast for each age class returning this year.**
- **Use a combination of several models**
- **Select the statistically better model for each age class.**

Combine age class models for a total forecast.

Age	Forecast
1.1	373
1.2	40,558
1.3	77,838
1.4	70,973
1.5	4,862
Total	194,604

	Forecasts			Total Return		
	Midpoint	80% LCI	80% UCI	Estimate	Error	% Error
2009	189,289	151,432	227,147	231,089	41,799	22%
2010	144,795	115,836	173,754	123,000	-21,795	-15%
2011	171,256	137,005	205,508	132,000	-39,256	-23%
2012	194,604	155,683	233,525			



5. Using the reconstructed subsistence harvest estimates, what is the average subsistence harvest of Chinook on the Kuskokwim?

- **85,617**

6. Is there a final 2011 Chinook harvest estimate available?

- **No, but draft estimate is 59,245**

Year	Subsistence Harvest	Prior Estimates	Difference
1990	109,778 ^b	85,976	23,802
1991	74,820 ^b	85,556	-10,736
1992	82,654 ^b	64,794	17,860
1993	87,684 ^b	87,513	171
1994	103,343 ^b	93,243	10,100
1995	102,110 ^b	96,435	5,675
1996	96,413 ^b	78,062	18,351
1997	79,381 ^b	81,577	-2,196
1998	81,213 ^b	81,264	-51
1999	72,775 ^b	73,194	-419
2000	70,825 ^b	64,893	5,932
2001	78,009 ^b	73,610	4,399
2002	80,982 ^b	66,807	14,175
2003	67,134 ^b	67,788	-654
2004	97,110 ^b	80,065	17,045
2005	85,090 ^b	70,392	14,698
2006	90,085 ^b	63,177	26,908
2007	96,155 ^b	68,645	27,510
2008	98,103 ^b		
2009	78,231 ^b		
2010	66,056 ^c		
2011	59,245 ^c		
1976-2010 AVG	74,389		9,587
1990-2010 AVG	85,617		

^a Estimates from ADFG/SD. Published in 2009 BOF report. Estensen et al. 2009.

^b Estimates and revisions by ADFG/CF. Hamazaki 2011.

^c Draft estimates from Chris Shelden personal communication.

7. We would like to see the relationship between Kogrukluk with the lower river tributaries of concern with years labeled.

8. We would like to see the relationship between Kogrukluk with Total escapements with the years labeled.

