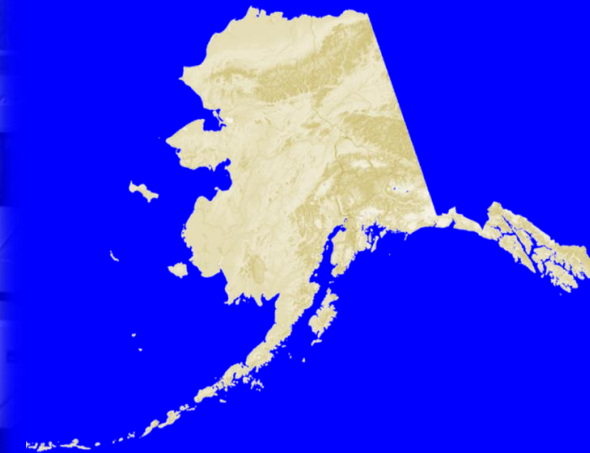


State Of The Kings: Statewide Perspective on Chinook Salmon Productivity

Mat-Su Salmon Symposium

November 14, 2018



Ed Jones, ADF&G, Division of Sport Fish

William Templin, ADF&G, Division of Commercial Fisheries

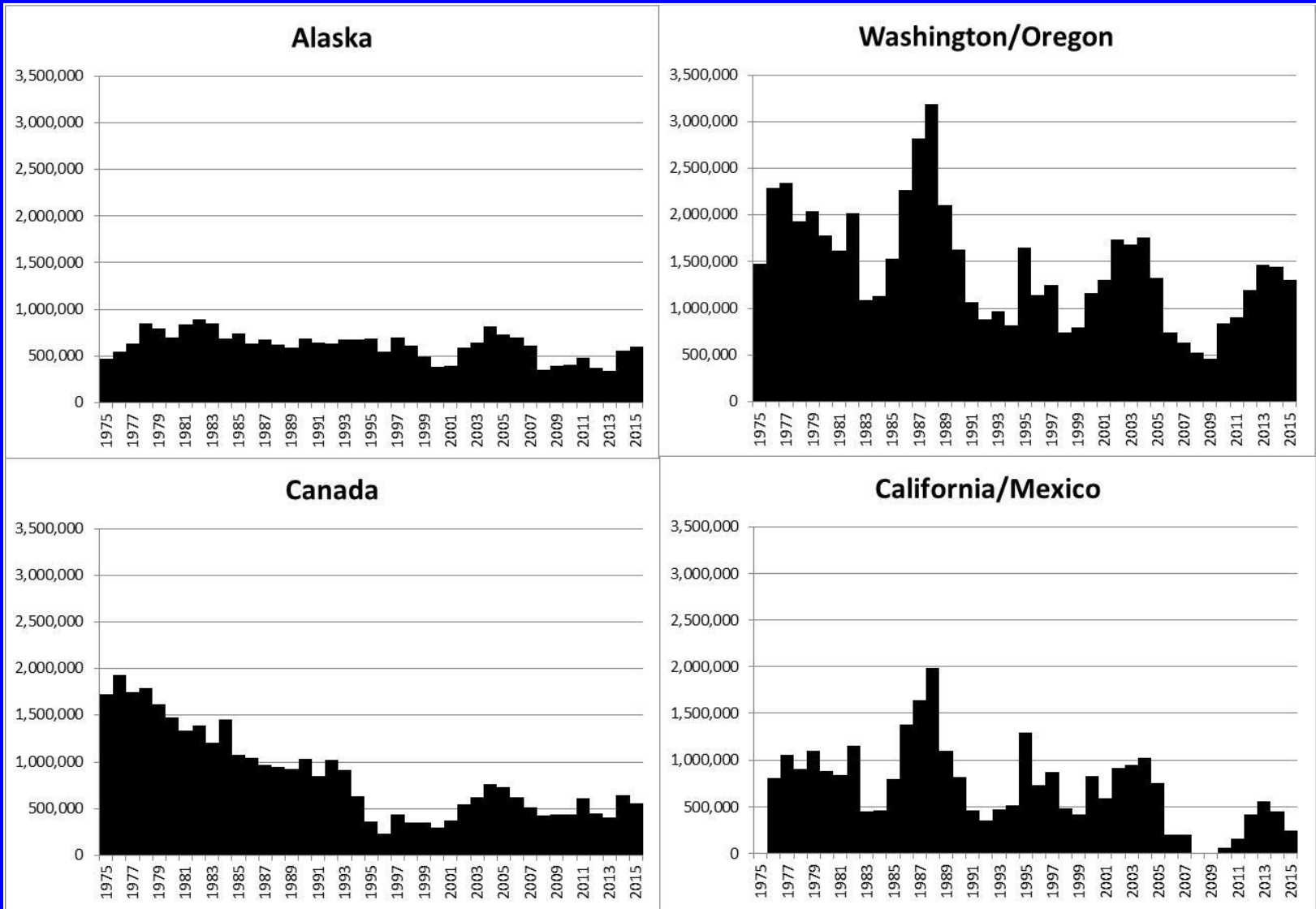
James Hasbrouck, ADF&G, Division of Sport Fish

Chinook Salmon are Important

- Ecological
- Subsistence, sport and commercial users
- Cultural, social and economic impacts



