



Lower Cook Inlet Commercial Salmon Fisheries

Presented to the Alaska Board of Fisheries
by Glenn Hollowell, ADF&G

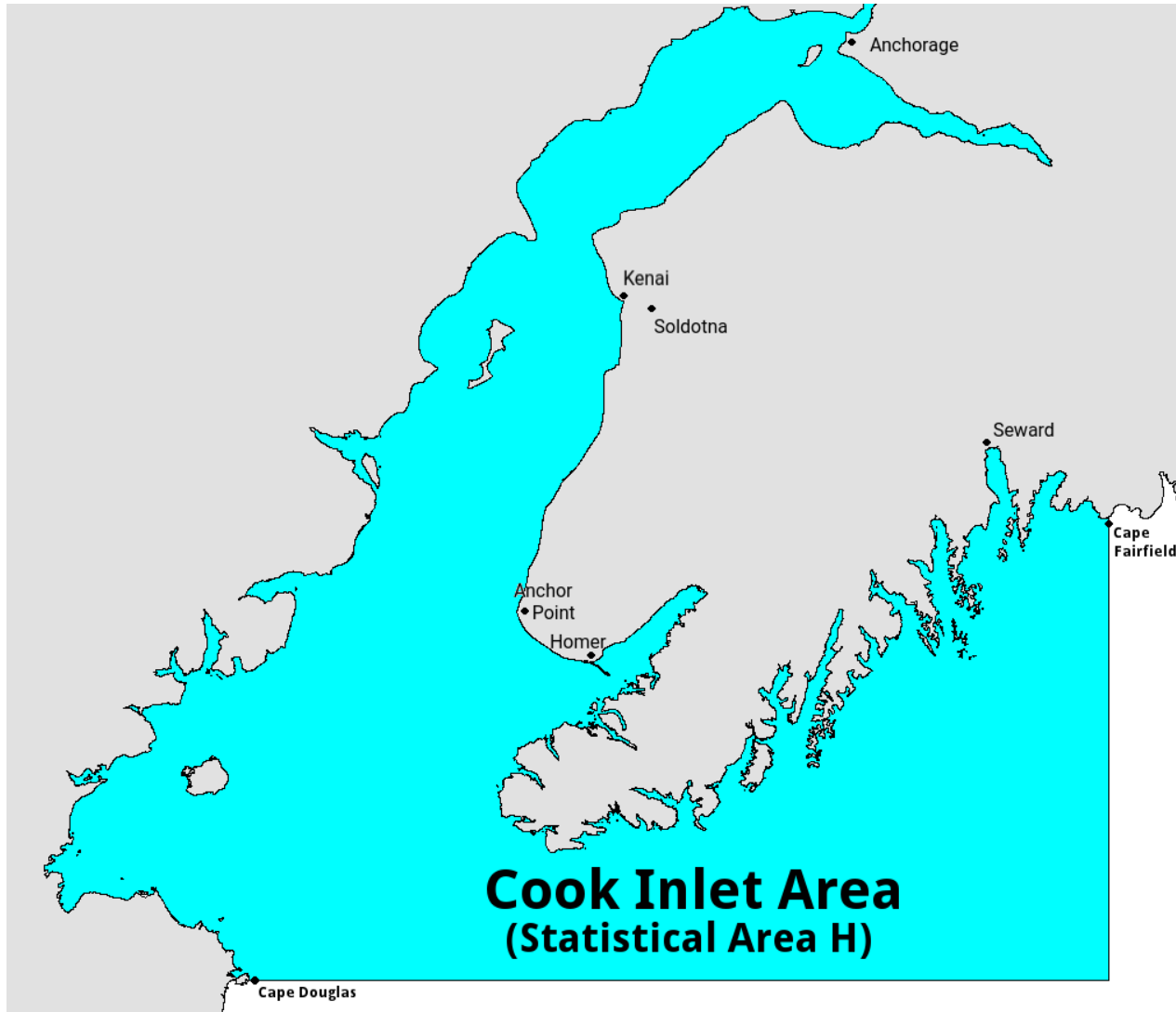
November 28 – December 1, 2023



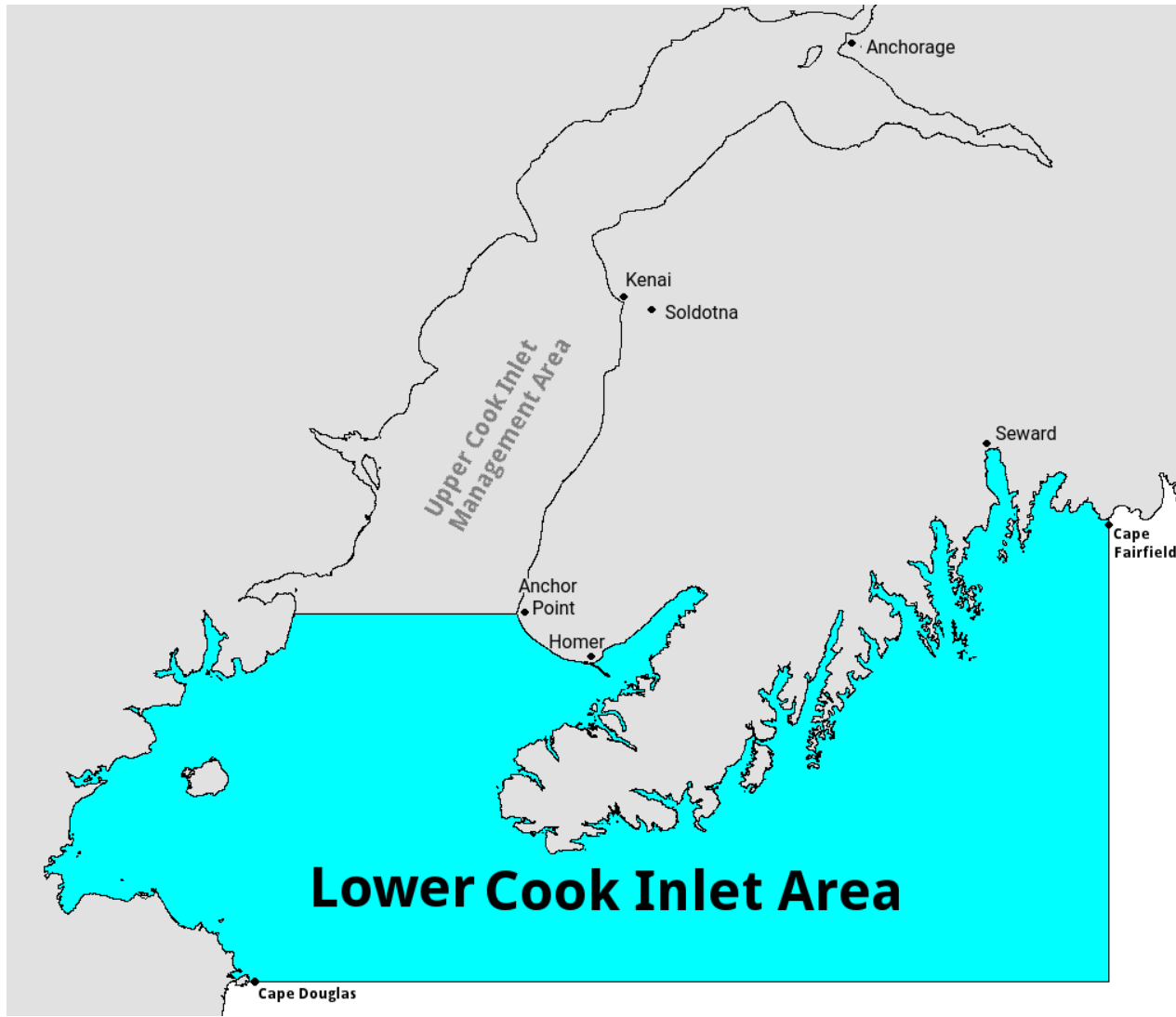
Overview

- Lower Cook Inlet Area (LCI) geography
- Overall historic area harvests and gear
- Harvest by district
- Fisheries enhancement
- 2023 commercial harvest
- Proposals before the board

