Chinook Salmon Symposium

Hosted by

Alaska Department of Fish & Game

Sitka, Alaska

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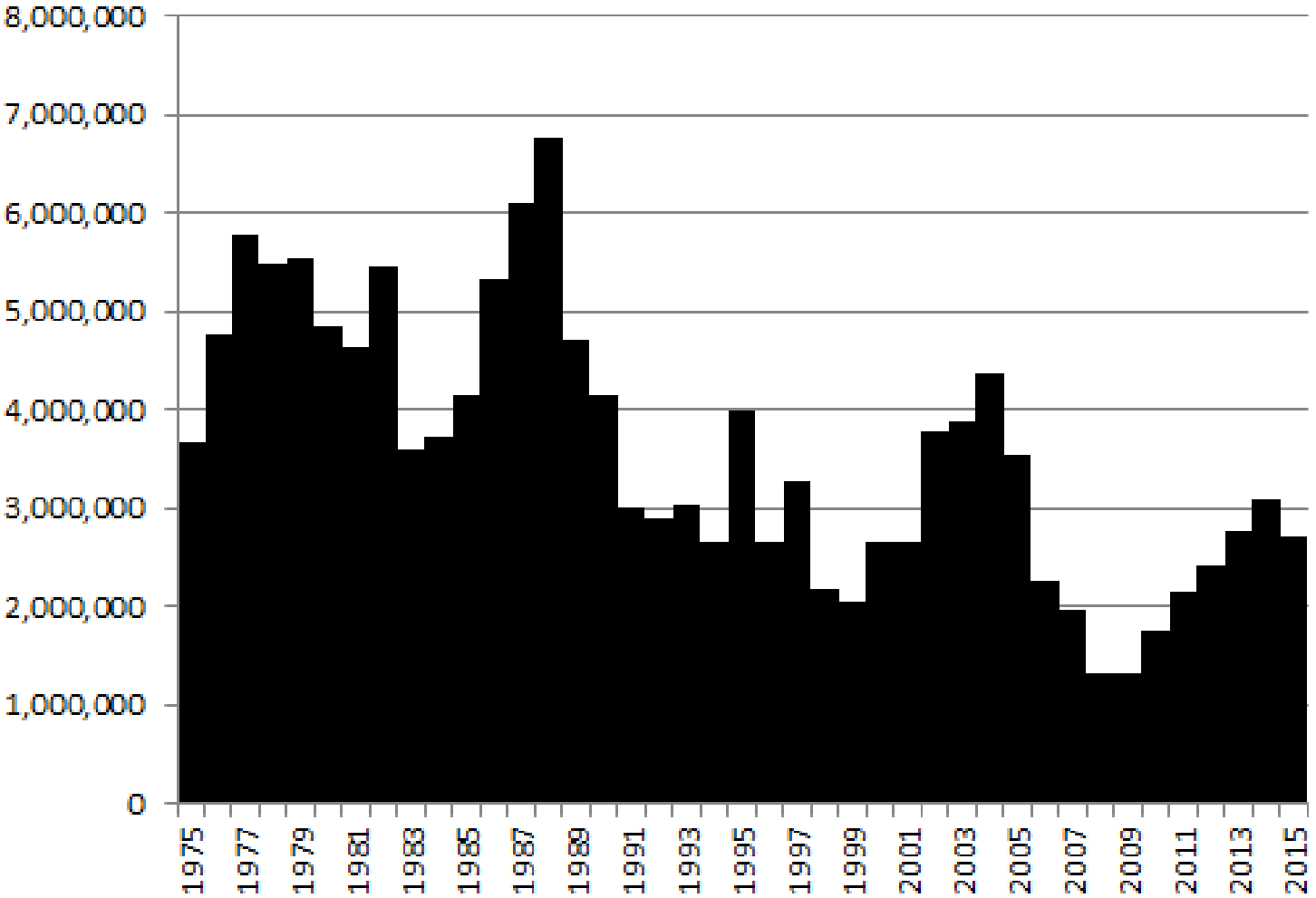
Chinook are Important to Everyone

Chinook Salmon Harvests Alaska to Mexico



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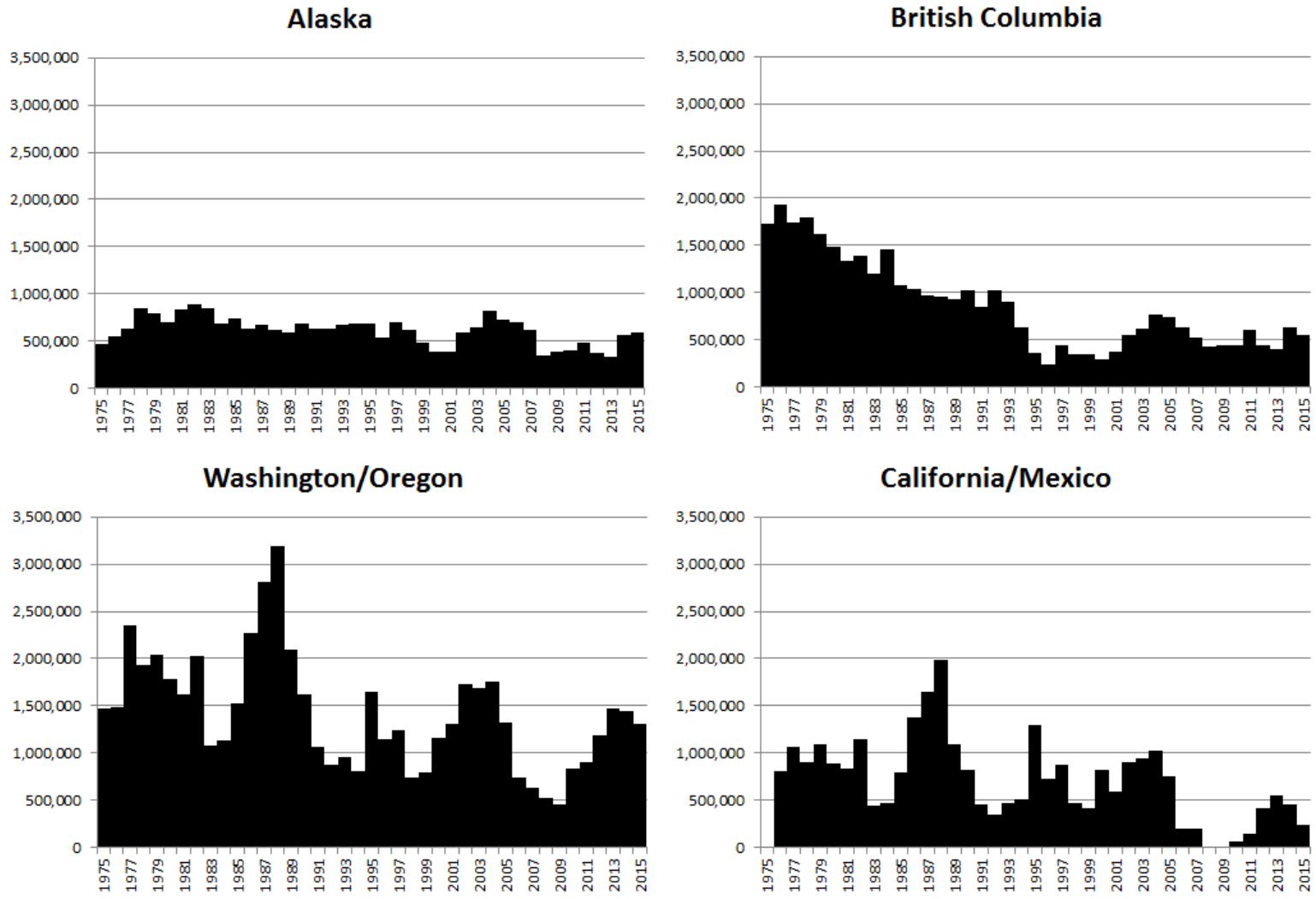

Chinook are Critically Important

Chinook salmon are critically important to subsistence, sport, and commercial users and recent downturns in production have created social and economic hardships throughout the state

Basic Management Principles

- The state of Alaska manages all salmon stocks on the **sustained yield principle**.

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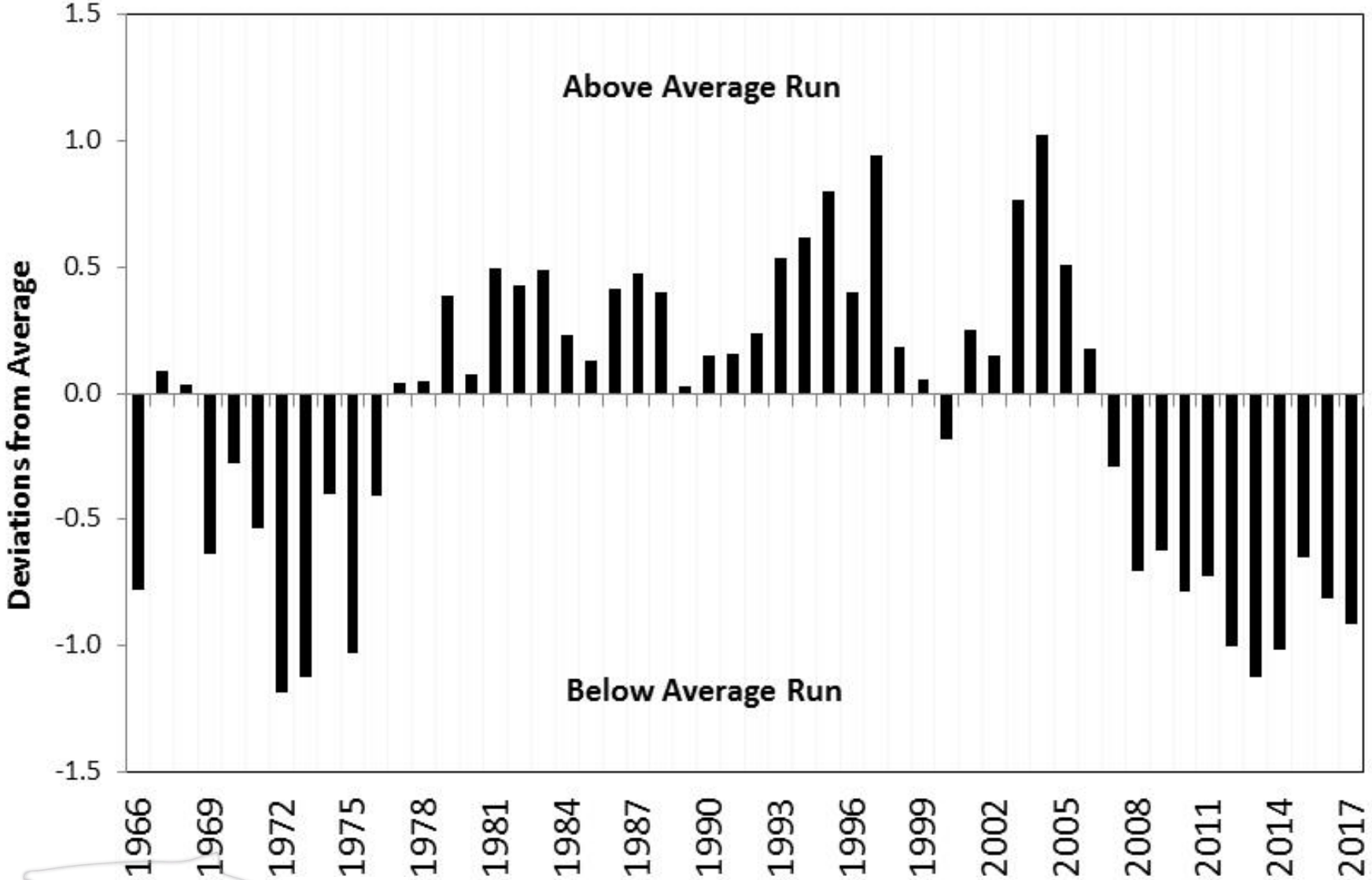
- Shortly after statehood, Alaska adopted an **escapement-based approach** to management.
- Managing for escapement can bring about actions that **liberalize fisheries** during years of good production or restrict or **close fisheries** during years of poor production.