Chinook Salmon Harvests Alaska to Mexico

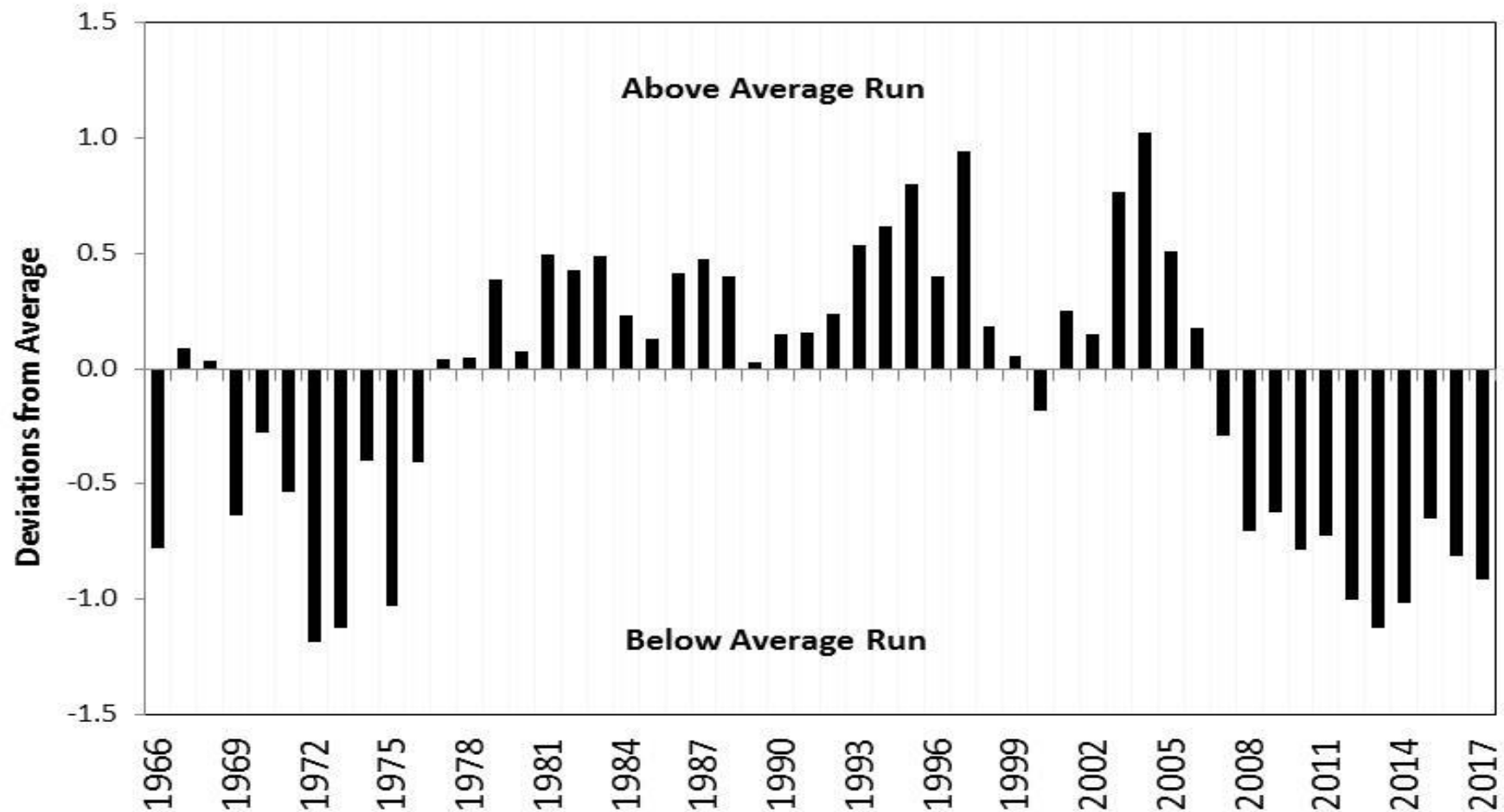


Basic Management Principles

- Alaska manages all salmon stocks on the **sustained yield principle**.
- Shortly after statehood, Alaska adopted an **escapement-based approach** to management.
- Managing for escapement can bring about actions that **liberalize fisheries** during years of good runs or **restrict** (including close) **fisheries** during years of poor runs.

