



**Kenai
Area
Fisherman's
Coalition**

PROTECTING YOUR FISHING RIGHTS & RESOURCES

P. O. Box 375 Kenai, Ak. 99611

The Collapse of Kenai River Early-Run Chinook

How did this occur

- KAFC believes declines in the early-run are due to years of excessive harvest that were unsustainable. (See page 2: Table 156-3. Estimated sport harvest of Kenai R. ER King salmon by percent 1986-2016.)
- KAFC believes “Selective Harvest” has resulted in “Fishery Induced Evolution” of our larger and older age classes leading to declines in abundance and shifts towards smaller fish.
- In particular, the 1.4 age class has been harvested at an unsustainable rate of about 74% of the age class abundance. In some year’s harvest actually exceeded abundance so some early arriving late-run fish must have been included. (See page 3: Kenai R. ER Chinook salmon historical estimated harvest and abundance, age class 1.4.)

Neala Warren Kendal, of the U of W wrote in a 2011 research paper, **Selective Harvest on wild fish populations has been associated with shifts towards smaller fish, younger age distributions and is linked to decreased fecundity and lowered reproductive rates.”**

Where are we now

- KAFC believes we are in a recovery mode whereby abundance is improving but the quality of the run remains poor with low numbers of females and very few larger 1.4 age class fish.
- 2016 USF&W weir counts on the Funny R. and the Killey R. only showed 5.1% and 3.8% respectively of 1.4 age class returns. Data illustrates that the early-run 1.4 age class has historically been about 40% of the run.

How can we manage for recovery of these stocks

- Reduce “selective harvest” impacts on larger/older early-run fish by:
 - Setting aside additional closed waters in the middle river to protect mainstem spawning fish.
 - Extend the slot limit throughout the entire season.
- KAFC believes these stocks will require multiple generations (15 – 20) years to recover.

The 2013 AYK Chinook Research Action Plan states, **“Without efforts to counteract size selectivity and exploitation rates, improvements would be slow to materialize, requiring multiple generations.”**

Table 149-3 (190-3).—Estimated sport harvest of Kenai River early-run king salmon by age class, 1986–2016.

Table 156-3 (190-3).—Estimated sport harvest of Kenai River early-run king

Year	3	4	5	6	7	All
1986	15	583	2,957	3,874	728	8,156
1987	0	116	4,220	8,498	723	13,557
1988	26	291	1,855	11,950	1,086	15,209
1989	92	275	2,202	5,275	550	8,394
1990	0	102	102	1,349	255	1,807
1991	0	0	166	1,573	207	1,945
1992	0	94	377	1,698	71	2,241
1993	0	290	1,868	6,636	547	9,342
1994	0	303	675	6,960	233	8,171
1995	0	0	378	8,451	1,387	10,217
1996	0	414	1,288	4,760	161	6,623
1997	0	200	679	5,271	280	6,429
1998	0	15	228	851	76	1,170
1999	36	677	2,984	4,202	230	8,129
2000	38	19	303	1,401	57	1,818
2001	34	304	405	1,622	34	2,399
2002	0	116	377	406	0	899
2003	0	506	1,212	1,121	0	2,839
2004	0	372	1,693	1,321	0	3,386
2005	56	252	1,681	1,821	0	3,810
2006	62	781	1,738	2,112	0	4,693
2007	33	555	1,632	1,241	33	3,493
2008	0	397	1,977	1,115	11	3,500
2009	15	282	491	679	0	1,466
2010	30	295	679	333	0	1,336
2011	0	263	478	597	0	1,337
2012	0	18	165	512	0	316
2013 ^a	ND	ND	ND	ND	ND	ND
2014 ^a	ND	ND	ND	ND	ND	ND
2015 ^a	ND	ND	ND	ND	ND	ND
2016 ^{a,b}	ND	ND	ND	ND	ND	112
Avg. 1986–2016	16	279	1,215	3,171	247	4,743
Avg. 1986–2002	14	223	1,239	4,399	390	6,265
Avg. 2003–2016	20	372	1,175	1,085	4	2,390

Kenai River Early Run Chinook Salmon Historical Estimated Harvest and Abundance, Age Class 1.4					
Year	1.4 Abundance	% of Run	1.4 Harvest	% of Run	Harvest
					% of Abundance
1986	4,272	21	3,874	48	91
1987	9,443	43	8,498	63	90
1988	11,330	56	11,950	79	105
1989	6,483	51	5,275	63	81
1990	4,144	40	1,349	75	33
1991	4,826	44	1,573	81	33
1992	4,738	39	1,698	76	36
1993	5,989	45	6,636	71	111
1994	6,953	51	6,960	85	100
1995	6,516	49	8,451	83	130
1996	4,373	42	4,760	72	109
1997	4,878	42	5,271	82	108
1998	3,226	26	851	73	26
1999	3,698	27	4,202	52	114
2000	3,587	32	1,401	77	39
2001	4,578	32	1,622	68	35
2002	4,216	38	406	45	10
Mean	5,485	40	4,399	70	74

Reference:

- Table 156-1. Estimated total run by age class for Kenai River early-run king salmon 1986-2016
- Table 156-2. Estimated sport harvest of Kenai River early run king salmon by age class.
- Table 156-3. Estimated sport harvest of Kenai River early-run king salmon by percent composition of age class, 1986-2016.