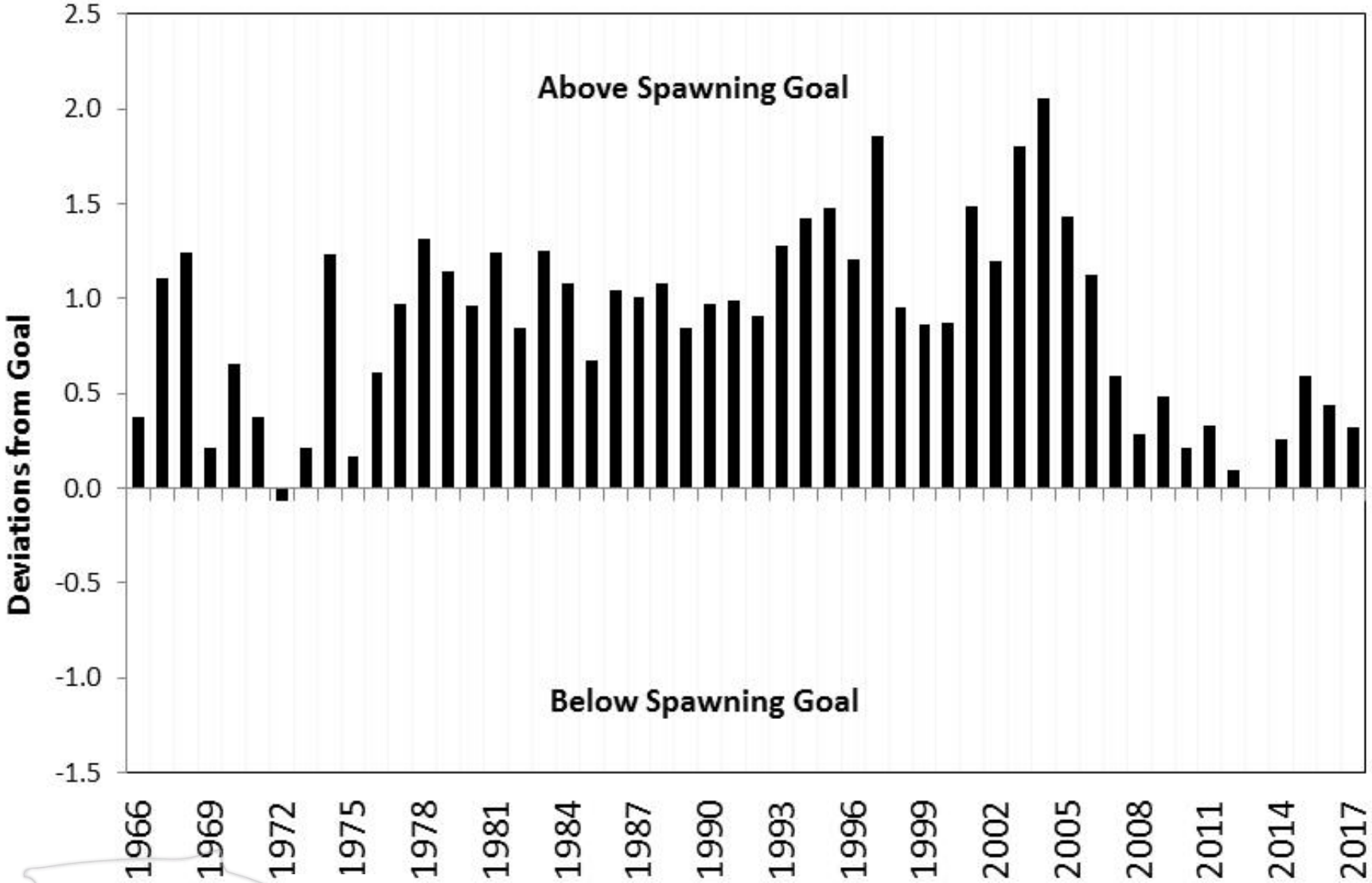
Clarence "Andy" Anderson, Alaska's First Commissioner of Fish & Game

"*Gentlemen, the governor has instructed me to return the salmon runs to their former abundance regardless of the pain that is inflicted on the people … now, if you allow an over escapement, depriving the fishermen of their livelihood, you can expect to be criticized. But on a personal level, gentlemen, I want you to understand that if you allow an under escapement,* ***you can expect to be fired***."

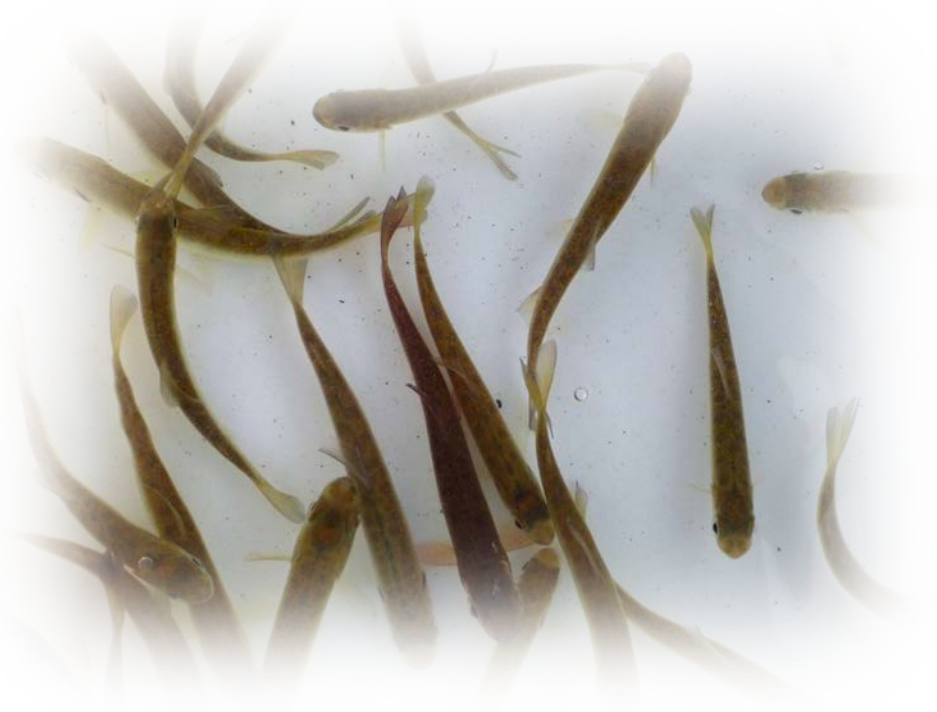
Chinook Salmon Runs Across Alaska



Chinook Salmon Escapements Across Alaska



Two Main Ingredients in the Recipe for Chinook Salmon Production



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1) Smolt abundance

(i.e., freshwater production)

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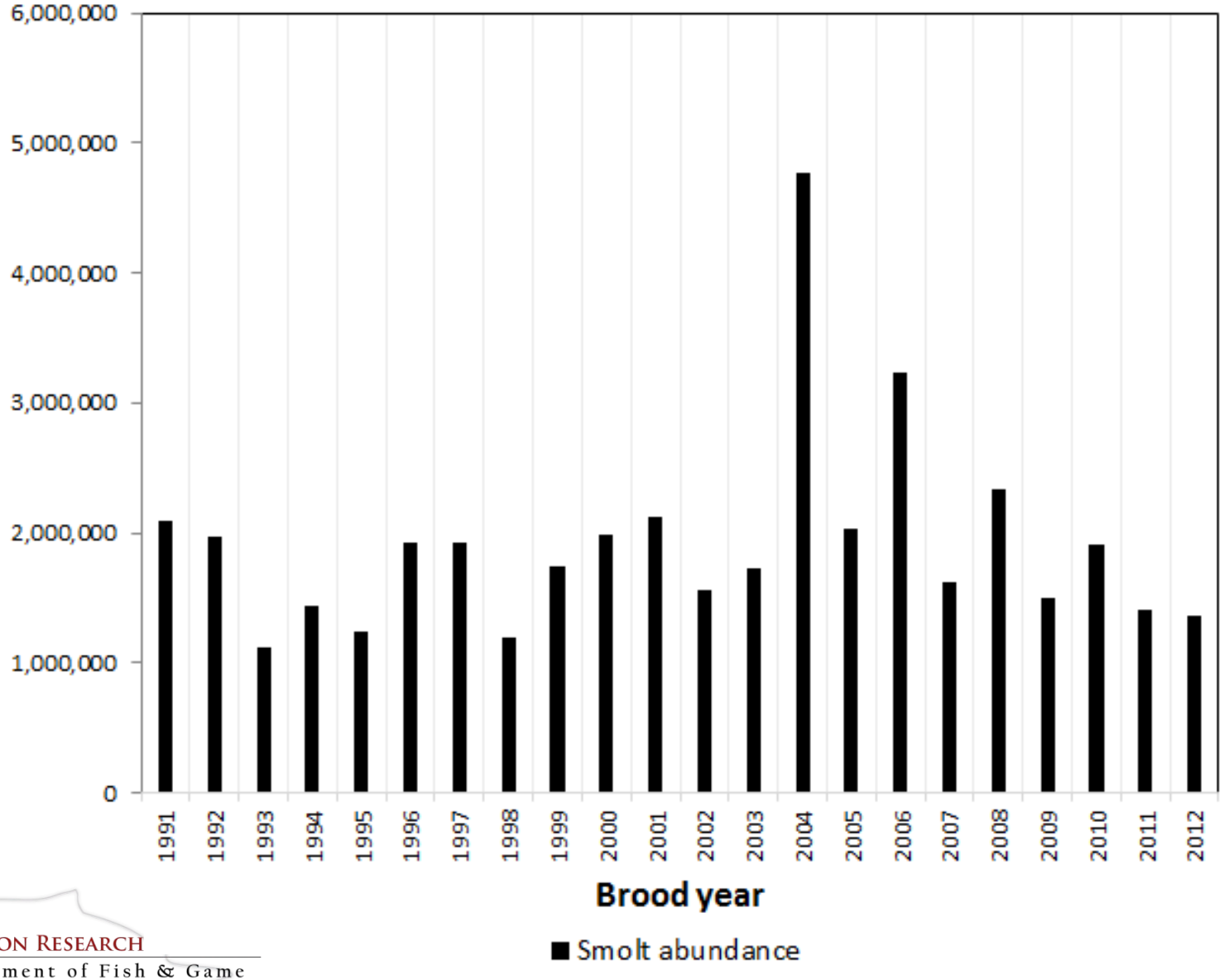
2) Marine survival

(i.e., smolt to adult survival)

Freshwater is not the Problem



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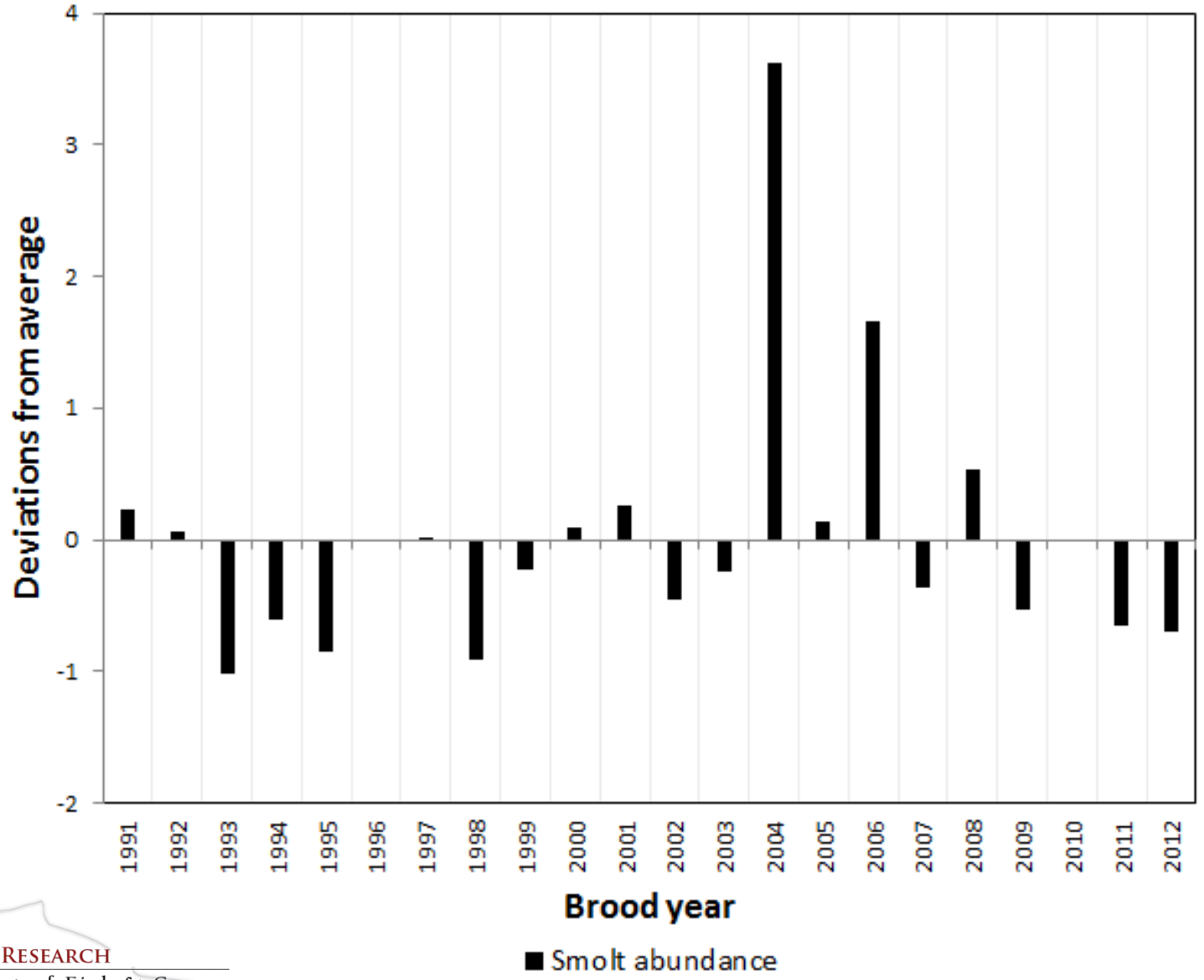