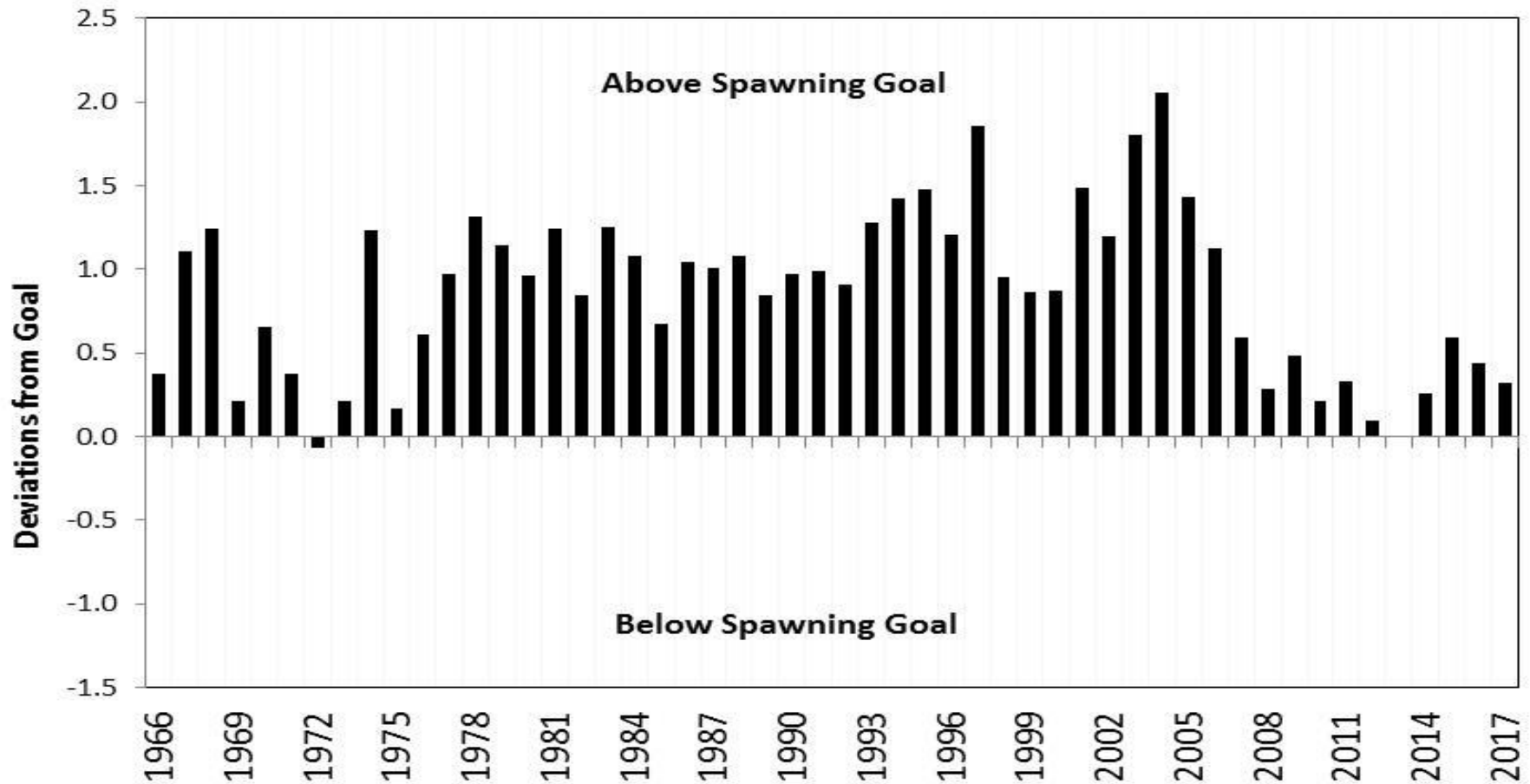
Alaska Chinook Salmon Runs

Below average runs since 2007



Alaska Chinook Salmon Escapements

Managers largely attained escapement goals



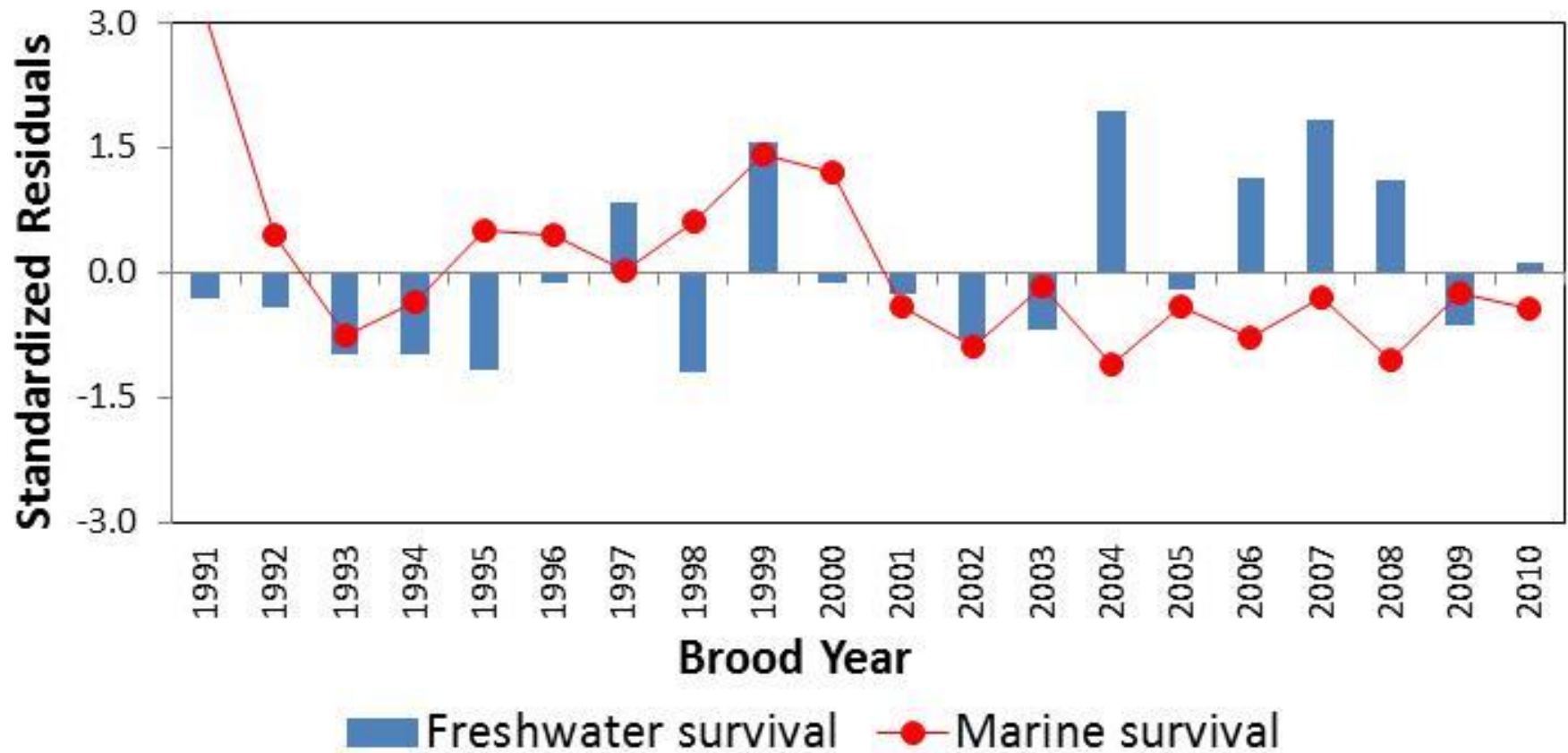
Two Main Components for Chinook Salmon Production