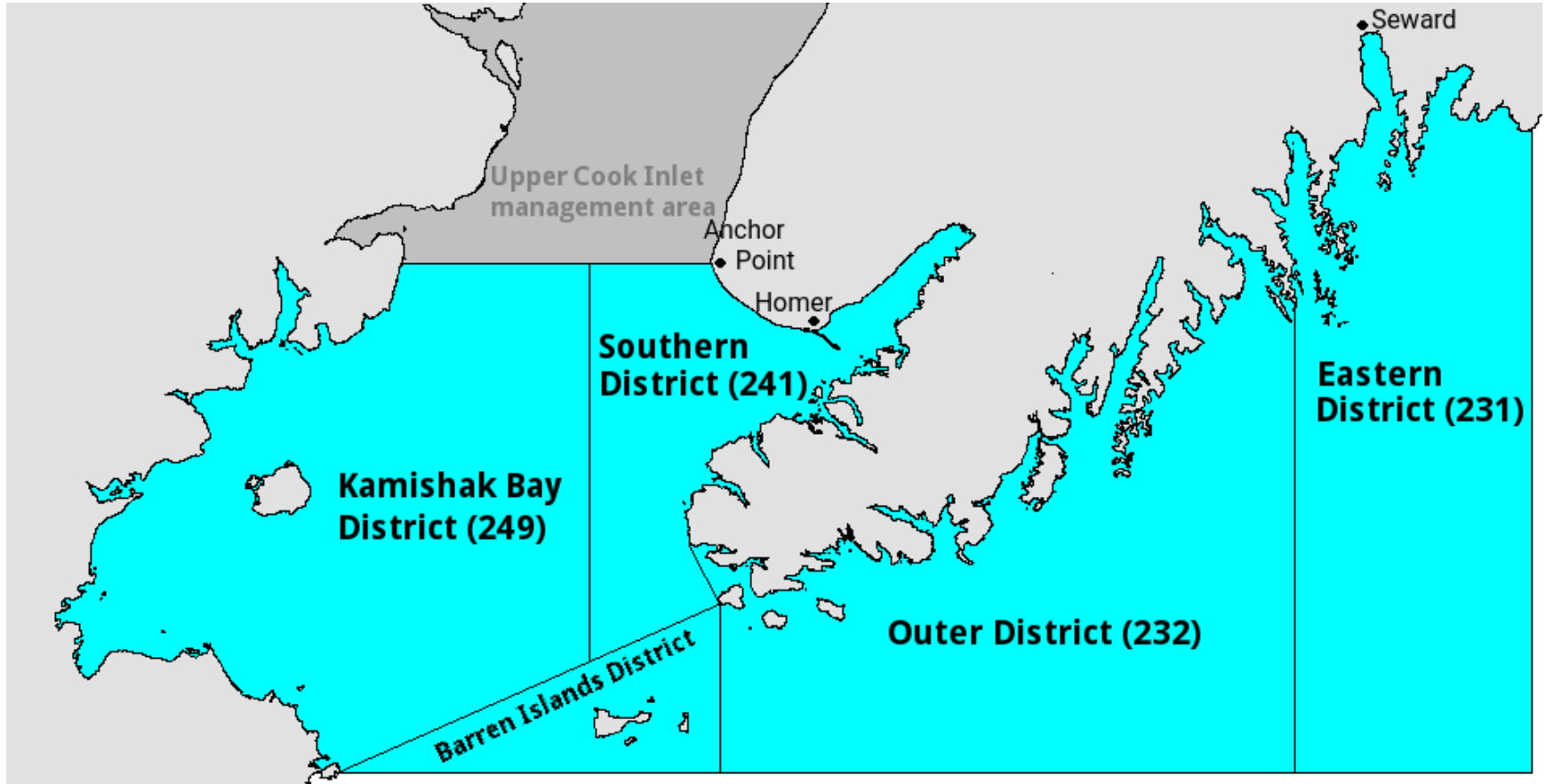
Cook Inlet (Area H)



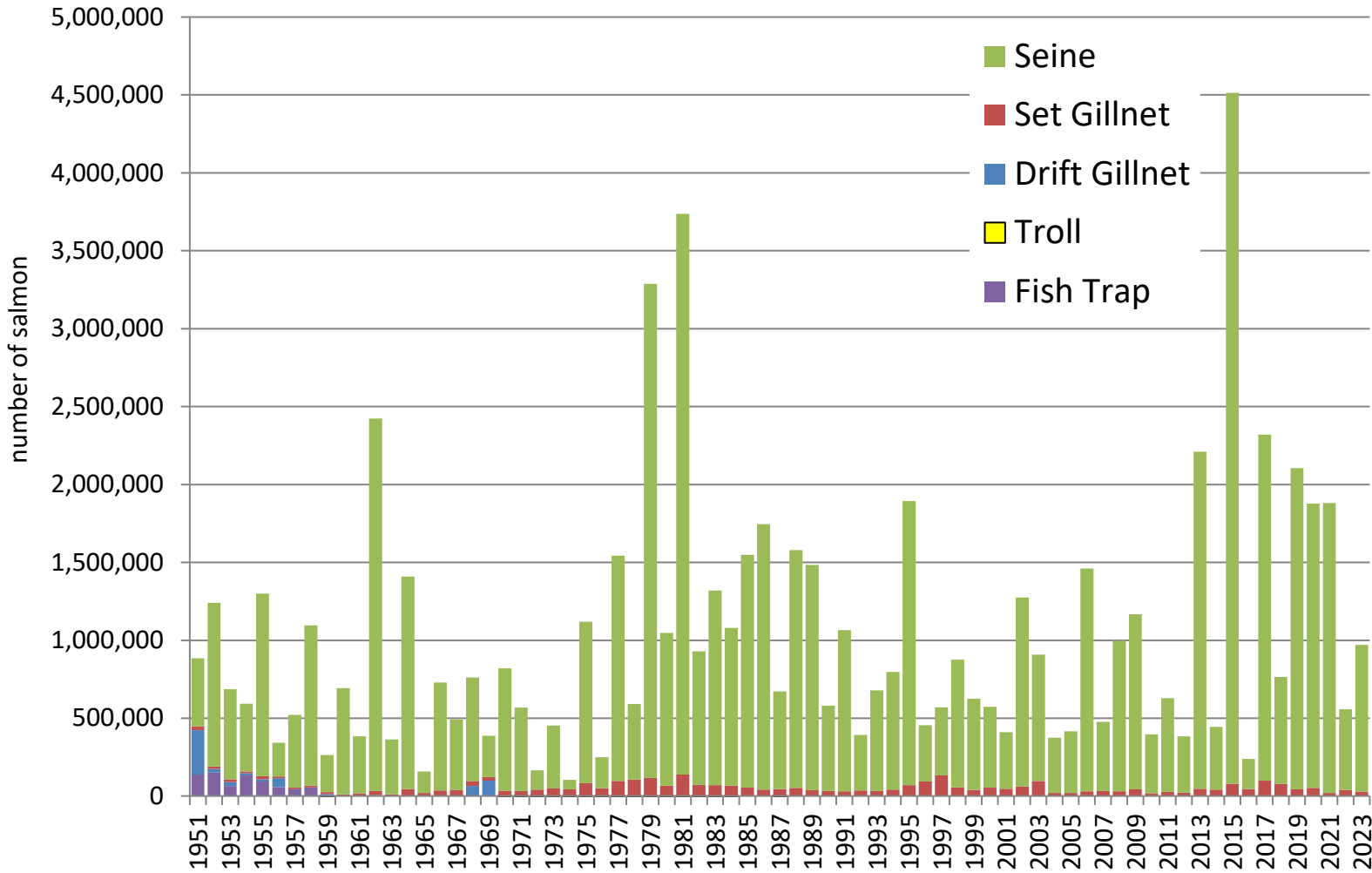
Cook Inlet (Area H)