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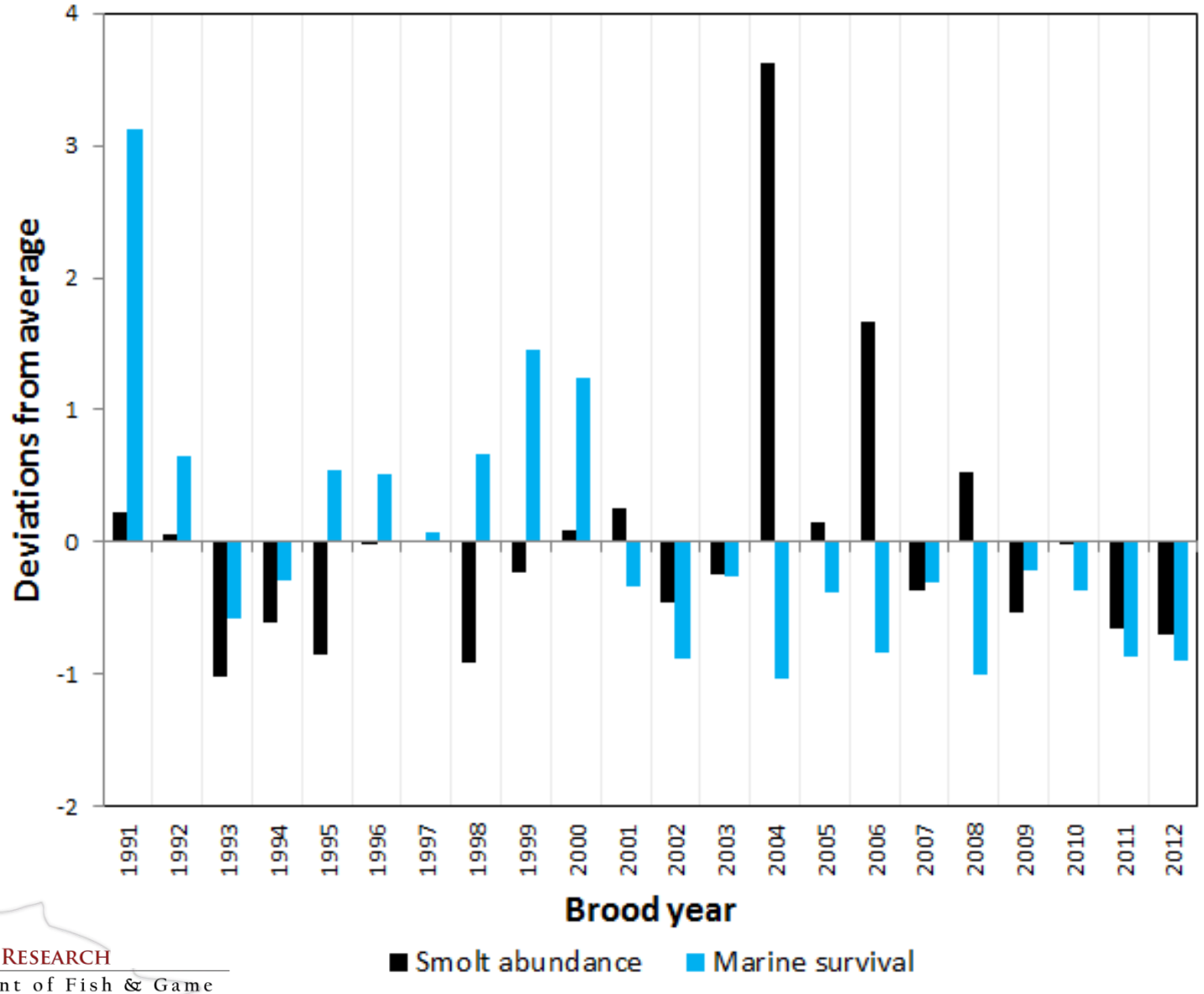
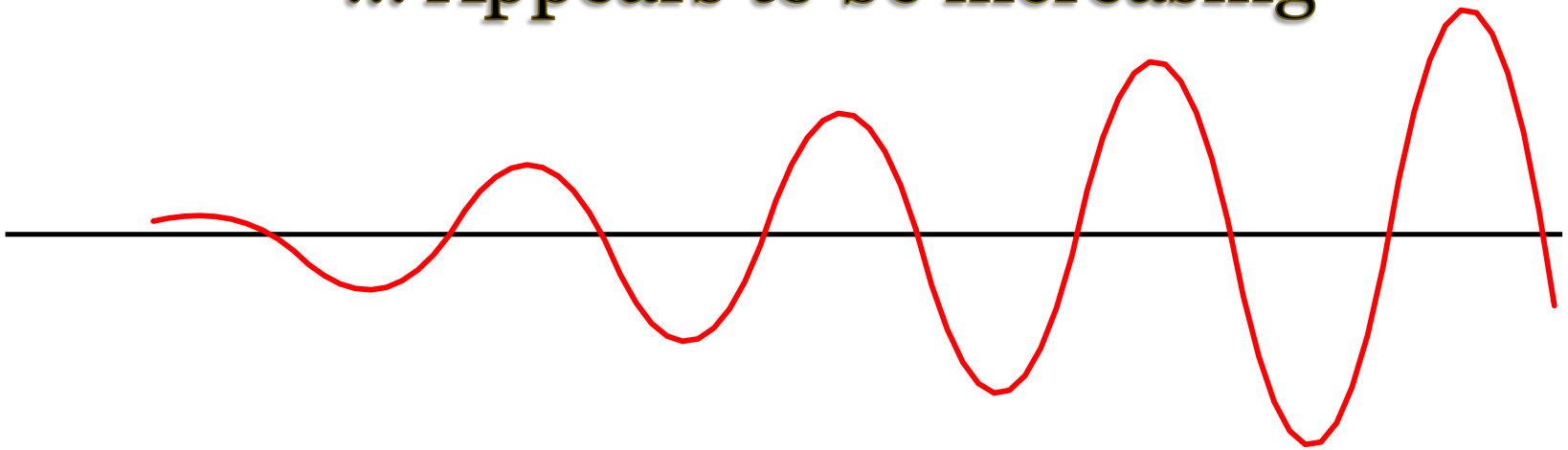


Things to Watch

Amplitude In Cycles

… Appears to be increasing



… Either boom or bust

Chinook Salmon Are Getting Smaller, Why?

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Chinook Salmon Are Getting Smaller, Why?

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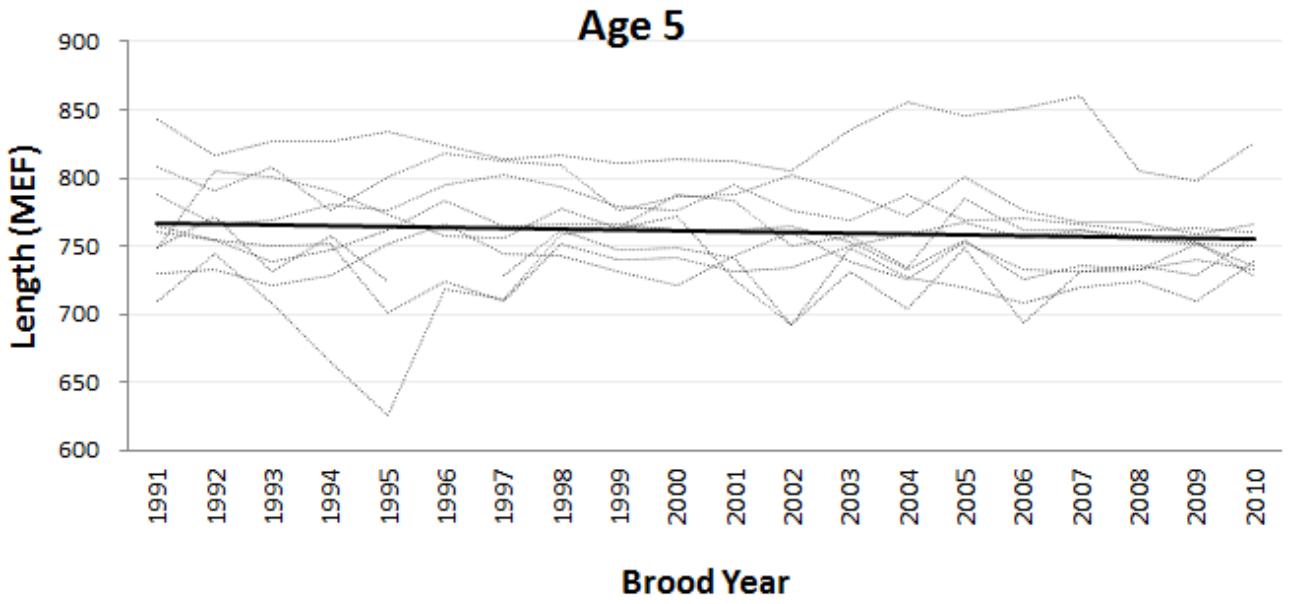
… today on average there are fewer older age fish returning from a given brood year

Chinook Salmon "Size at Age"



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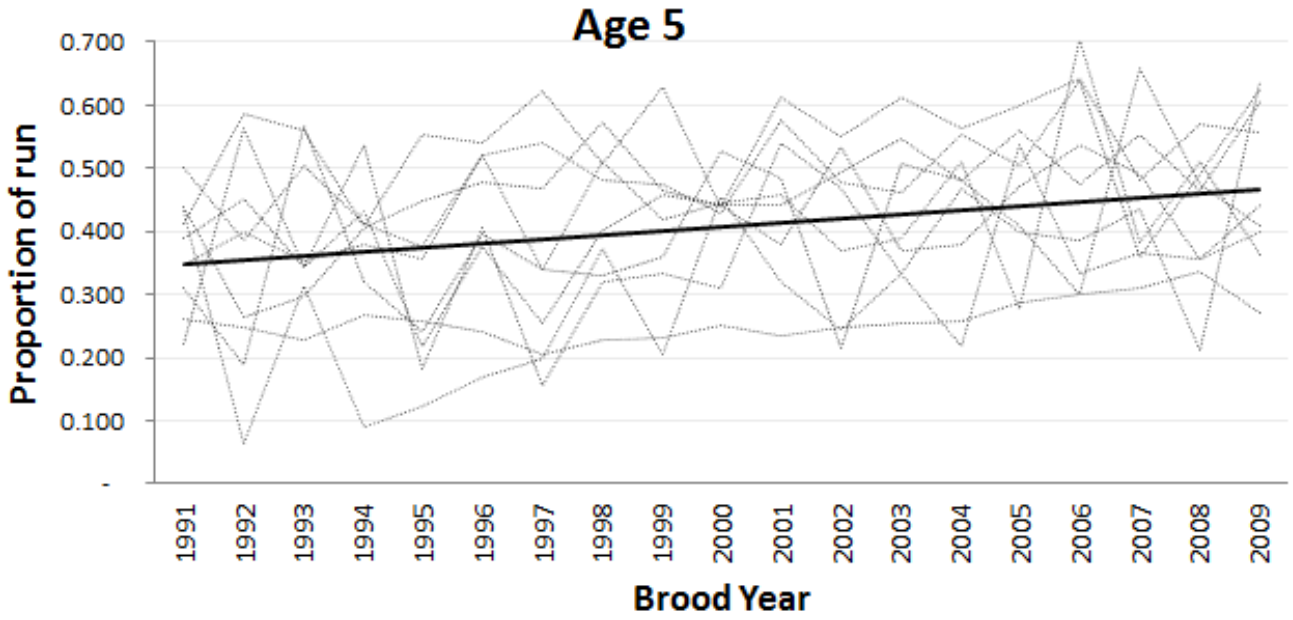