- Freshwater – smolt abundance
- Marine – smolt-to-adult survival



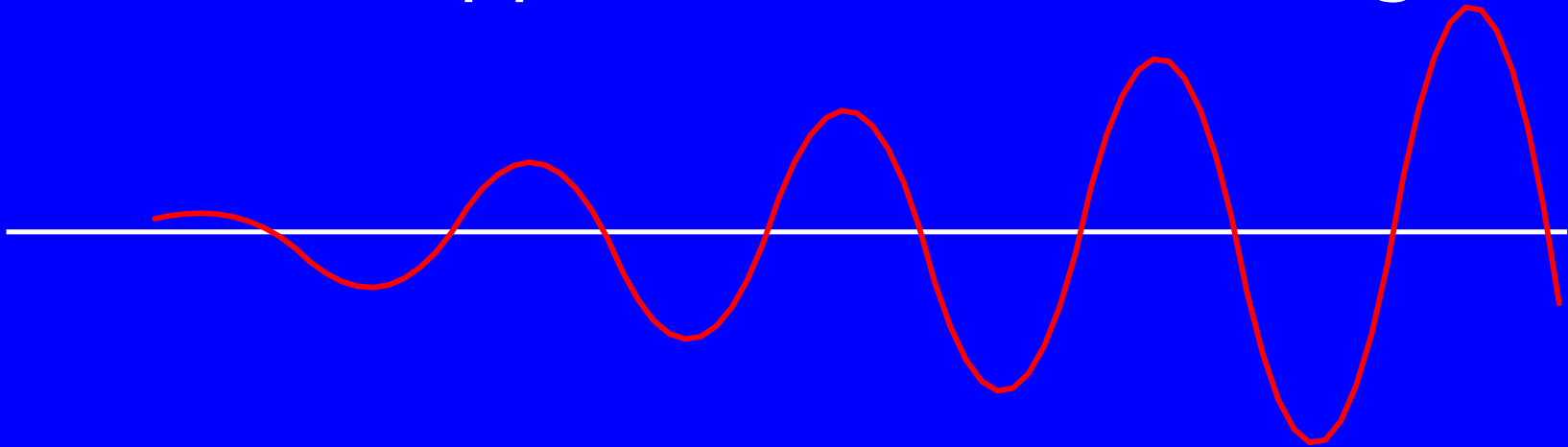
Decline in Chinook Production

Taku Chinook



Amplitude in Cycles

... appears to be increasing

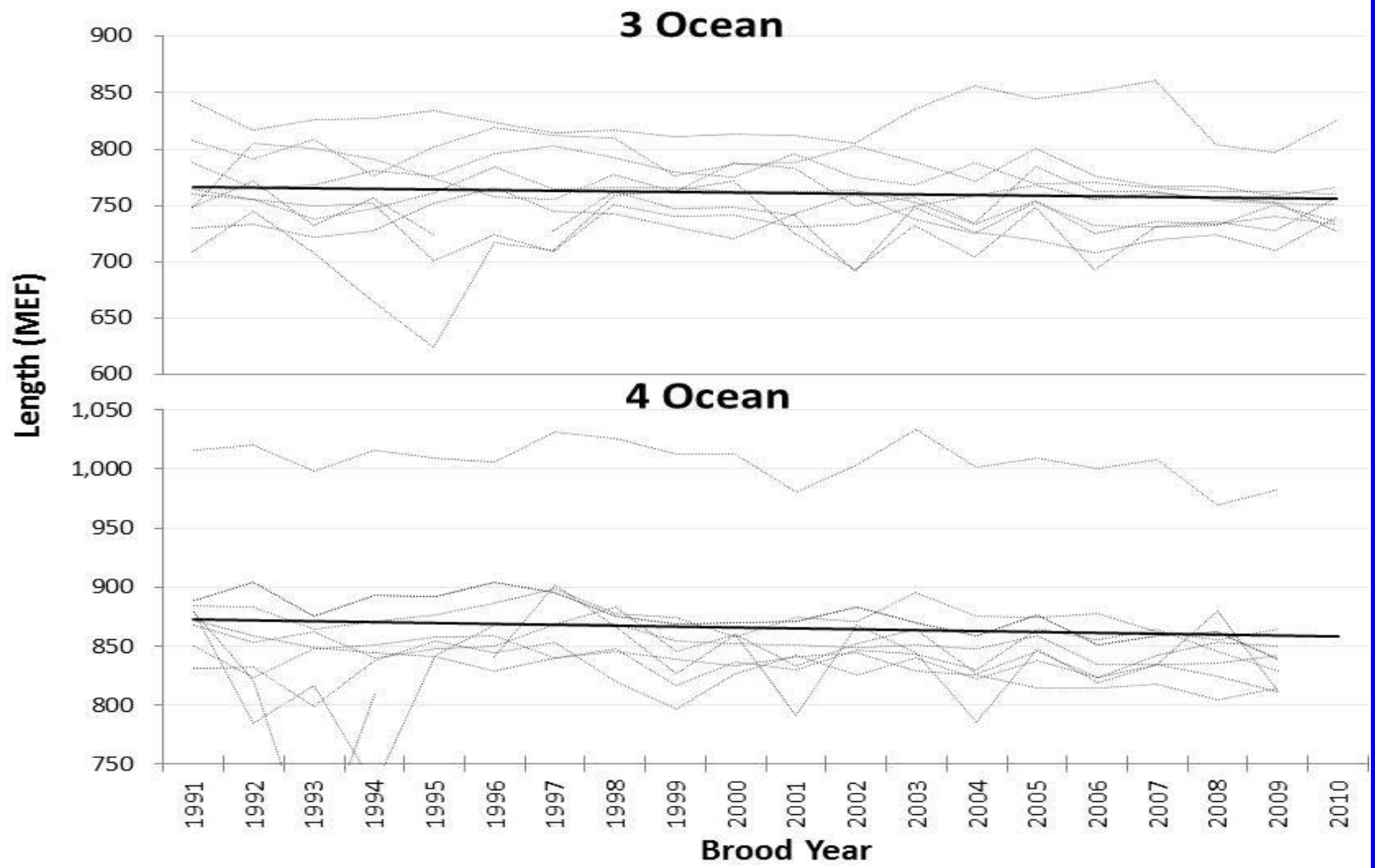


... boom or bust?