Lower Cook Inlet Management Area

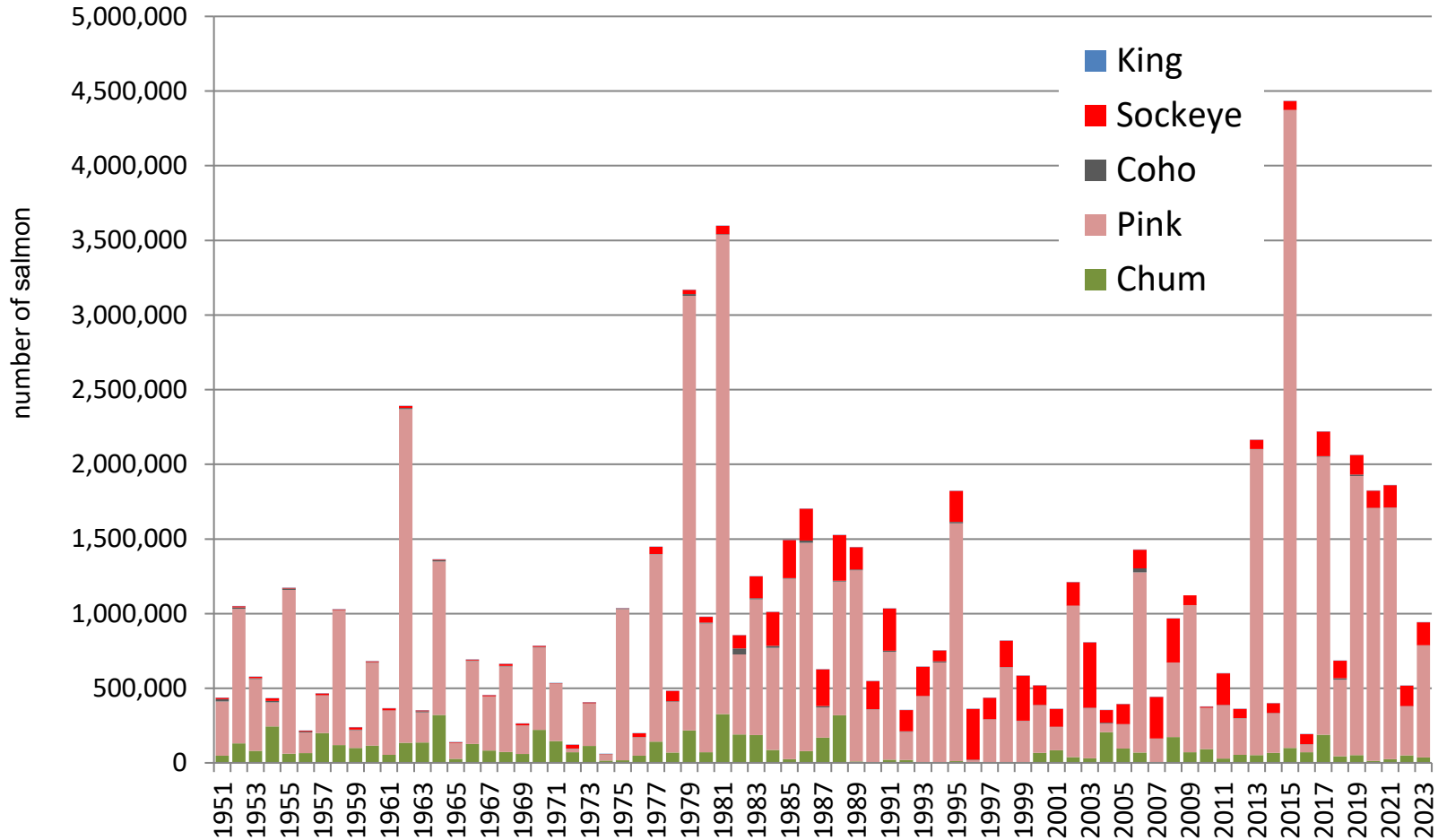


LCI Historical Harvests by Gear, 1951-2023



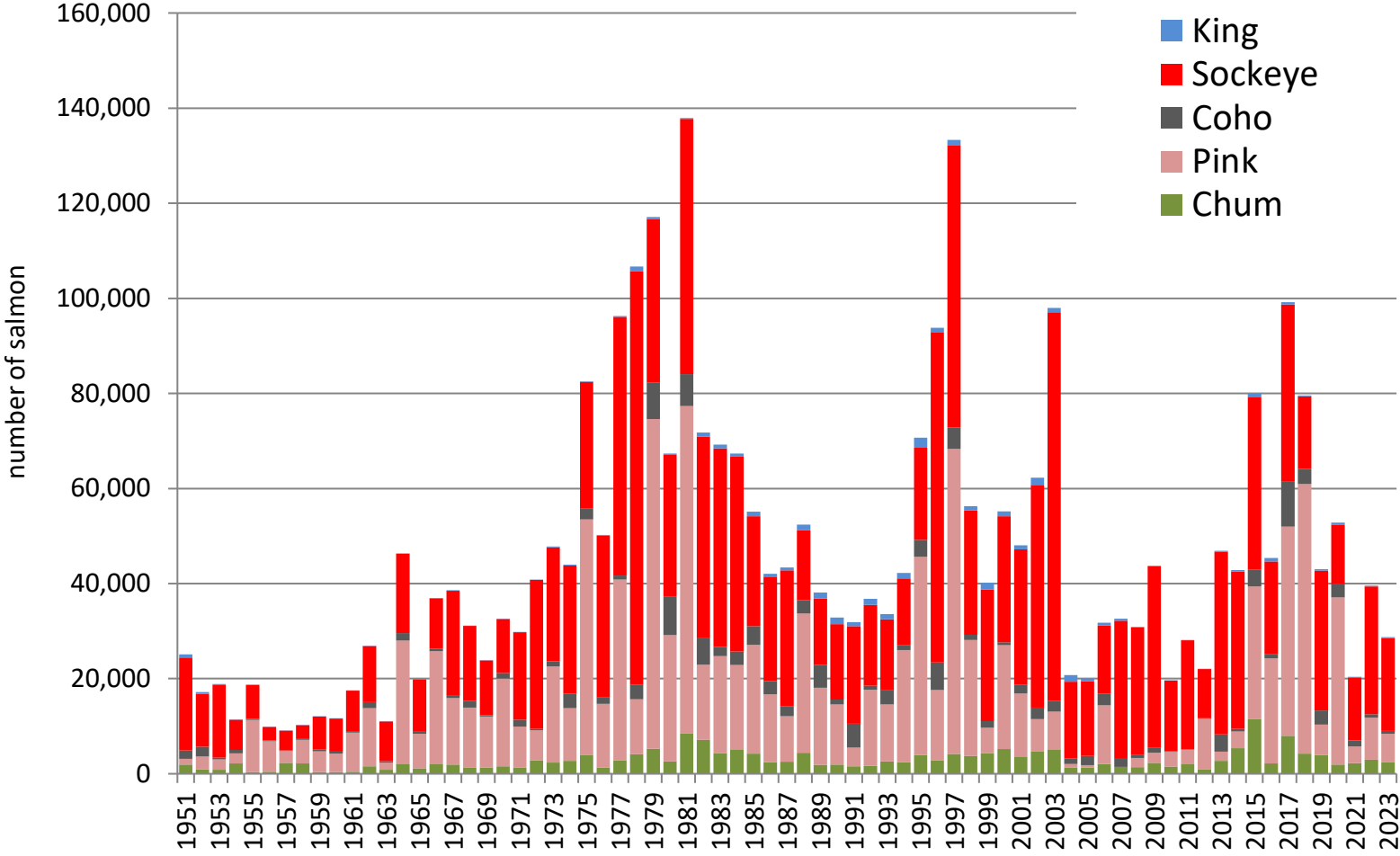


Seine Harvests in LCI, 1951-2023

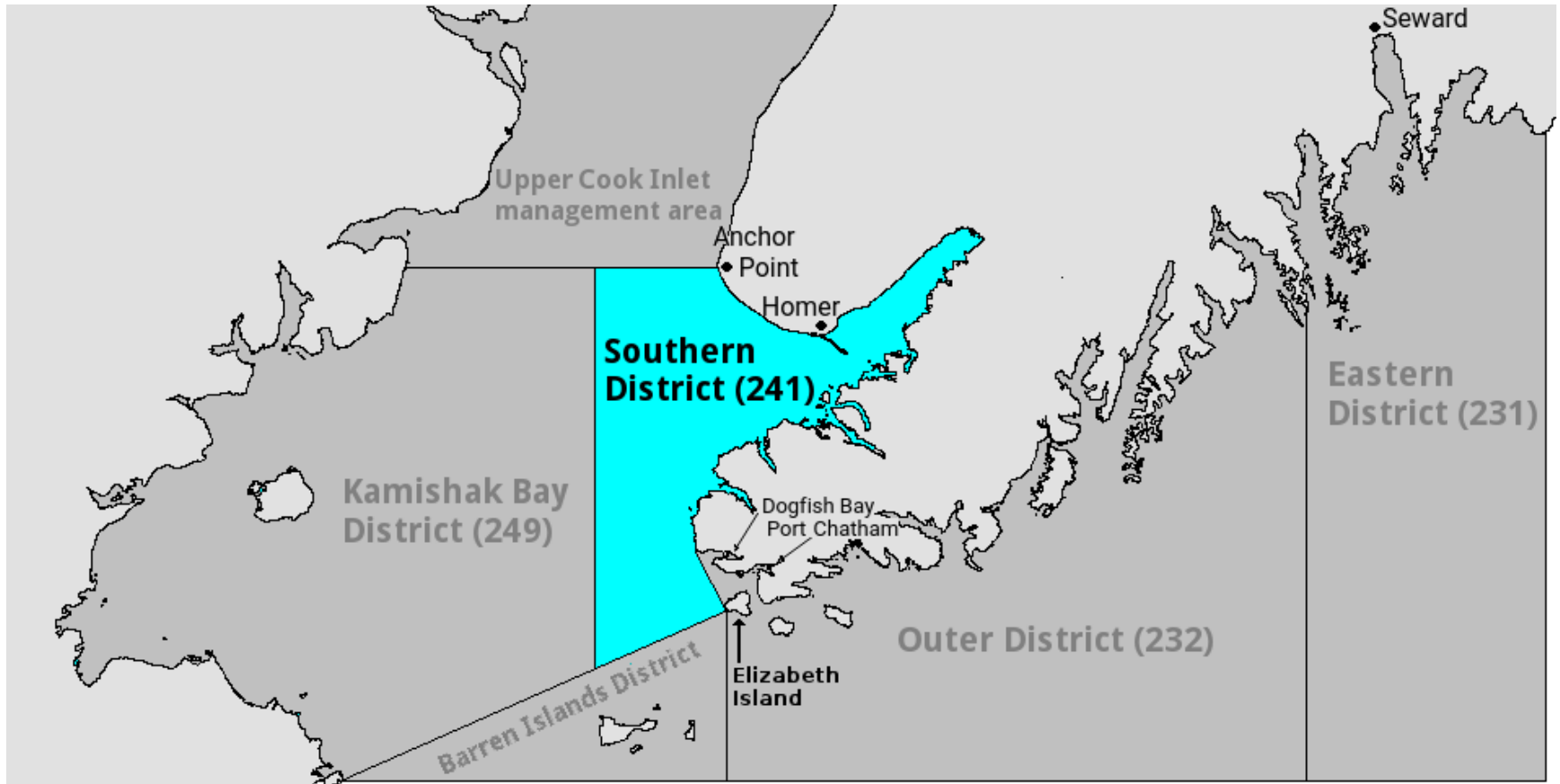




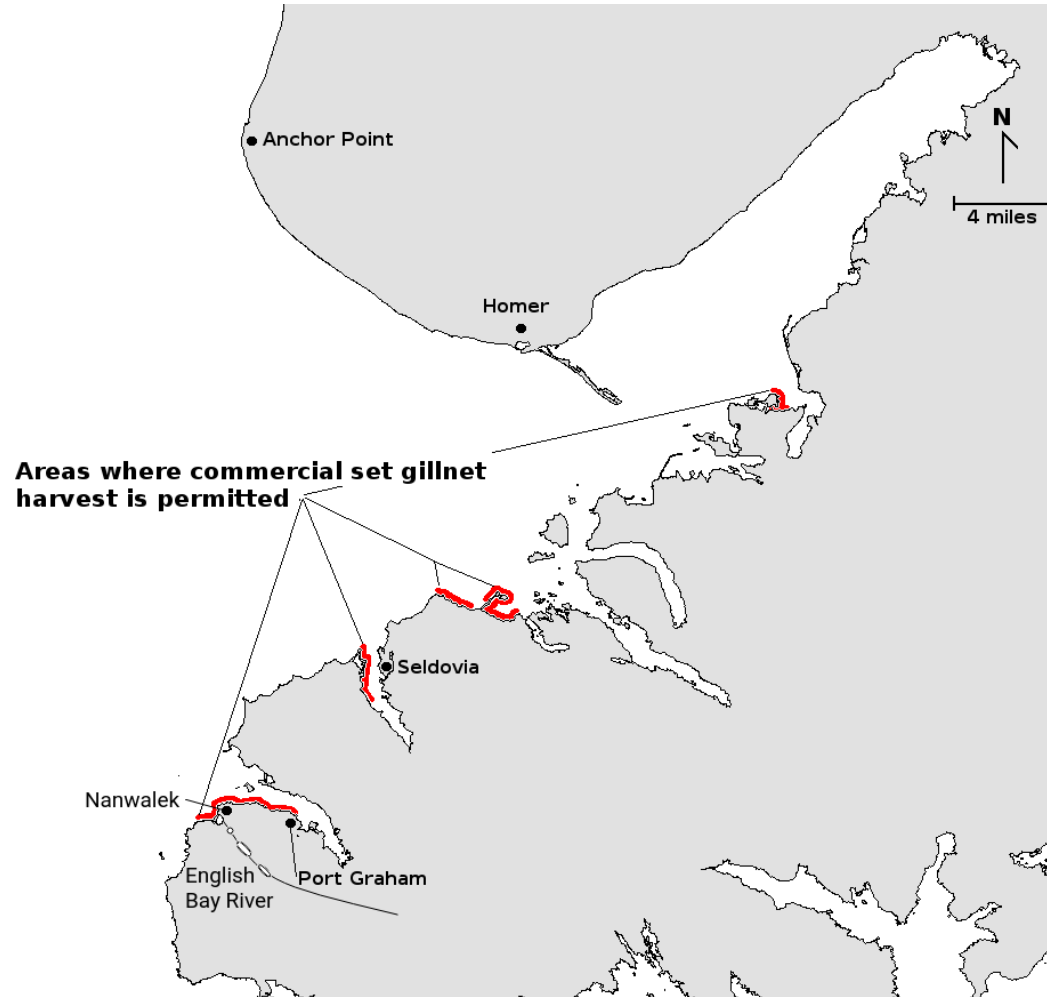
Set Gillnet Harvests in LCI, 1951-2023



Southern District Harvests

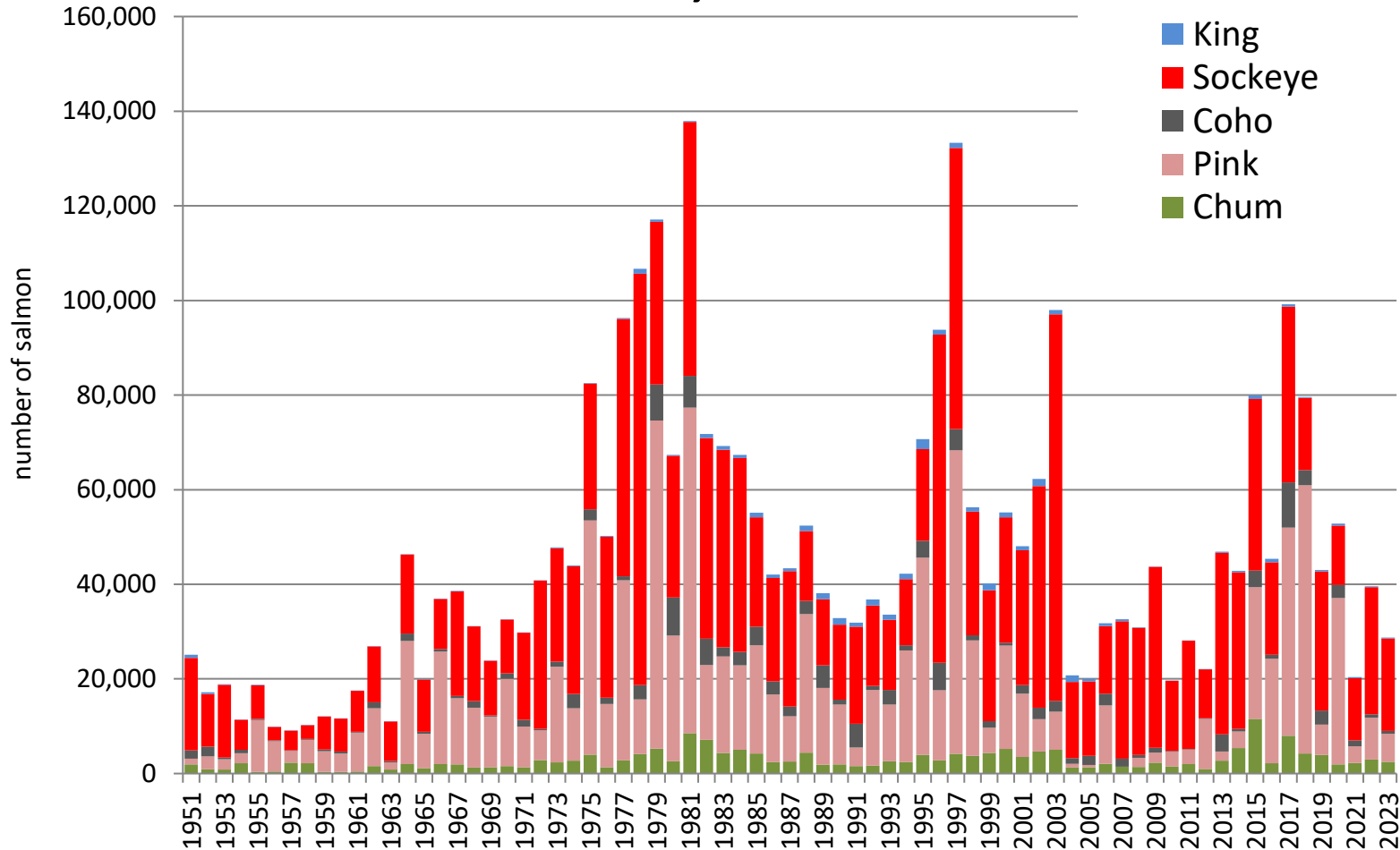


Southern District Harvests



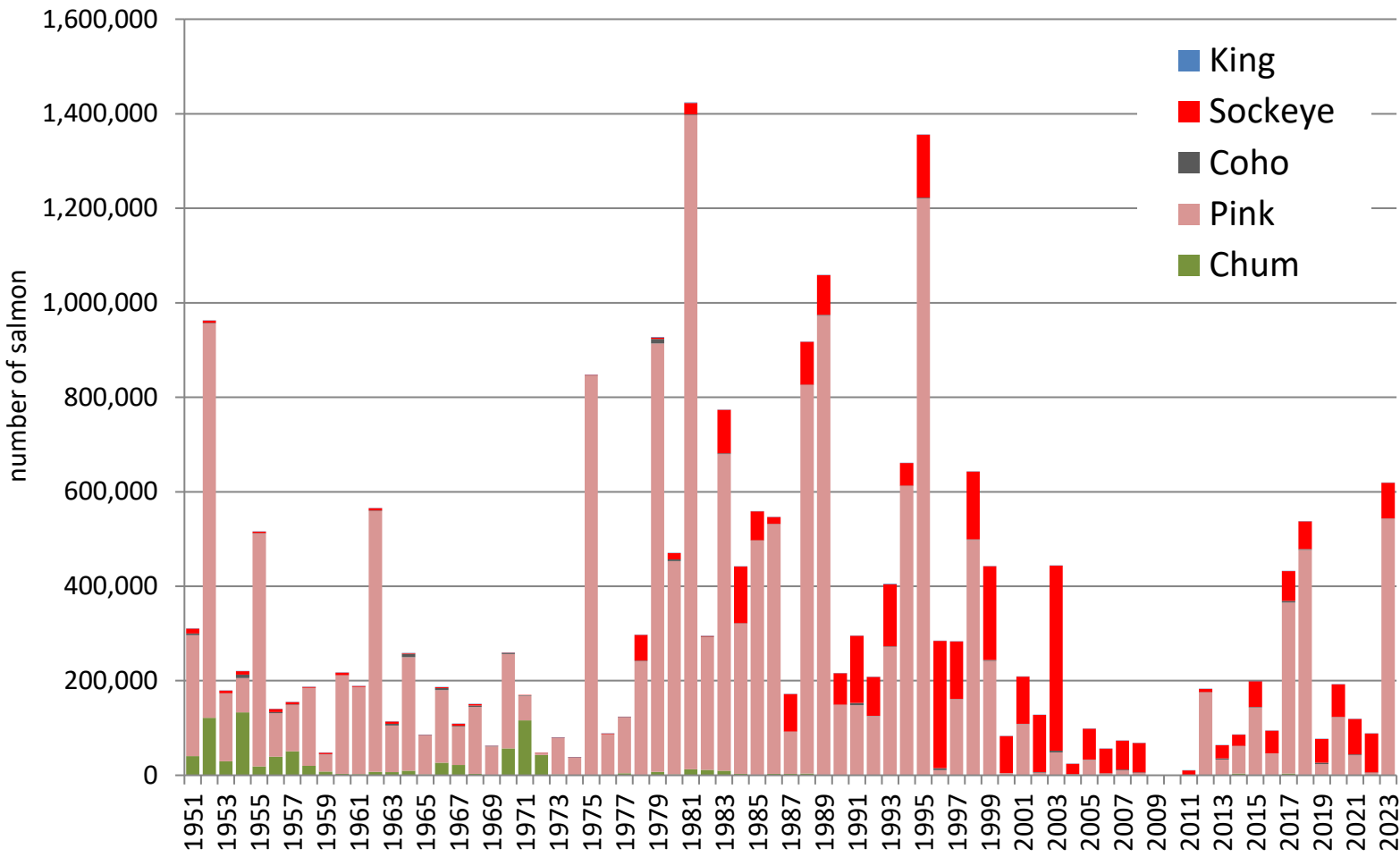