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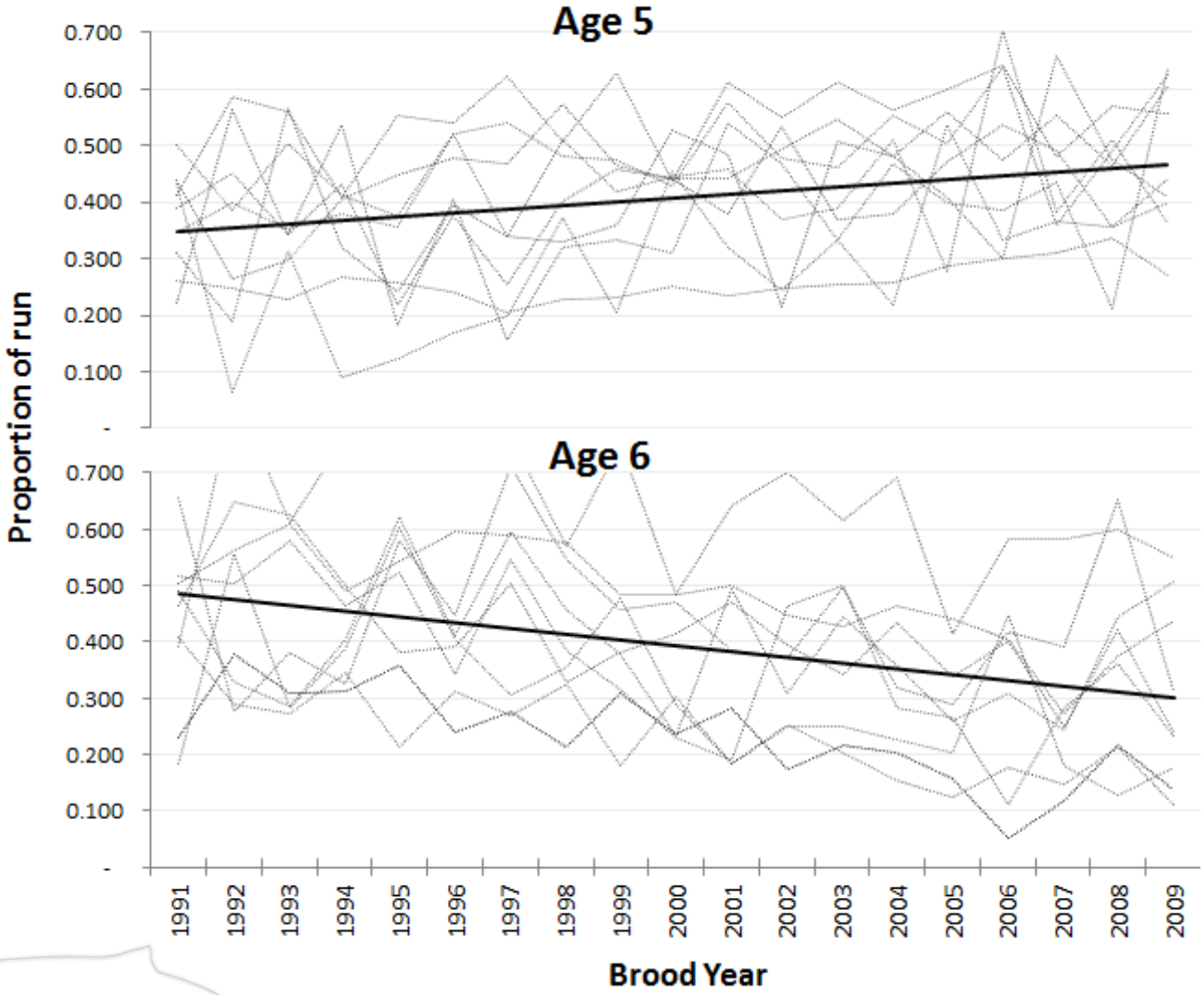

Quality of Escapement

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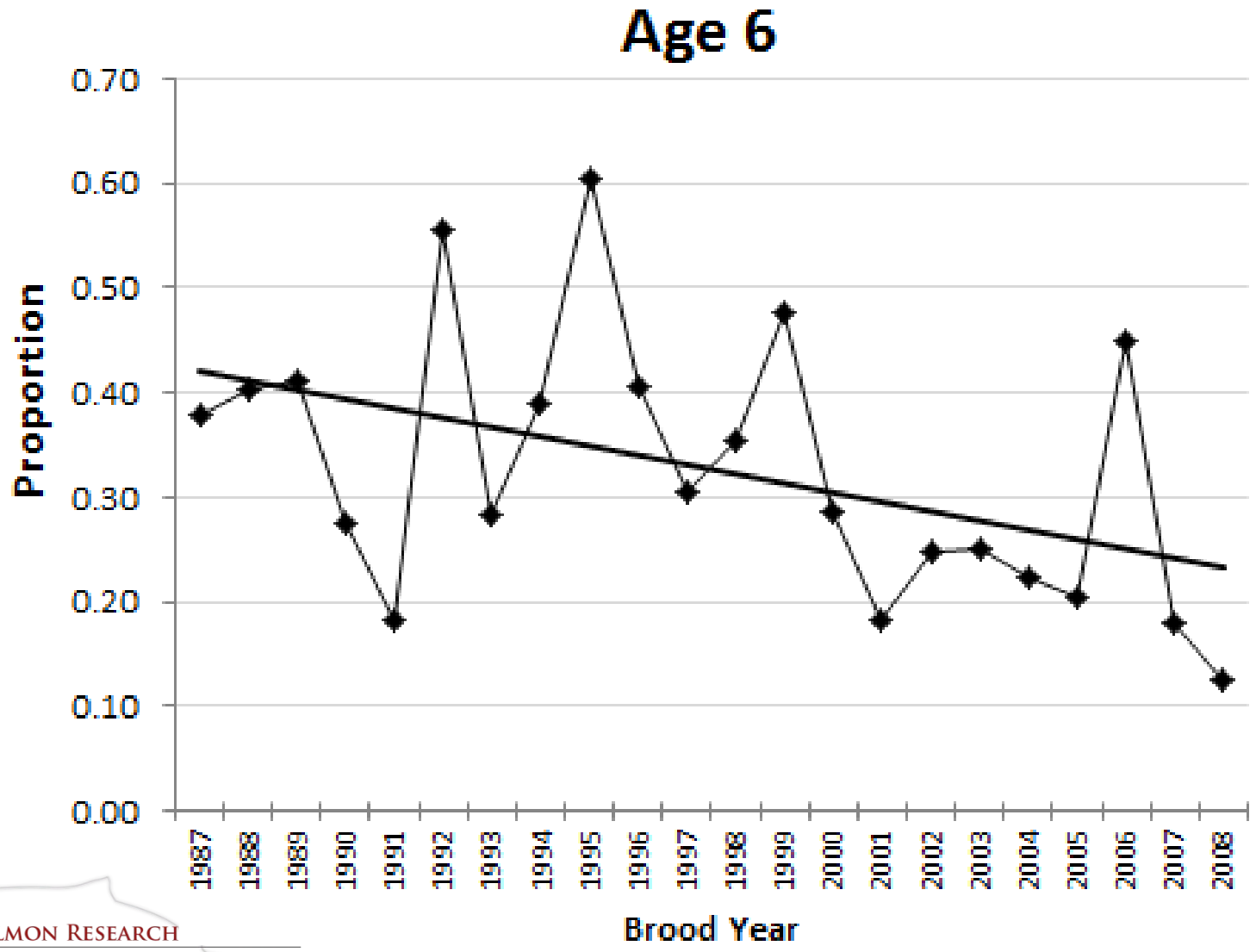
  - Weakened defense against predators
- Puts all of your 'eggs' in one basket
  - All of the females represent one brood year