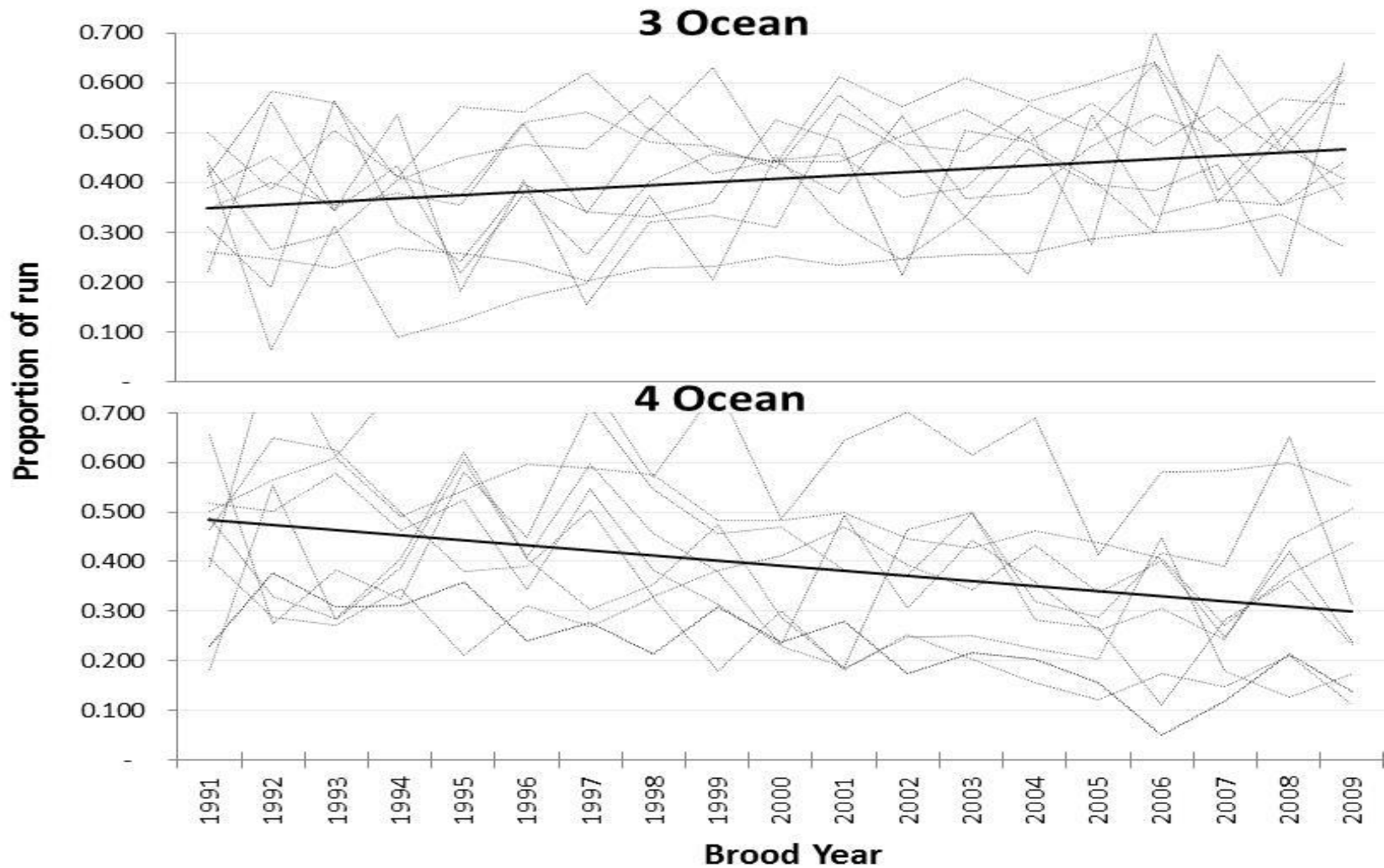
Size and Maturation at Age

- Size at age no/less significant change
- Maturation rate apparently changing
 - Fish return at younger age (thus smaller)
 - On average fewer older age fish return from brood year