Southern District Set Gillnet Harvests, 1951-2023



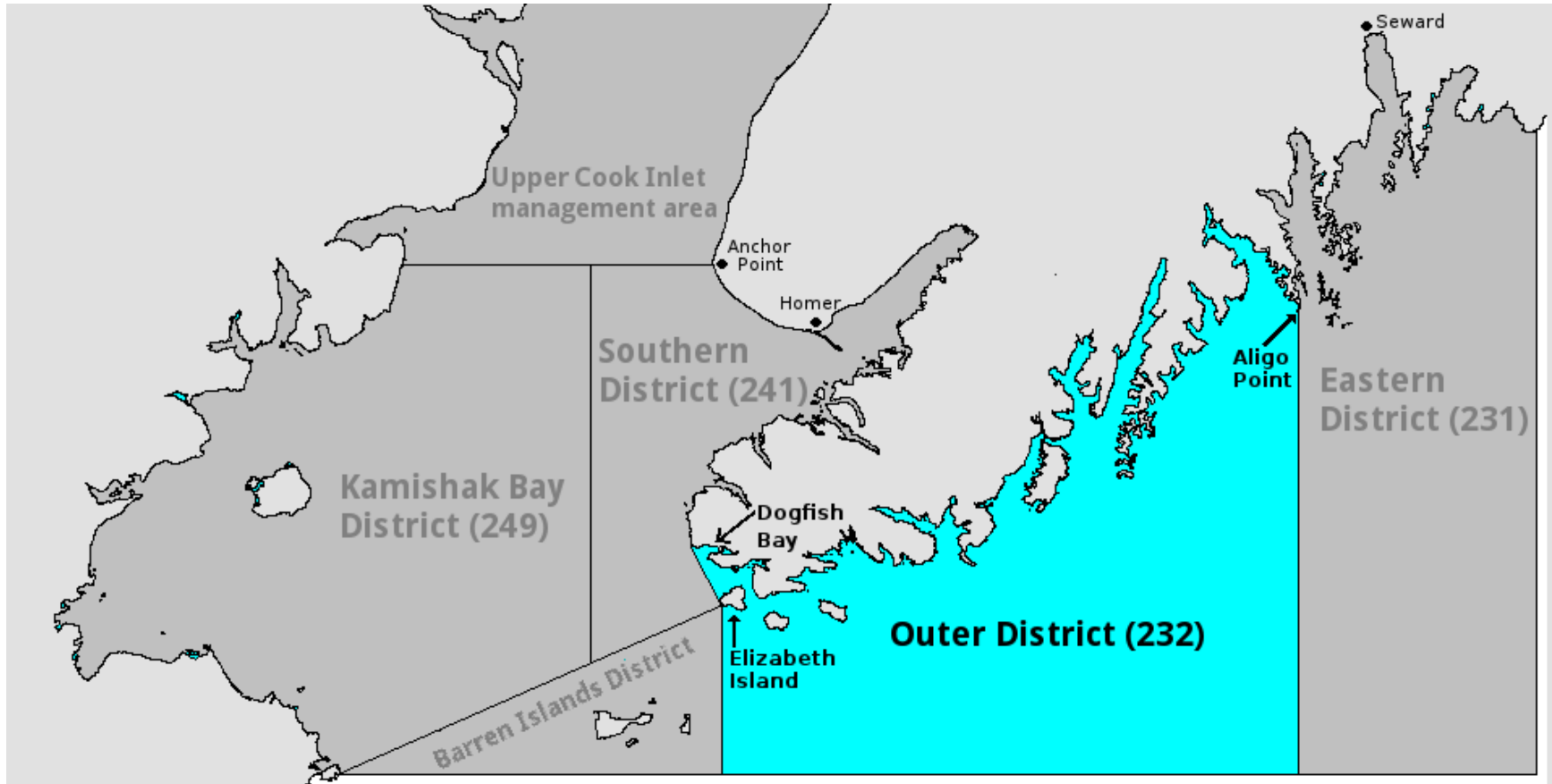


Southern District Purse Seine Common Property Harvests, 1951-2023

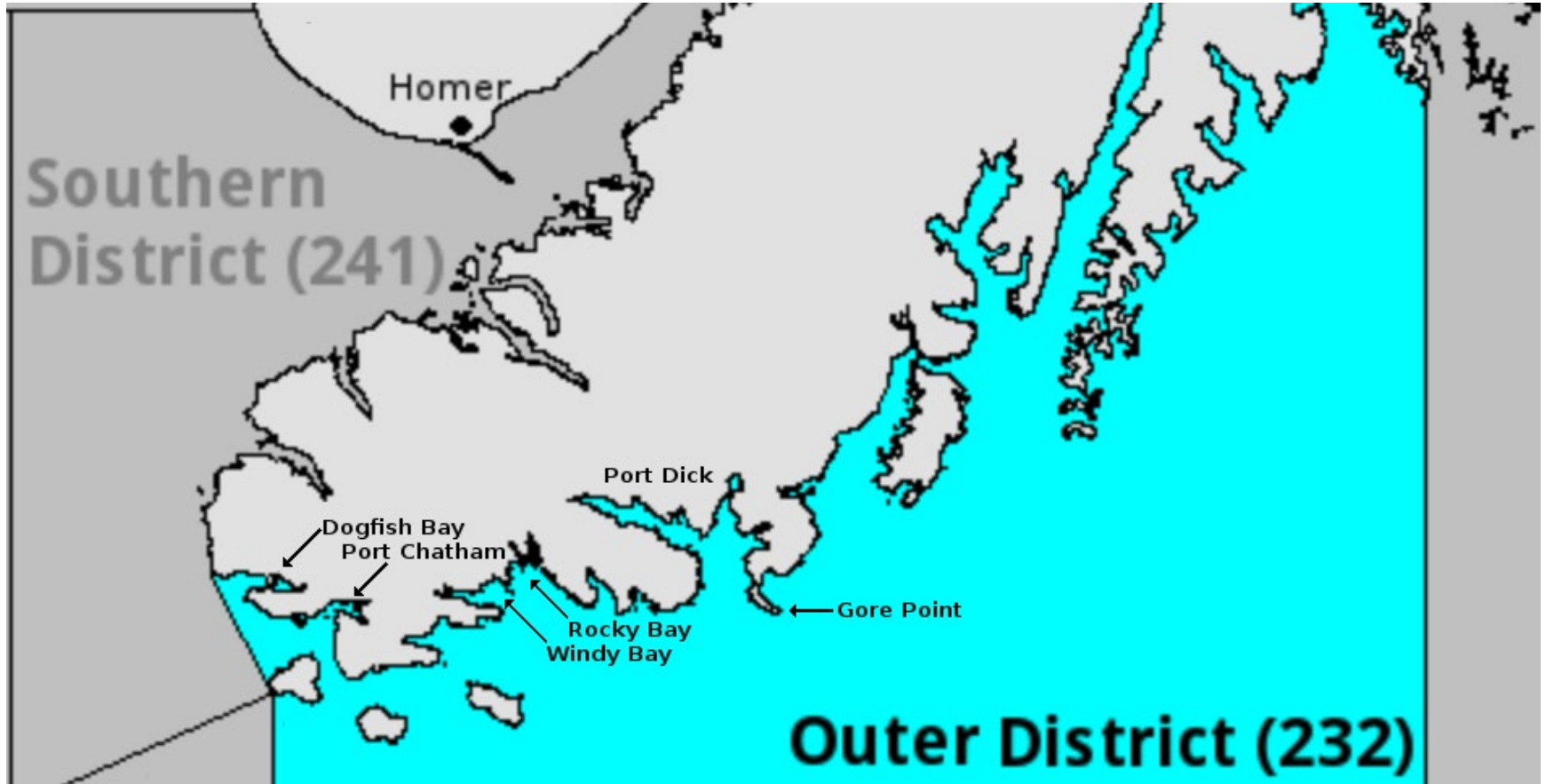




Outer District Harvests

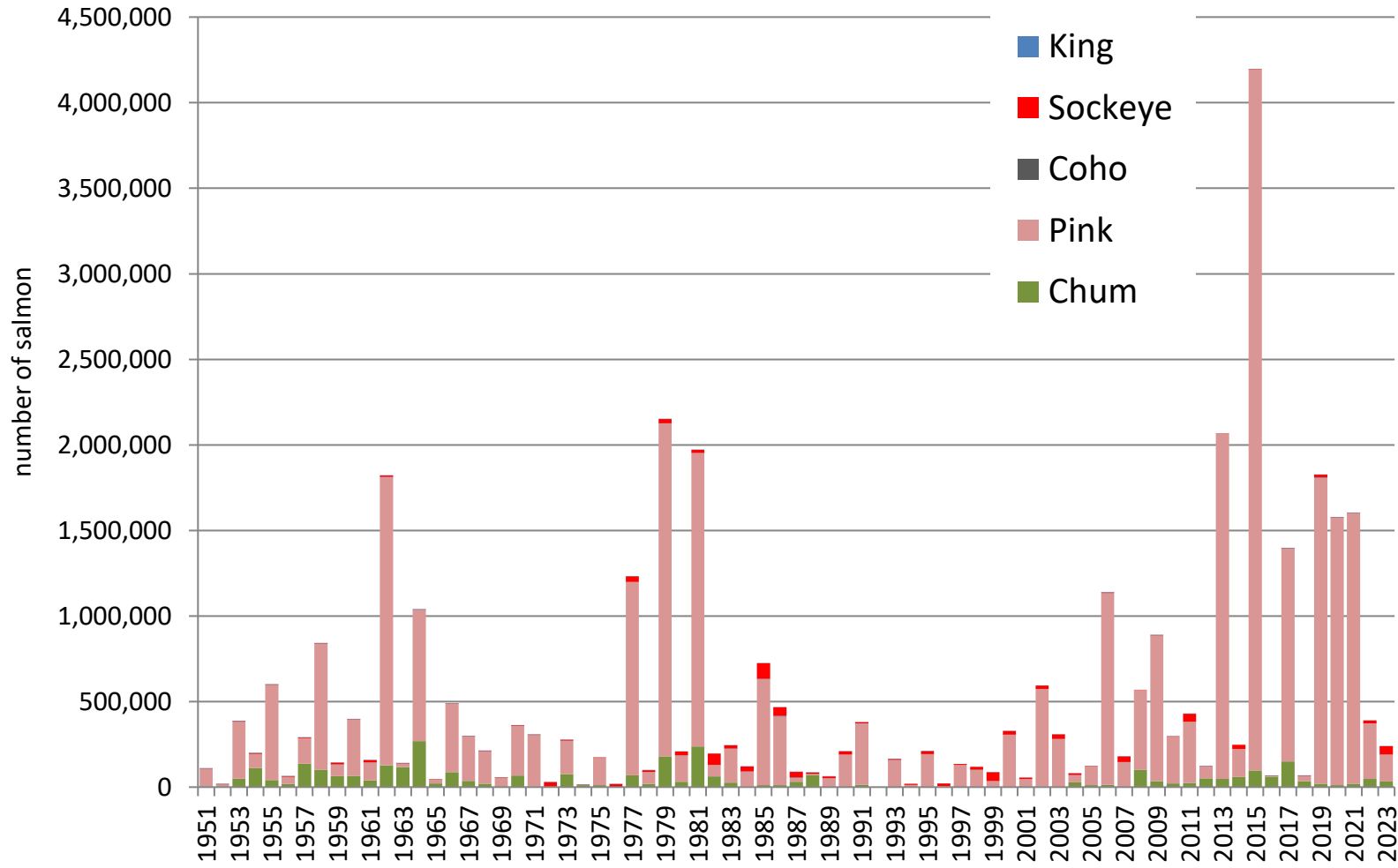


Outer District Harvests

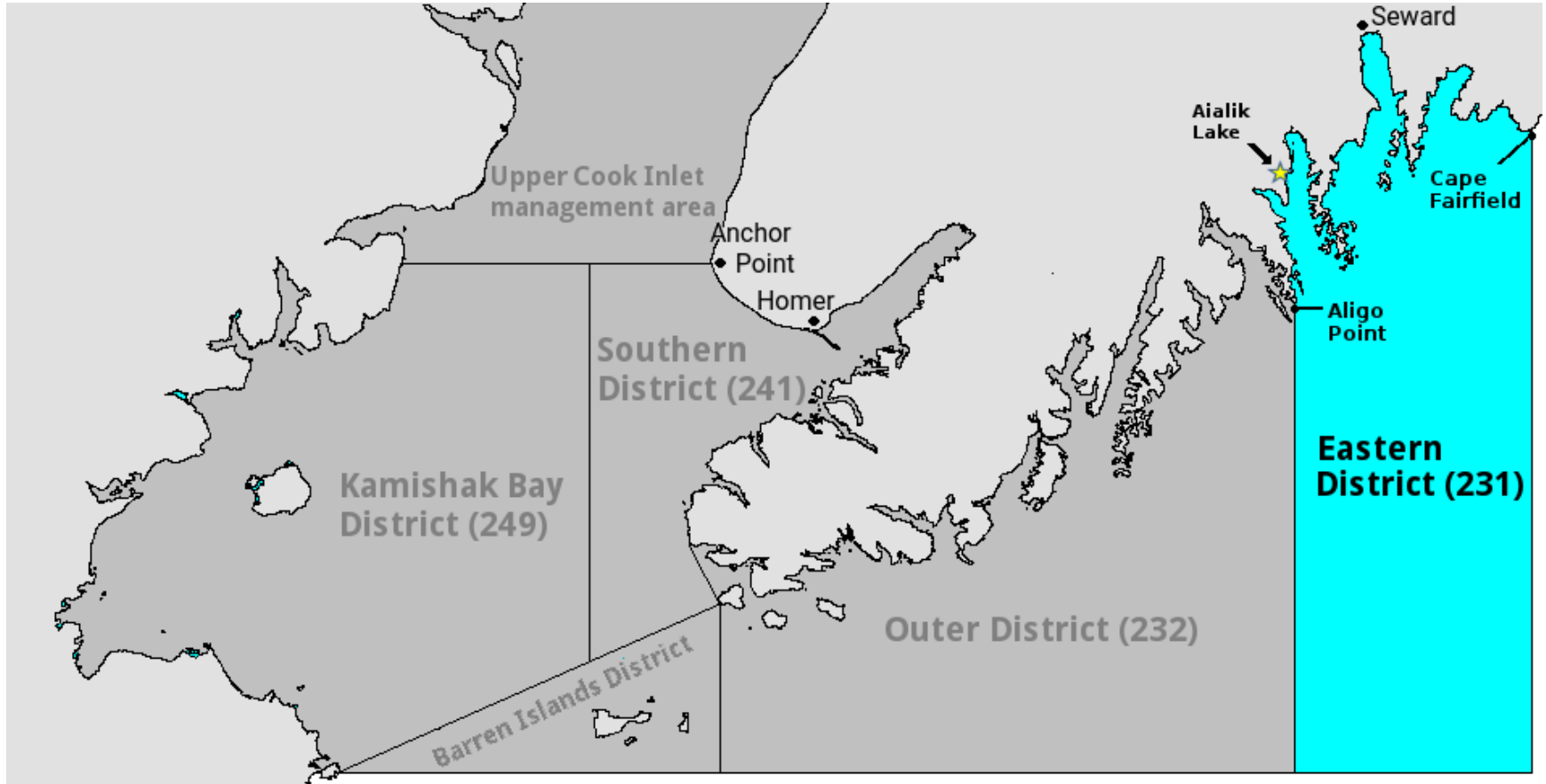




Outer District Harvests 1951-2023

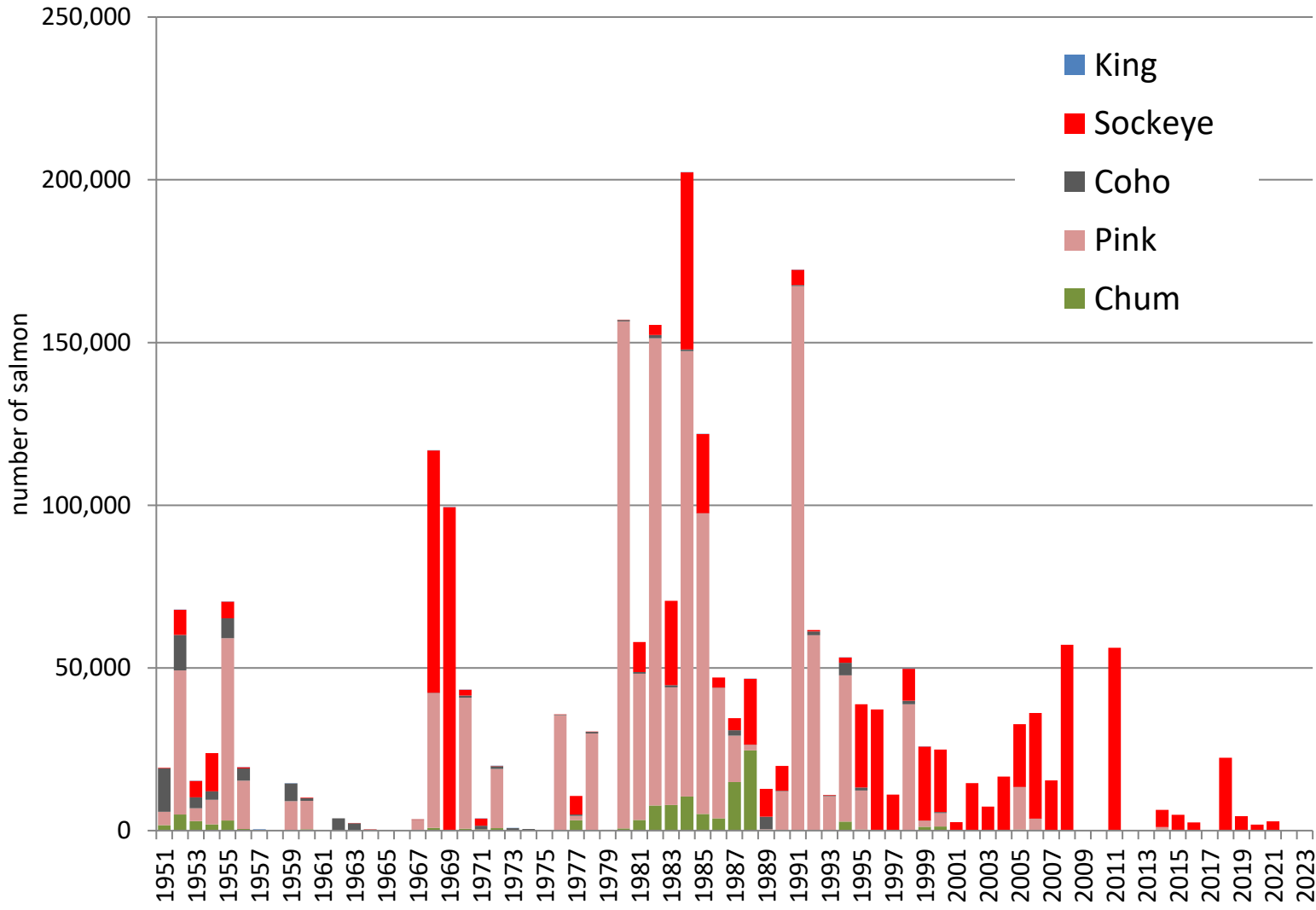


Eastern District Harvests



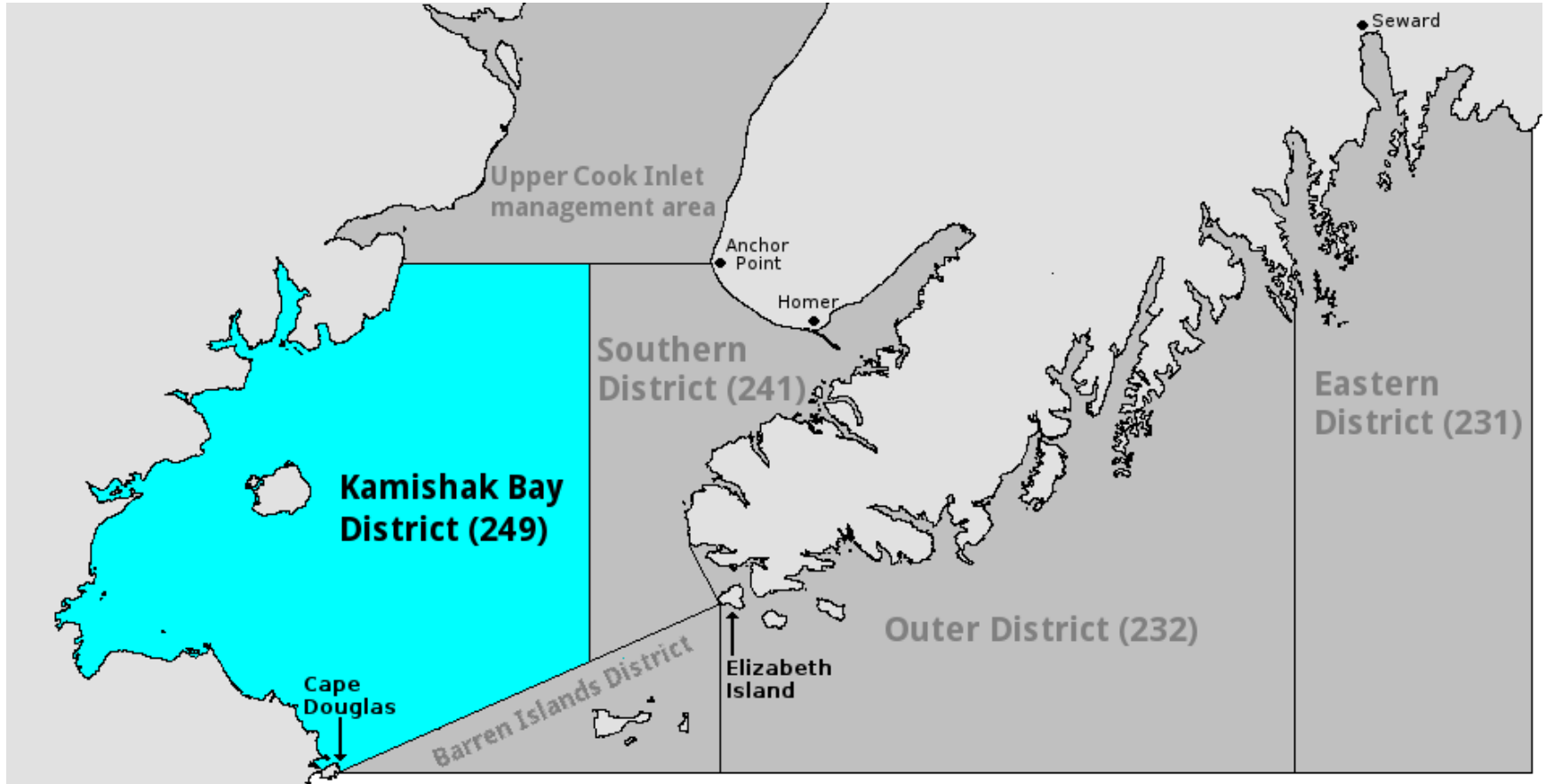