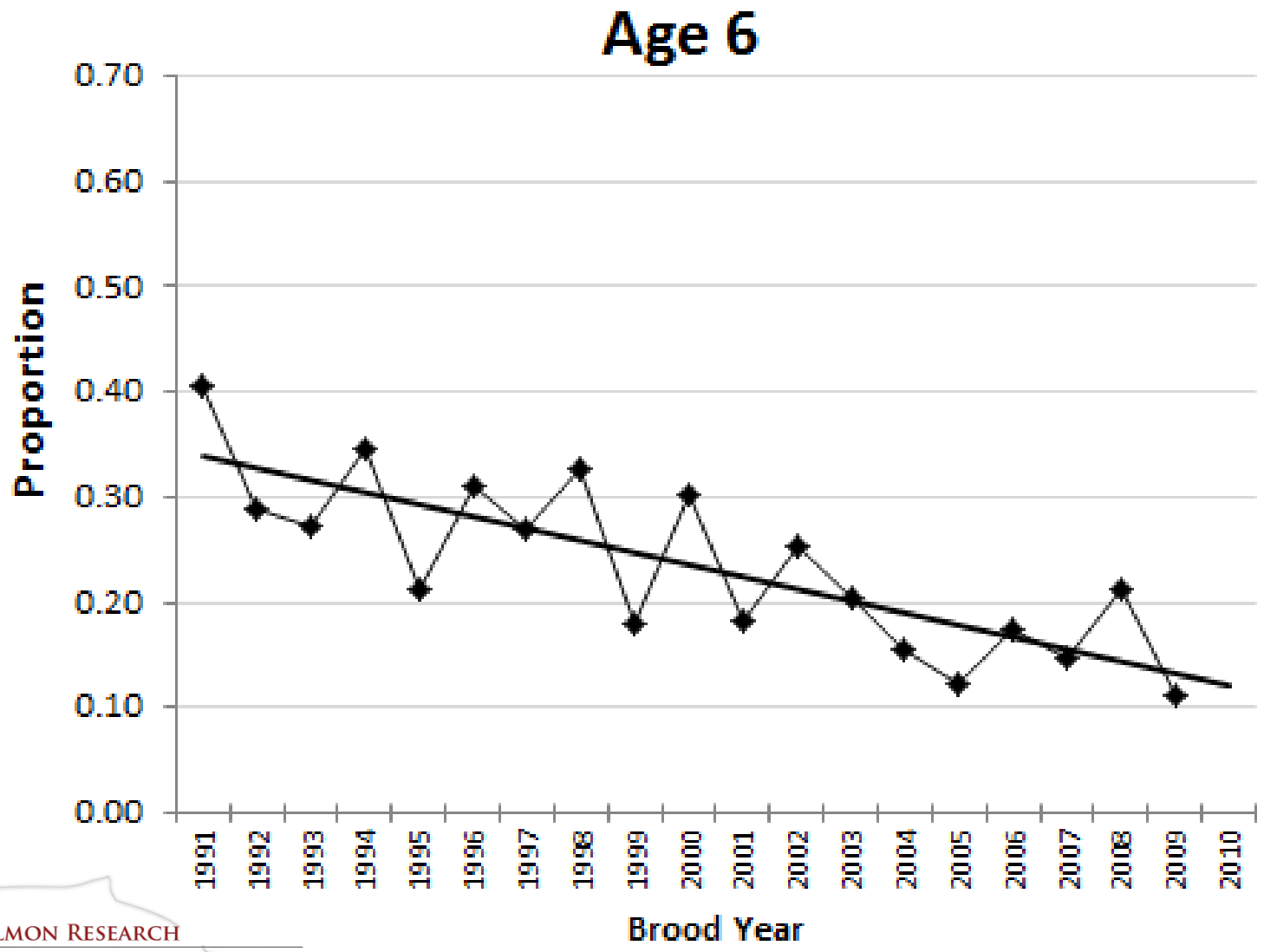
3 Ocean

4 Ocean

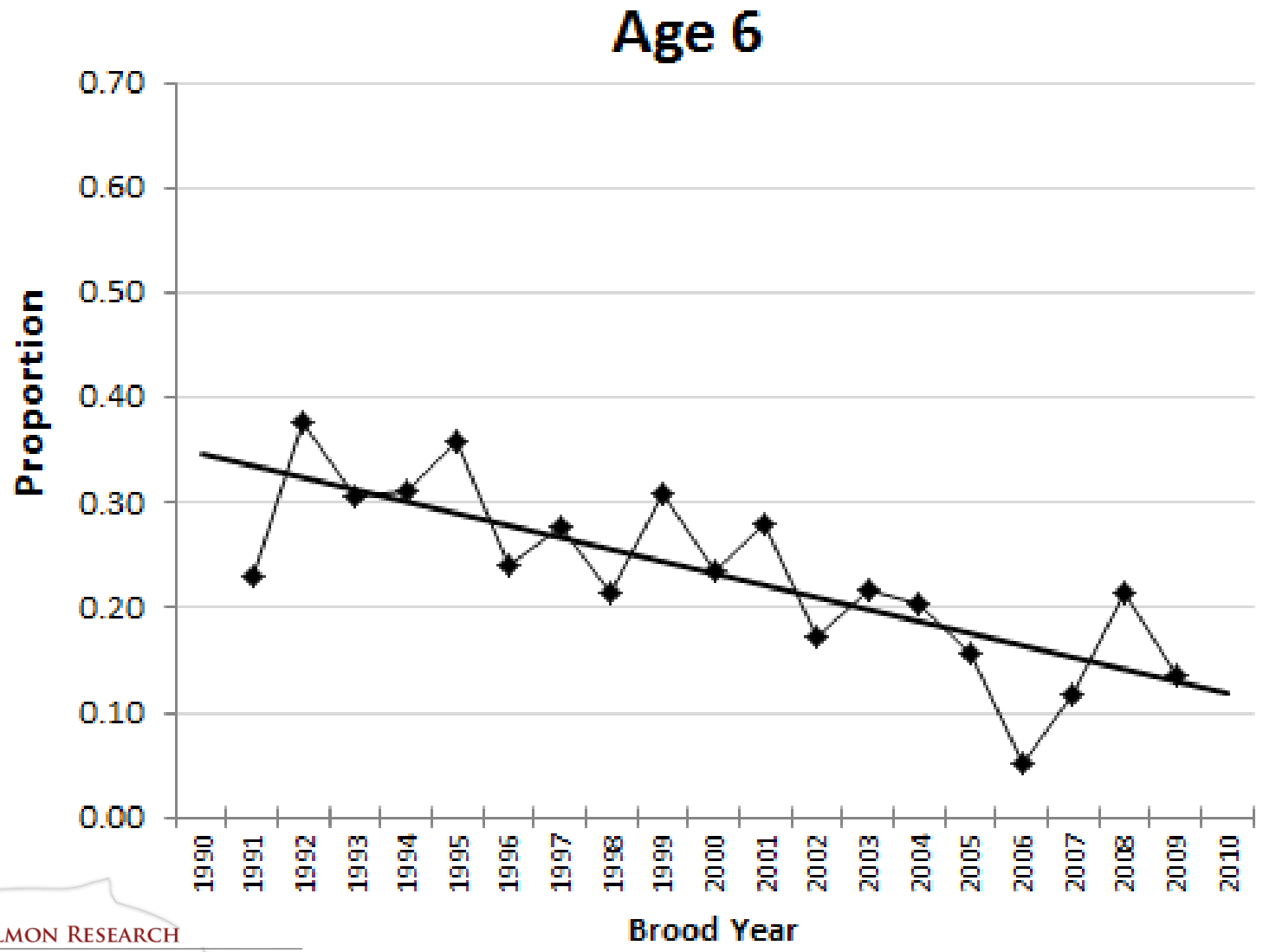
Nushagak Chinook Salmon



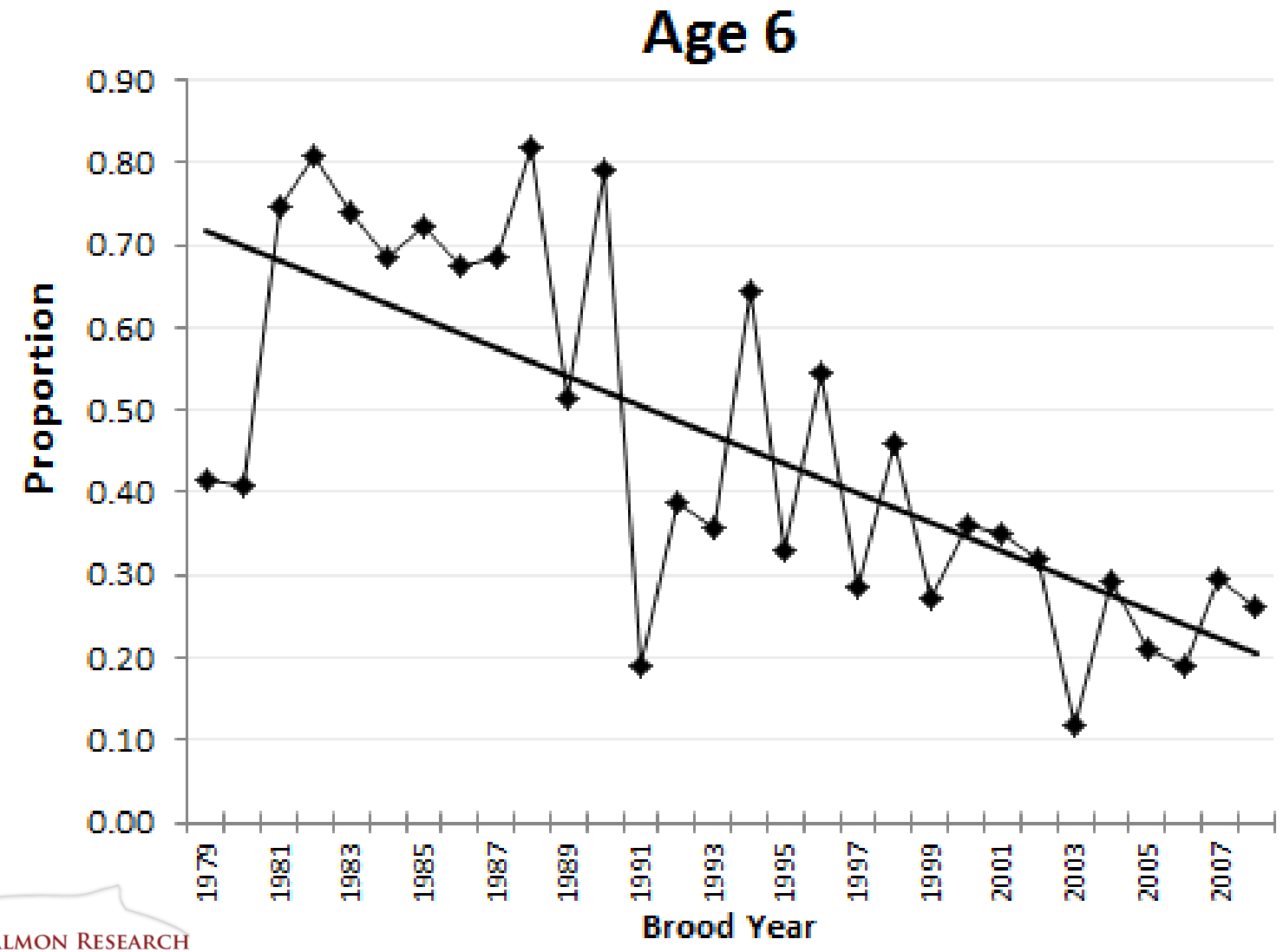
Taku Chinook Salmon



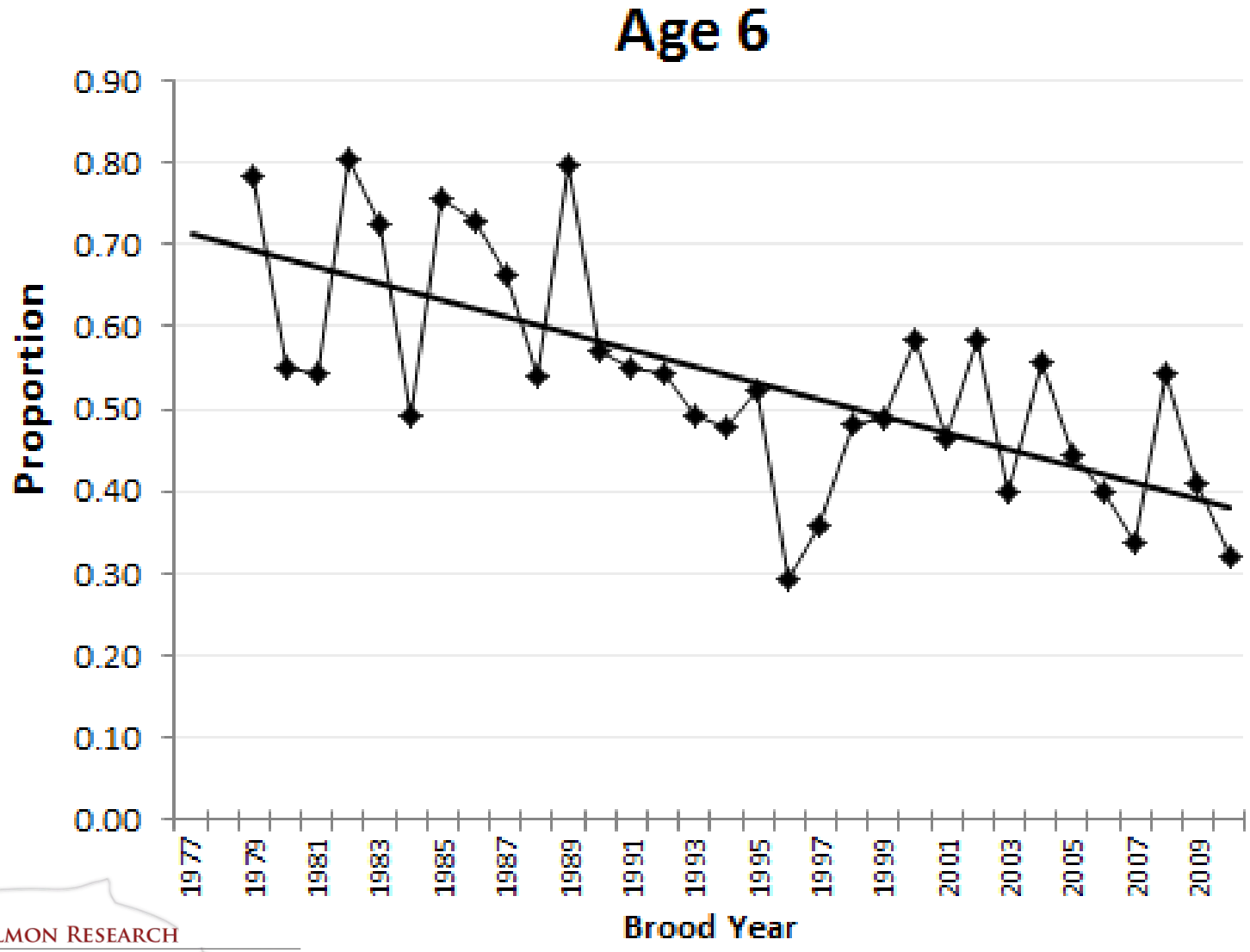
Unuk Chinook Salmon



Kitsumkalum Chinook Salmon



Salmon Chinook Salmon



Alaska Chinook Salmon Escapements (2007-2017)

Stock	Area	EG Lower	EG Upper	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Unalakleet	Westward	1,200	2,600	1,948	903	2,352	1,256	864	996	564	2,681	1,938	1,750	3,978
Can Yukon	Westward	42,500	55,000	34,904	33,883	65,278	32,009	46,107	32,656	28,669	63,331	82,674	71,300	73,268
Kuskokwim	Westward	65,000	120,000	174,943	128,978	118,478	49,073	72,097	76,074	47,315	123,987	155,464	145,900	149,729
Nushagak	Westward	55,000	120,000	50,960	91,364	74,781	56,092	101,995	167,618	104,746	63,720	91,512	125,368	56,961
Chignik	AK Peninsula	1,300	2,700	2,000	1,730	1,680	3,679	2,728	1,449	1,253	2,895	2,054	1,843	1,137
Nelson	AK Peninsula	2,400	4,400	2,492	4,612	1,248	2,569	1,404	992	1,221	2,901	2,440	4,618	1,502
Ayakulik	Kodiak	4,000	7,000	6,535	3,071	2,615	5,301	4,316	4,760	2,369	917	2,392	4,594	3,712
Karluk	Kodiak	3,000	6,000	1,765	752	1,308	2,917	3,420	3,197	1,824	1,182	2,777	3,434	2,600
Deshka	Cook Inlet	13,000	28,000	18,714	7,533	11,960	18,594	19,026	14,096	18,531	16,335	24,316	22,690	11,356
Anchor	Cook Inlet	3,800	10,000	9,622	5,806	3,455	4,449	3,545	4,509	4,378	2,497	10,049	7,146	5,796
Kenai Early	Cook Inlet	5,300	9,000	9,917	6,587	6,178	7,677	9,988	4,677	4,460	5,776	6,190	9,177	7,237
Kenai Late	Cook Inlet	15,000	30,000	37,010	32,342	21,410	16,527	22,980	27,469	19,318	17,446	22,628	18,790	22,133
Copper	N GOA	24,000		34,565	32,485	27,781	16,771	27,993	27,911	28,727	20,840	26,607	14,000	40,000
Situk	SEAK	450	1,050	677	413	902	166	240	322	912	475	174	329	1,187
Alsek	SEAK	3,500	5,300	2,827	1,885	6,239	9,526	6,850	3,027	4,992	3,357	5,697	2,514	1,762
Chilkat	SEAK	1,750	3,500	1,438	2,882	4,406	1,797	2,674	1,723	1,719	1,529	2,452	1,380	1,173
Taku	SEAK	19,000	36,000	14,749	26,645	22,761	28,769	27,523	19,538	18,002	23,532	28,827	12,381	8,500
King Salmon	SEAK	120	240	181	120	109	158	192	155	94	68	50	149	85
Stikine	SEAK	14,000	28,000	14,559	18,352	12,803	15,116	14,482	22,327	16,783	24,366	21,597	10,343	8,000
Andrews	SEAK	650	1,500	1,736	981	628	1,205	936	587	920	1,261	796	402	349
Unuk	SEAK	1,800	3,800	5,668	3,104	3,157	3,835	3,195	956	1,135	1,691	2,623	1,463	1,203
Chickamin	SEAK	2,150	4,300	4,242	5,277	2,902	5,491	4,052	2,109	2,223	3,097	2,760	964	722
Blossom	SEAK	500	1,400	522	995	476	1,405	569	793	987	840	642	522	240
Keta	SEAK	550	1,300	936	1,093	659	1,430	671	725	1,484	1,321	915	1,342	668