Chinook Salmon Size at Age

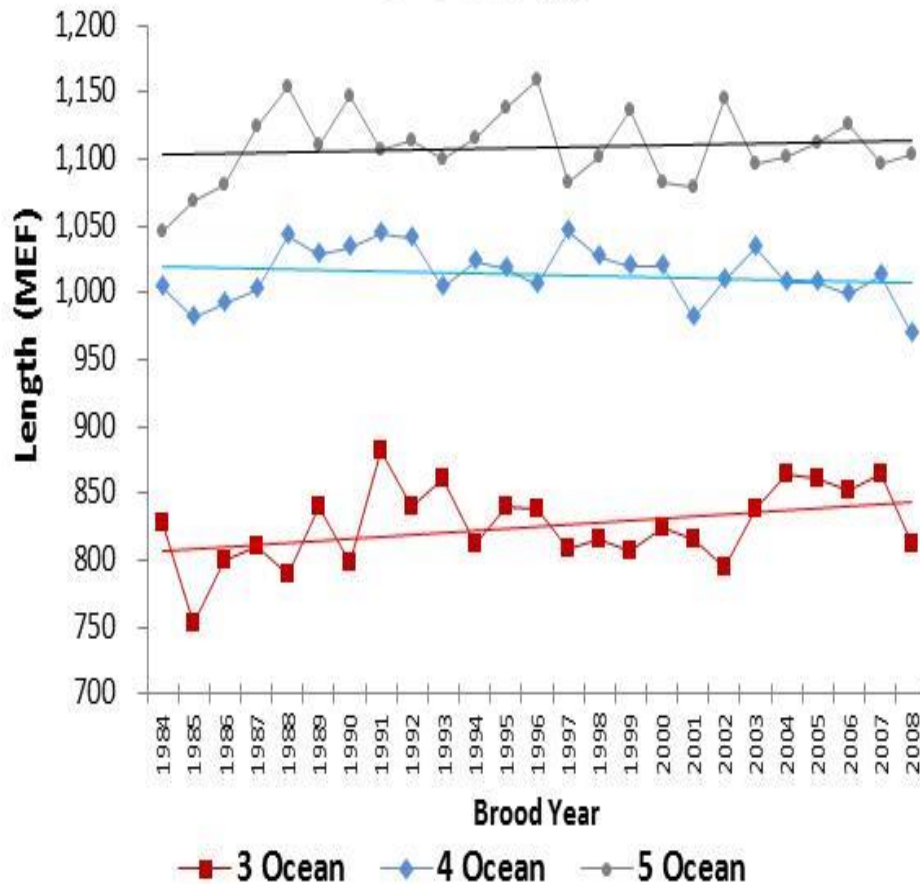


Chinook Salmon Maturation Rates

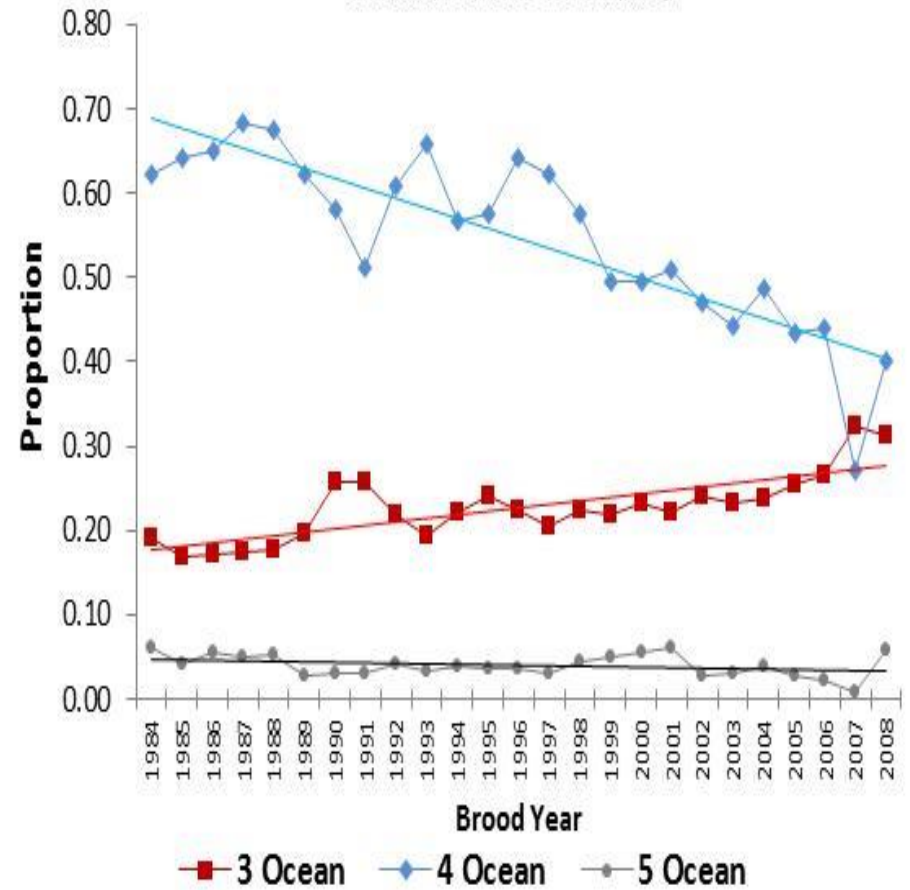


Kenai River Chinook

Size at Age

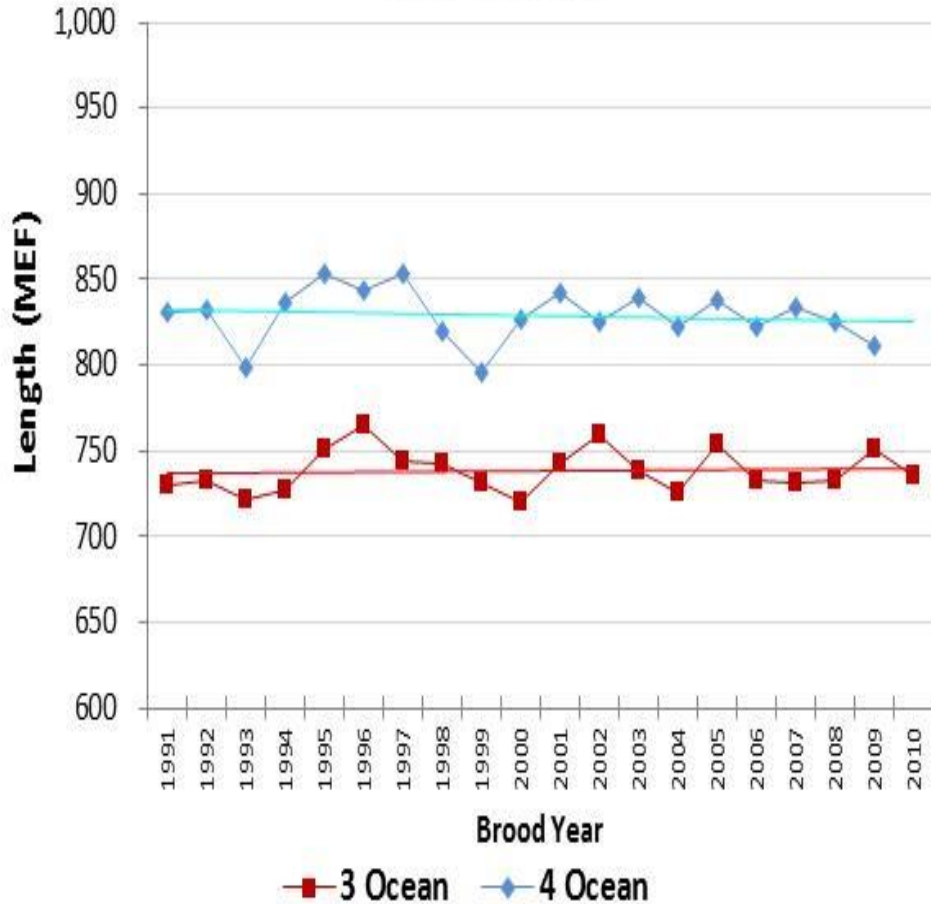


Maturation Rate

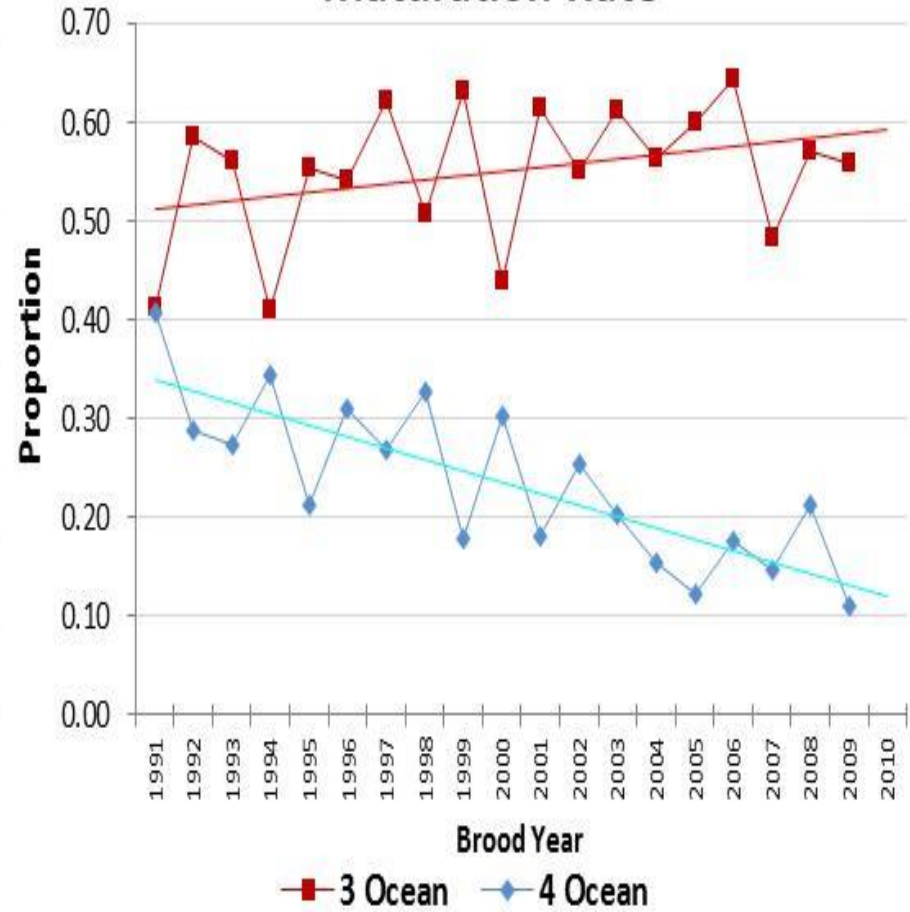


Taku River Chinook

Size at Age

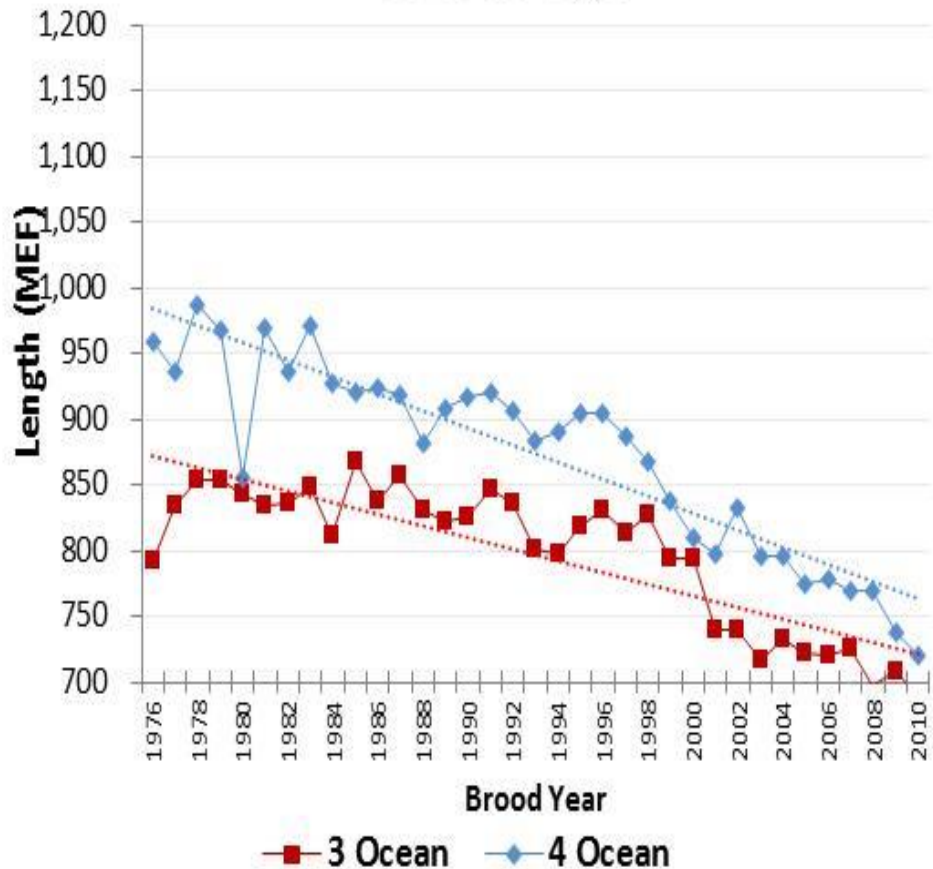


Maturation Rate

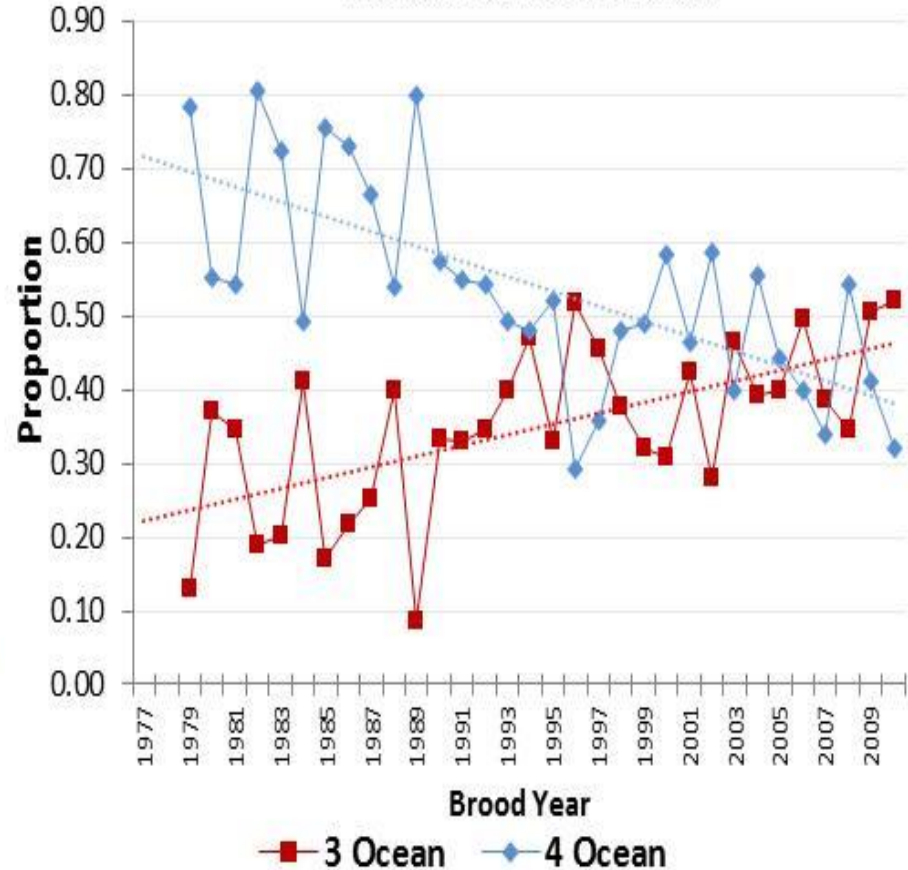


Salmon River Chinook (Oregon)

Size at Age



Maturation Rate



Preliminary 2017 Escapements

Stock	Area	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	% Made
Unalakleet	Westward	1,948	903	2,352	1,256	864	996	564	2,681	1,938	1,750	3,978	0.73
Can Yukon	Westward	34,904	33,883	65,278	32,009	46,107	32,656	28,669	63,331	82,674	71,300	73,268	0.55
Kuskokwim	Westward	174,943	128,978	118,478	49,073	72,097	76,074	47,315	123,987	155,464	145,900	149,729	0.82