Eastern District Harvests 1951-2023



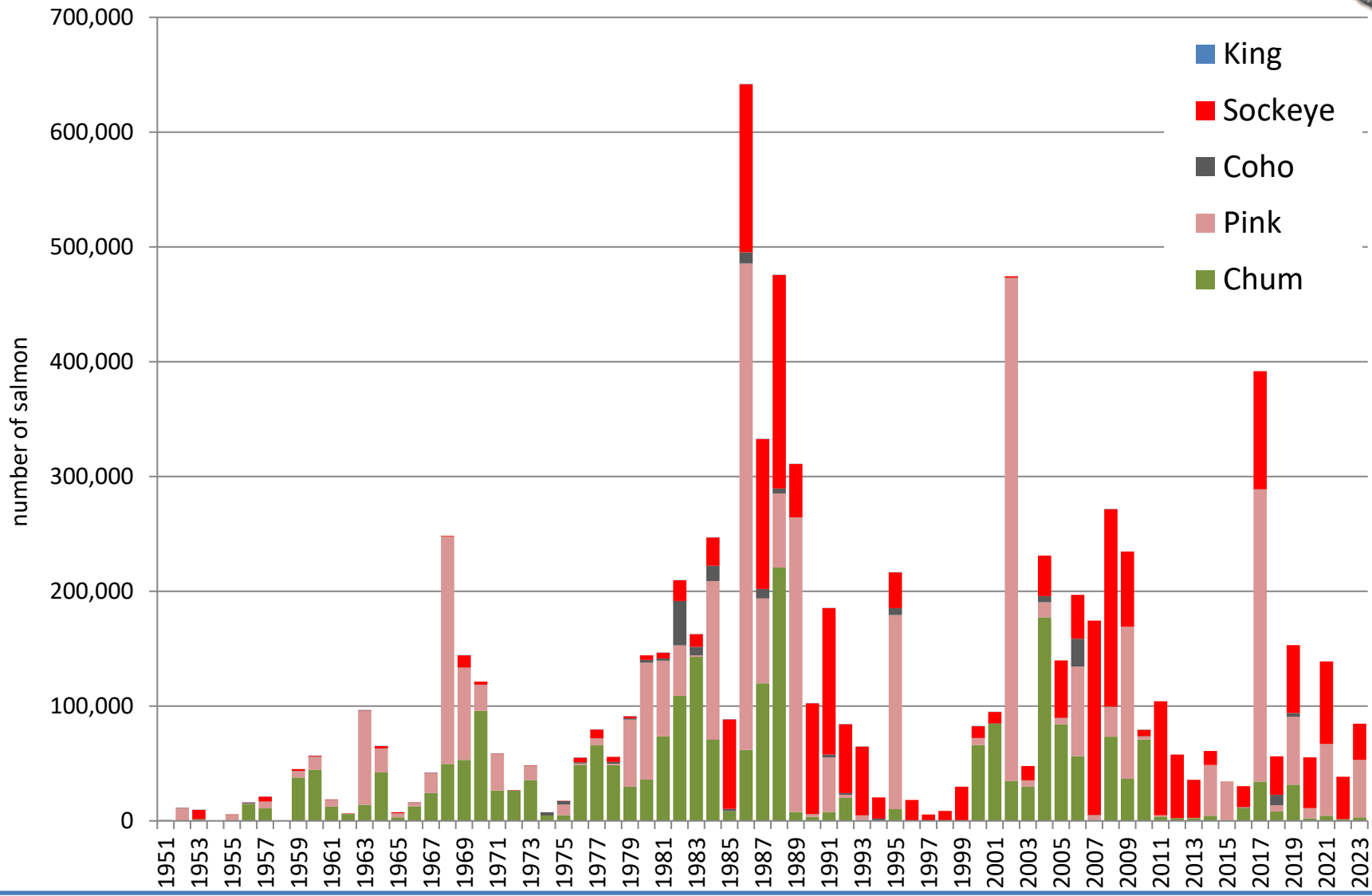


Kamishak Bay District Harvests





Kamishak District Harvests 1951-2023

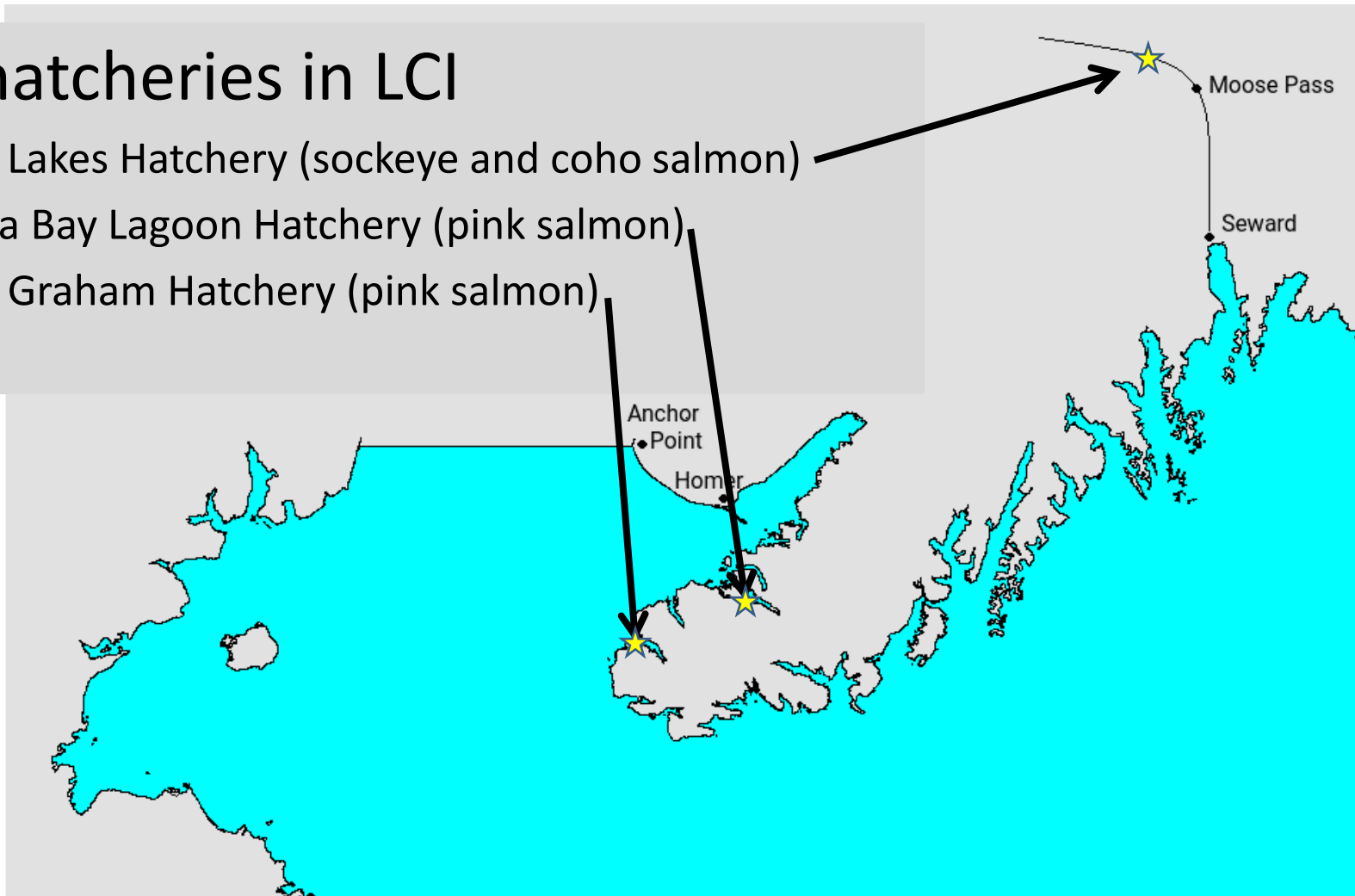




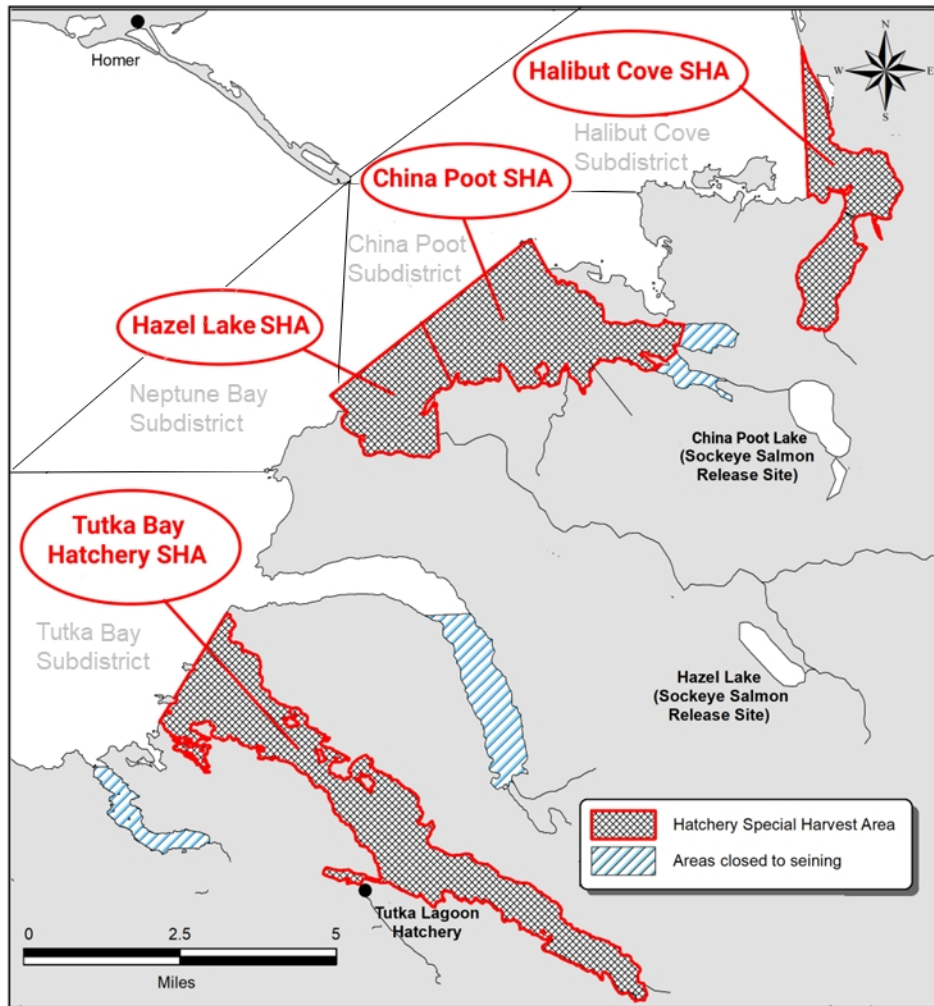
Enhancement

Three hatcheries in LCI

- Trail Lakes Hatchery (sockeye and coho salmon)
- Tutka Bay Lagoon Hatchery (pink salmon)
- Port Graham Hatchery (pink salmon)



SHA Primer



- **SHA – “Special Harvest Area”**