Southeast Alaska
Chinook Salmon
ALASKA
CANADA
Bering Sea
Gulf of Alaska
0 250 500 Miles
Map Area
Whitehorse
Mt Logan
5959 m
Kluane Lake
Ruby Range
Yukon
SAINT ELIAS MOUNTAINS
Fantail Lake
Atlin Lake
Source of the Yukon
BOUNDARY RANGE
STIKINE PLATEAU
TAKU PLATEAU
NAHLIN PLATEAU
KLASTLINE PLATEAU
BIG MOUNTAIN
SKEENA MOUNTAIN
Pratt Guyot
Seamount
Durgin Guyot
Baranov Seachannel
Walker Seamount
Alaska
42
0 50 100 Miles


Southeast Alaska
Chinook Salmon
34 Stocks
ALASKA
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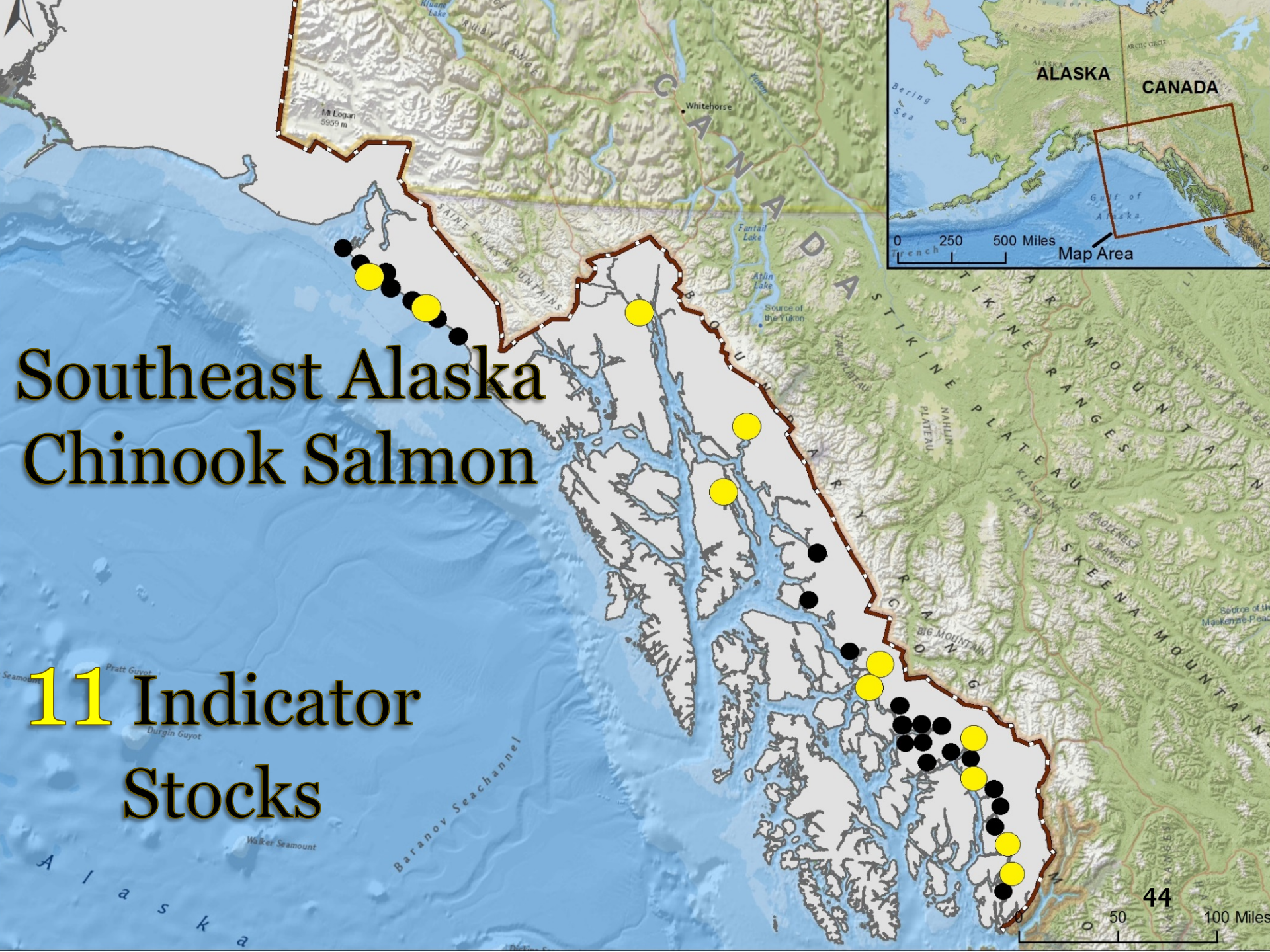
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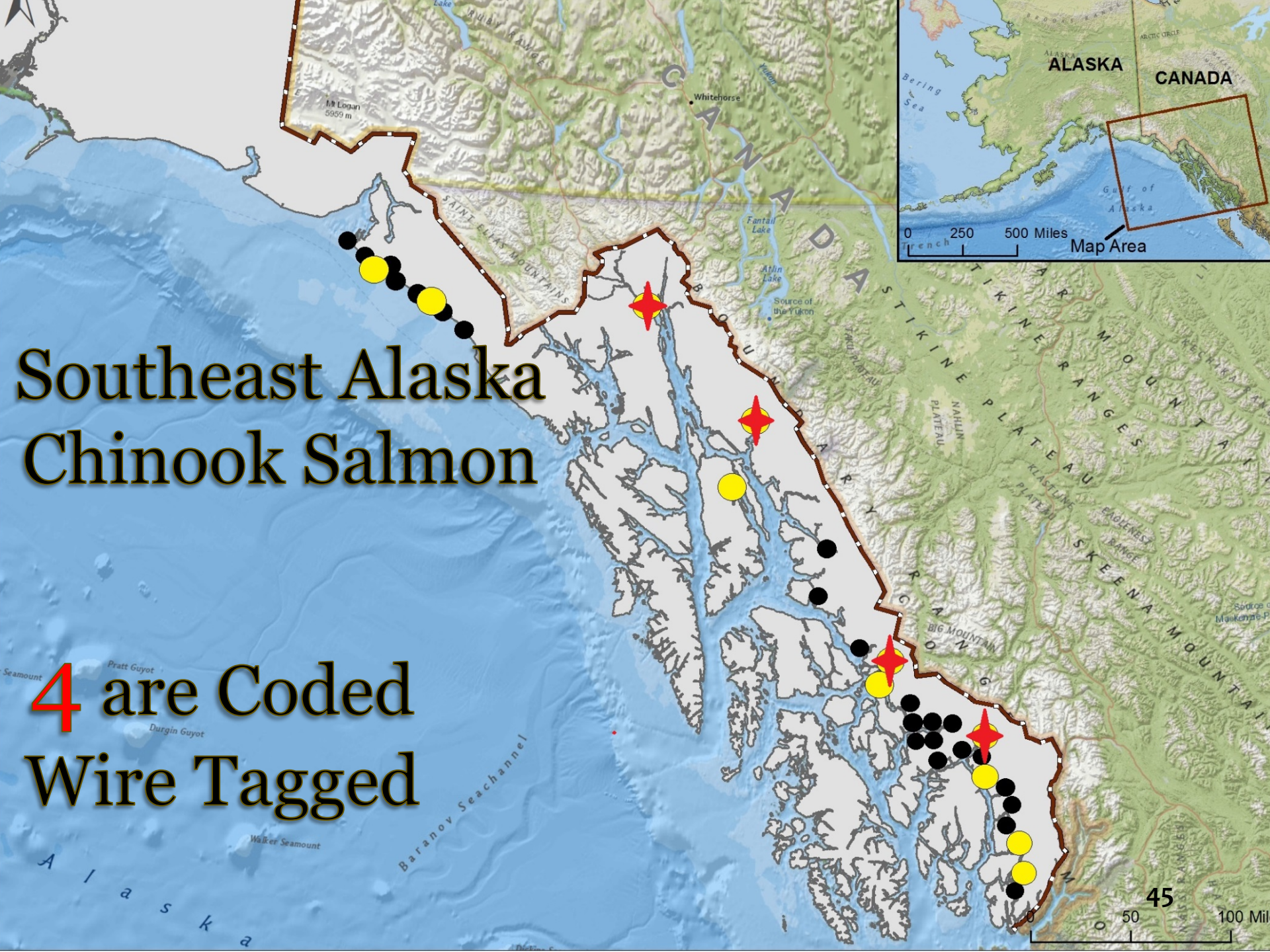
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- Taku and Stikine represent about 80% of the wild production

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- 11 indicator stocks represent about 90% of the wild production
- Taku and Stikine represent about 70% of the wild production
- Chilkat represents about 4% of the wild production

Southeast Chinook Salmon Facts

Southeast stocks represent a mix of inside and outside rearing behaviors

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Outside Rearing

- Situk, Alsek, Taku and Stikine Rivers stocks
- Rear in the Gulf of Alaska and Bering Sea
- Available for harvest in Southeast as mature fish

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Outside Rearing

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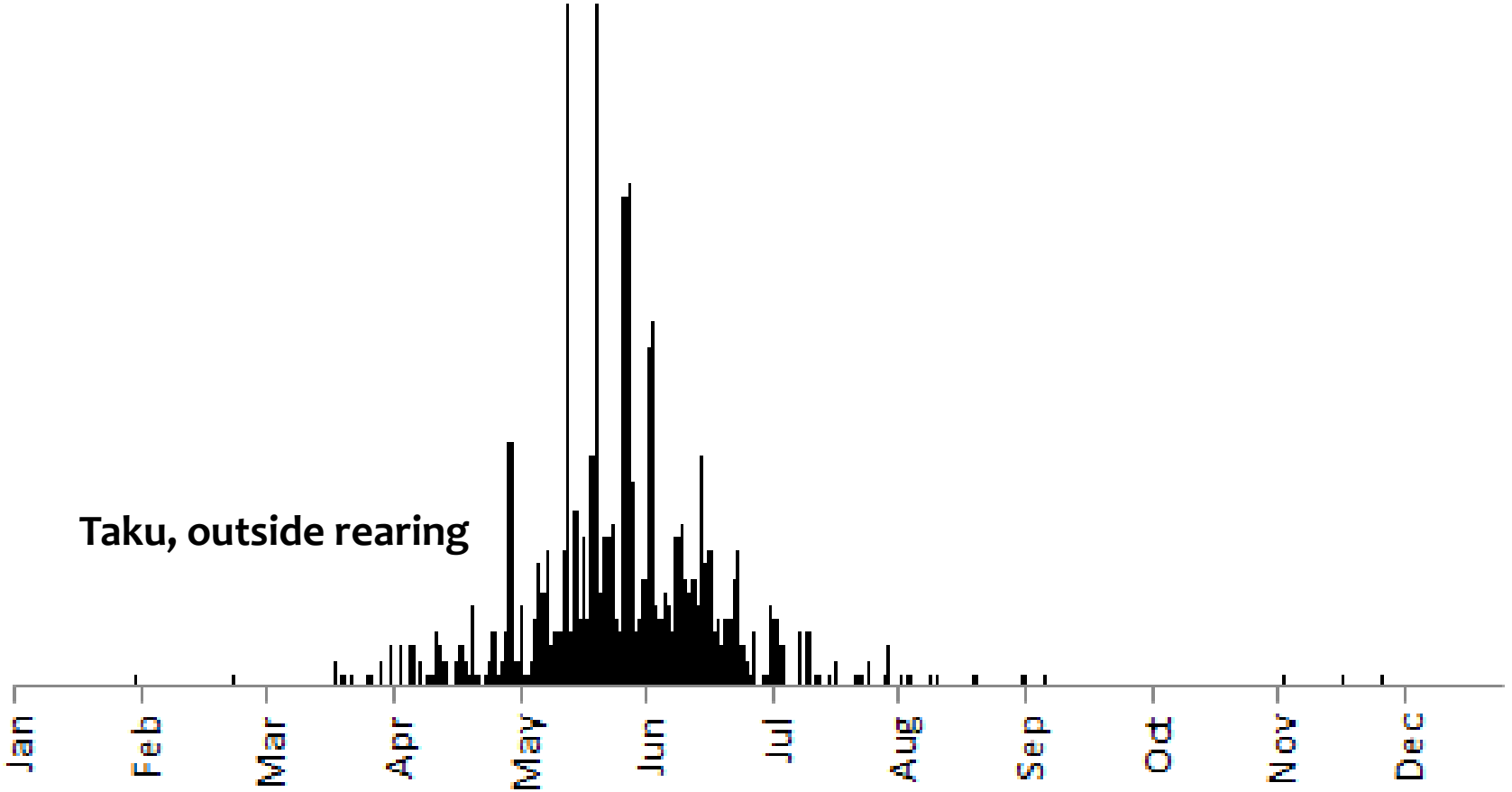
- Rear in the Gulf of Alaska and Bering Sea
- Available for harvest in Southeast as mature fish