Nushagak	Westward	50,960	91,364	74,781	56,092	101,995	167,618	104,746	63,720	91,512	125,368	56,961	0.91
Chignik	AK Peninsula	2,000	1,730	1,680	3,679	2,728	1,449	1,253	2,895	2,054	1,843	1,137	0.82
Nelson	AK Peninsula	2,492	4,612	1,248	2,569	1,404	992	1,221	2,901	2,440	4,618	1,502	0.55
Ayakulik	Kodiak	6,535	3,071	2,615	5,301	4,316	4,760	2,369	917	2,392	4,594	3,712	0.45
Karluk	Kodiak	1,765	752	1,308	2,917	3,420	3,197	1,824	1,182	2,777	3,434	2,600	0.27
Deshka	Cook Inlet	18,714	7,533	11,960	18,594	19,026	14,096	18,531	16,335	24,316	22,690	11,356	0.73
Anchor	Cook Inlet	9,622	5,806	3,455	4,449	3,545	4,509	4,378	2,497	10,049	7,146	5,796	0.73
Kenai early	Cook Inlet	9,917	6,587	6,178	7,677	9,988	4,677	4,460	5,776	6,190	9,177	7,237	0.82
Kenai late	Cook Inlet	37,010	32,342	21,410	16,527	22,980	27,469	19,318	17,446	22,628	18,790	22,133	1.00
Copper	N GOA	34,565	32,485	27,781	16,771	27,993	27,911	28,727	20,840	26,607	14,000	40,000	0.73
Situk	N GOA	677	413	902	166	240	322	912	475	174	329	1,187	0.45
Alsek	N GOA	2,827	1,885	6,239	9,526	6,850	3,027	4,992	3,357	5,697	2,574	1,762	0.45
Chilkat	Southeast	1,442	2,833	4,429	1,815	2,688	1,744	1,730	1,534	2,453	1,386	1,231	0.45
Taku	Southeast	14,749	26,645	29,797	28,769	27,523	19,429	18,002	23,532	28,850	12,381	7,500	0.64
Stikine	Southeast	14,560	18,352	12,803	15,116	14,480	22,327	16,735	24,360	21,343	10,344	10,000	0.73
Unuk	Southeast	5,668	3,104	3,157	3,835	3,195	956	1,135	1,691	2,623	1,463	1,203	0.55
	% Made	0.68	0.68	0.68	0.74	0.79	0.58	0.42	0.63	0.84	0.63	0.47	

Questions?

<http://www.adfg.alaska.gov/index.cfm?adfg=chinookinitiative.main>

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