Inside Rearing

- Chilkat, King Salmon, Andrews, Unuk, Chickamin, Blossom and Keta Rivers stocks
- Rear in and around Southeast and also the GOA/Bering Sea
- Available for harvest in Southeast as both mature and immature fish

Southeast Chinook Salmon Facts



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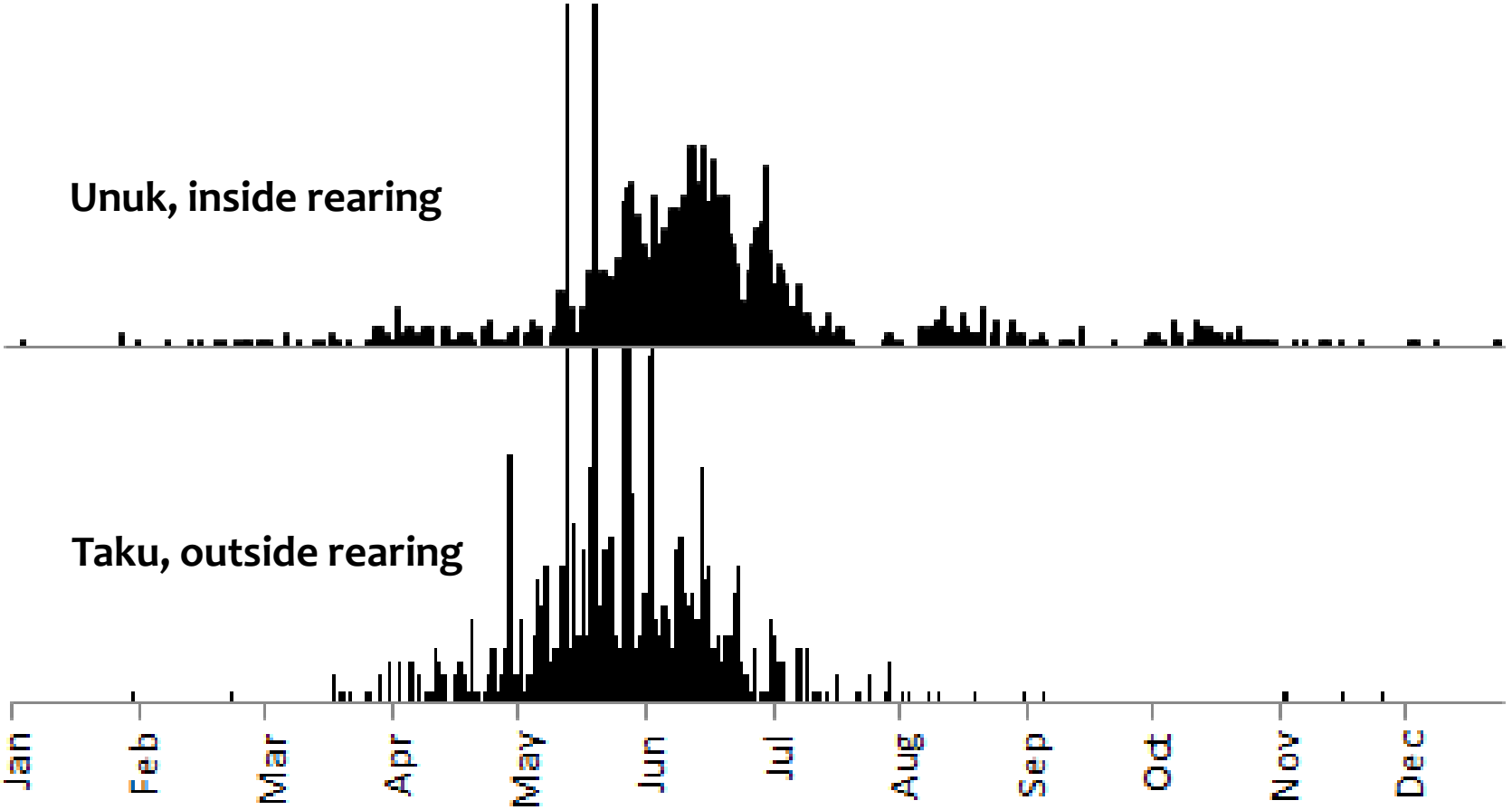

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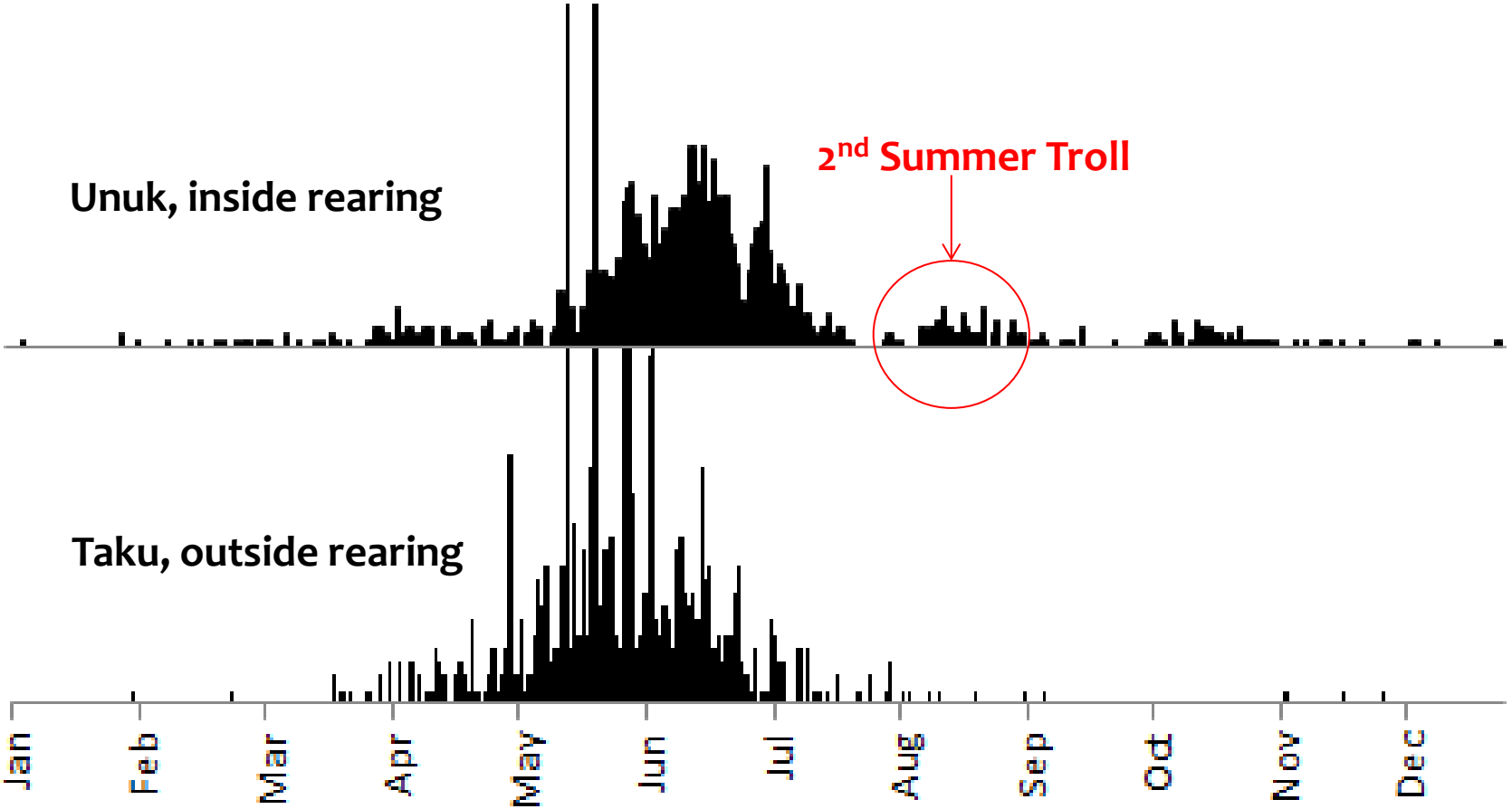

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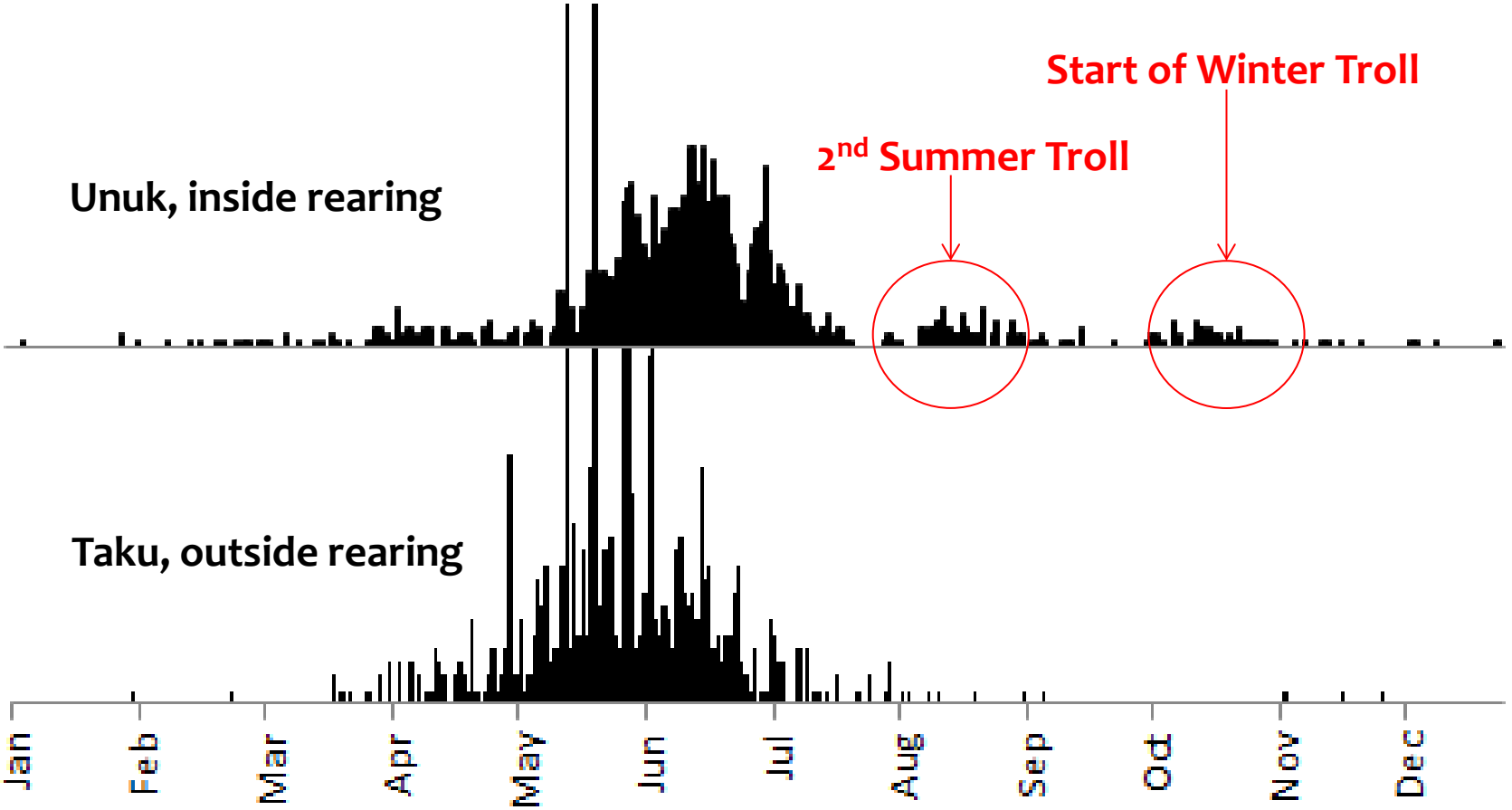

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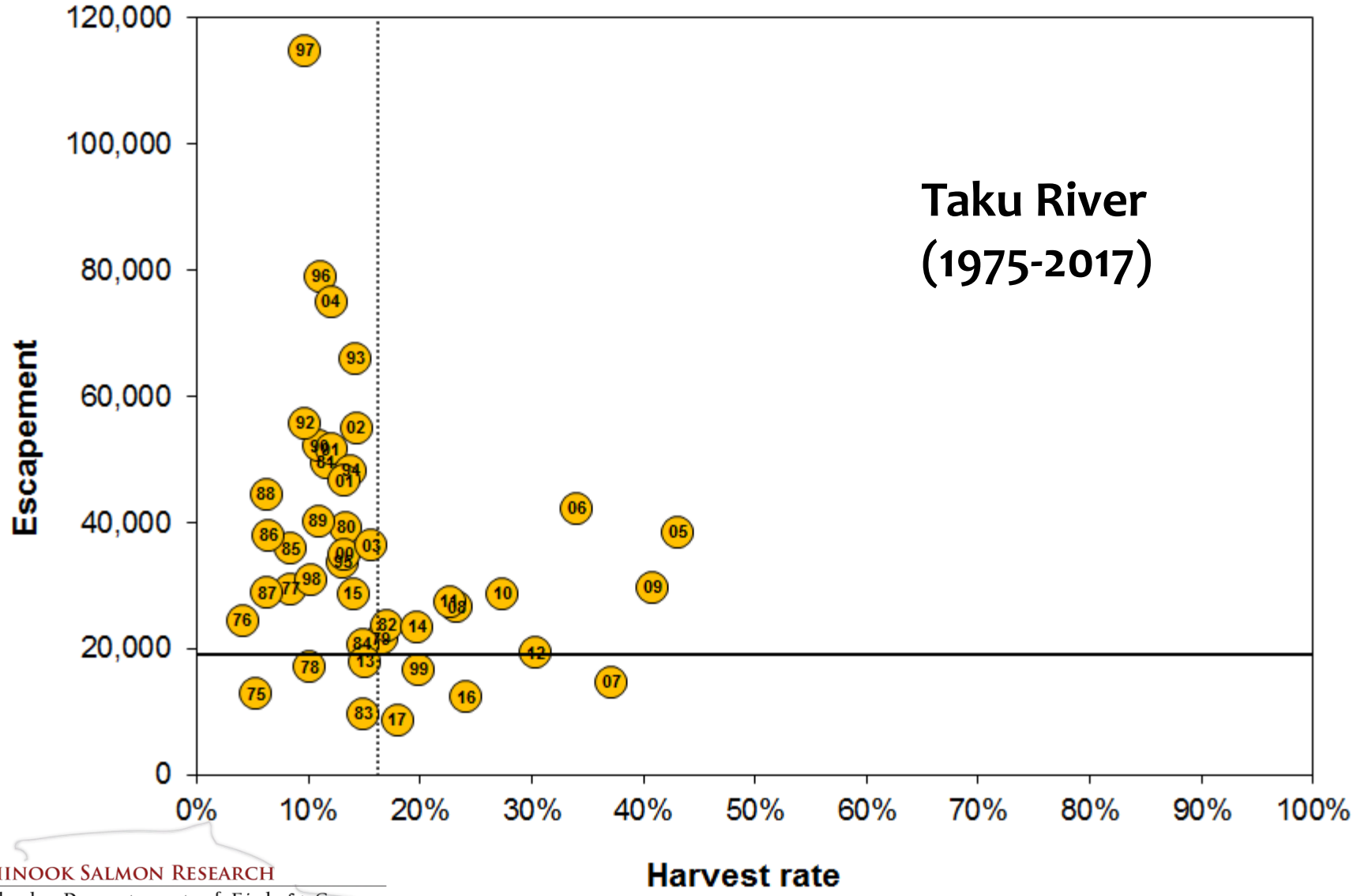
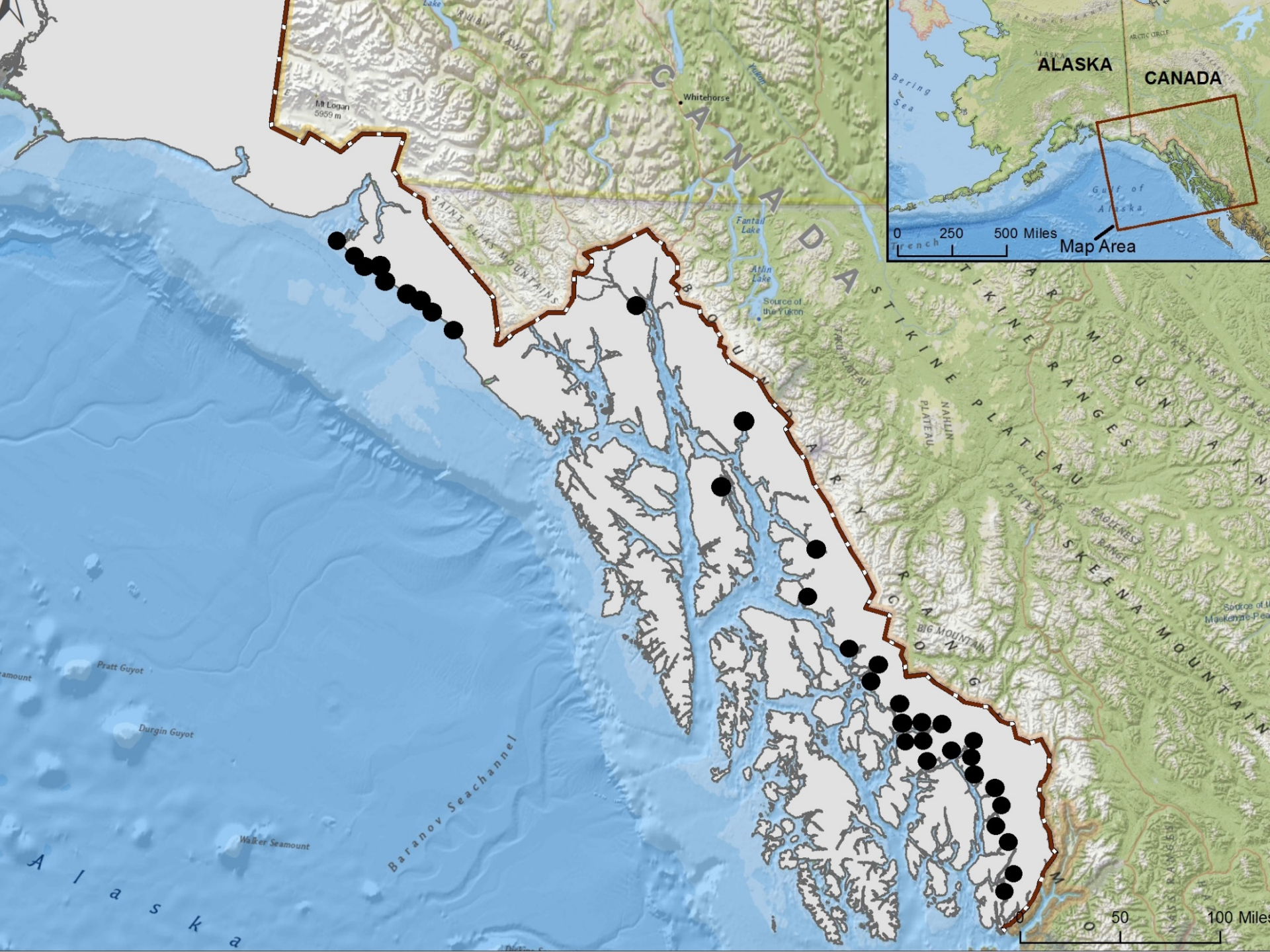


CHINOOK SALMON RESEARCH
Alaska Department of Fish & Game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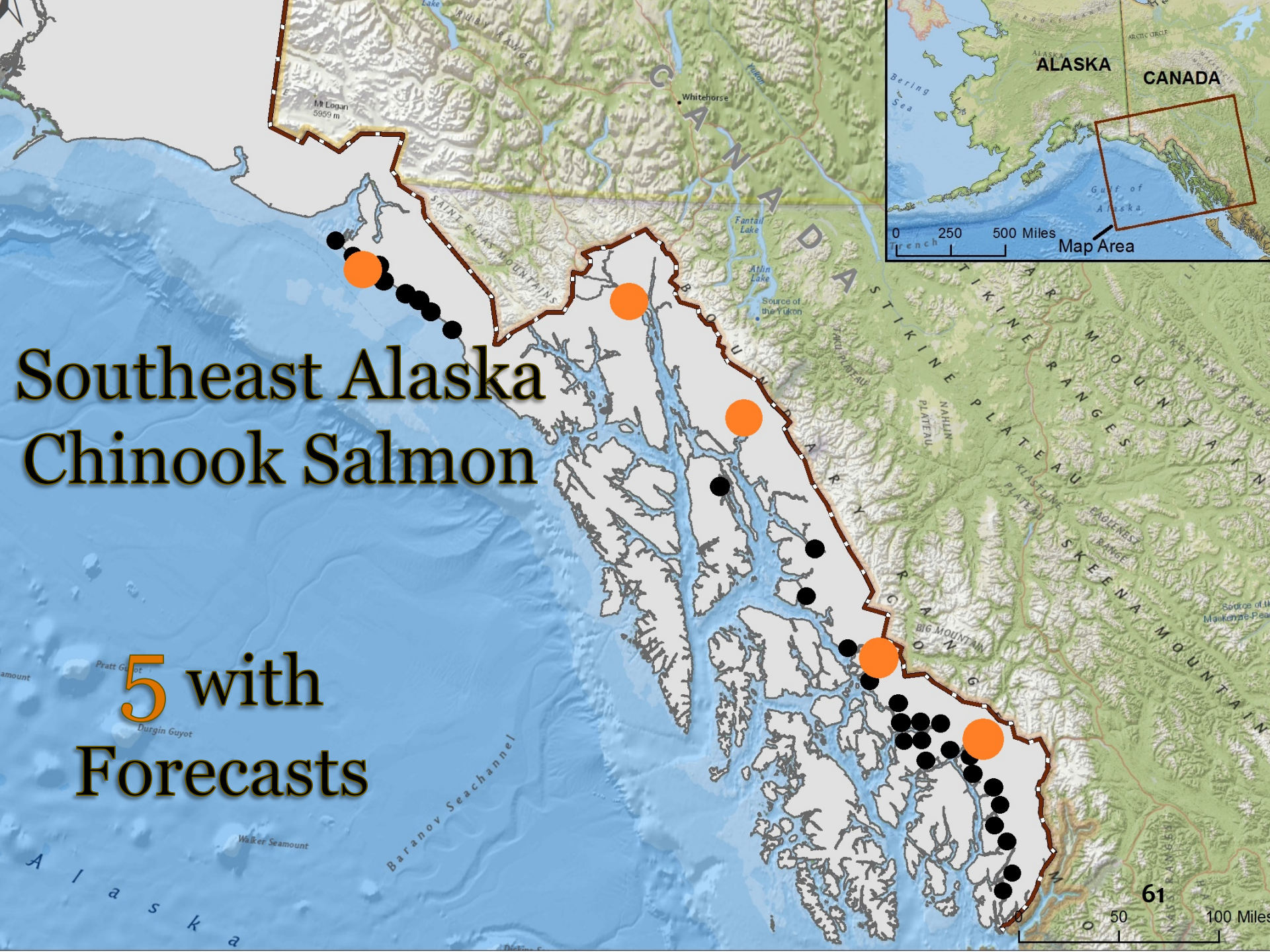
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Forecasts for 2018

		Average	Escapement goal	
Stock	**Forecast**	**Run**	**Lower**	**Upper**
Situk	730	660	450	1,050
Chilkat	1,030	2,830	1,750	3,500
Taku	4,700	28,700	19,000	36,000
Stikine	6,900	24,550	14,000	28,000
Unuk	865	3,780	1,800	33,800

Acknowledgments

Paul Kissner

Scott McPherson

Clyde Andrews

... TO NAME A FEW ...