 - Are situated near hatcheries, or hatchery remote release sites
 - SHAs do not have significant stocks of the salmon species that are being enhanced
- Prior to thermal marking, harvest that occurred within the SHA was the only method of estimating total hatchery harvest without sampling very large numbers of salmon outside of the SHA.
- Consequently, during years where the SHA remained closed to common property harvest, vessels could fish just outside of the SHA boundaries and harvest hatchery returns. In those years, while the commercial harvest was zero in the SHA on hatchery returns, there were harvests occurring just outside of the SHA where hatchery produced fish were caught in significant numbers. Sometimes the common property harvest of hatchery produced fish overall in those years prior to thermal marking has been inaccurately expressed as zero.

Map showing Tutka Bay SHA, Hazel Lake SHA, China Poot SHA, and Halibut Cove SHA.

Thermal marked otolith sampling

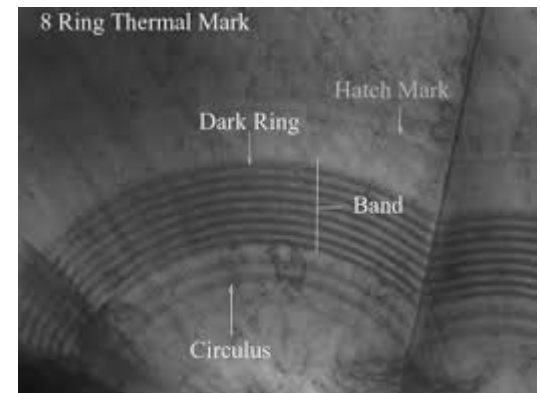


Thermally marked otolith



Otoliths being recovered

Otoliths were collected from commercially caught salmon in the Southern District. All set gillnet otoliths were collected from outside of hatchery special harvest areas (SHAs). Otoliths from purse seine harvested fish were primarily collected outside of SHAs.

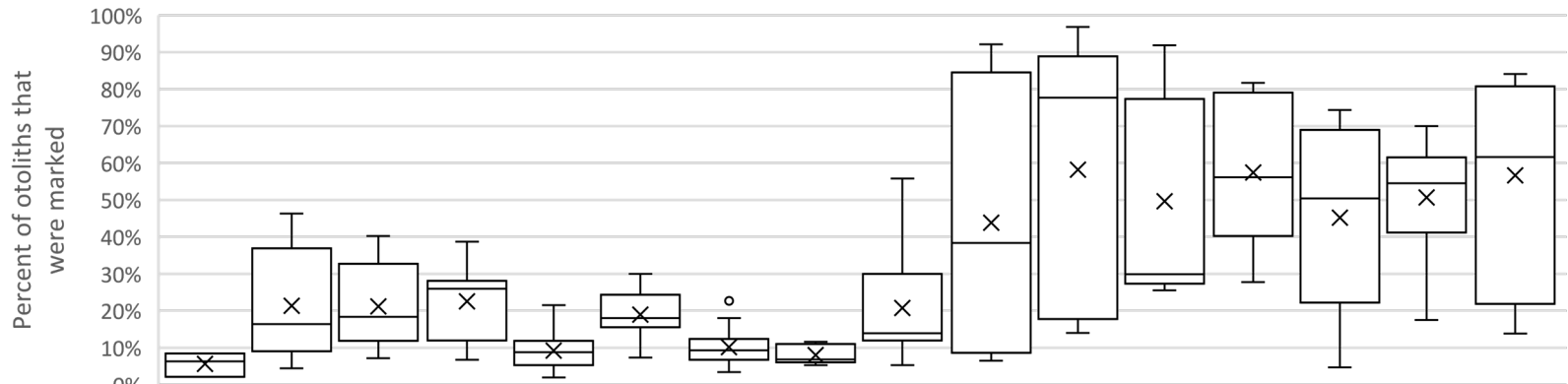


Thermally marked otolith

Southern District Sockeye Salmon otolith sampling 2013-2021



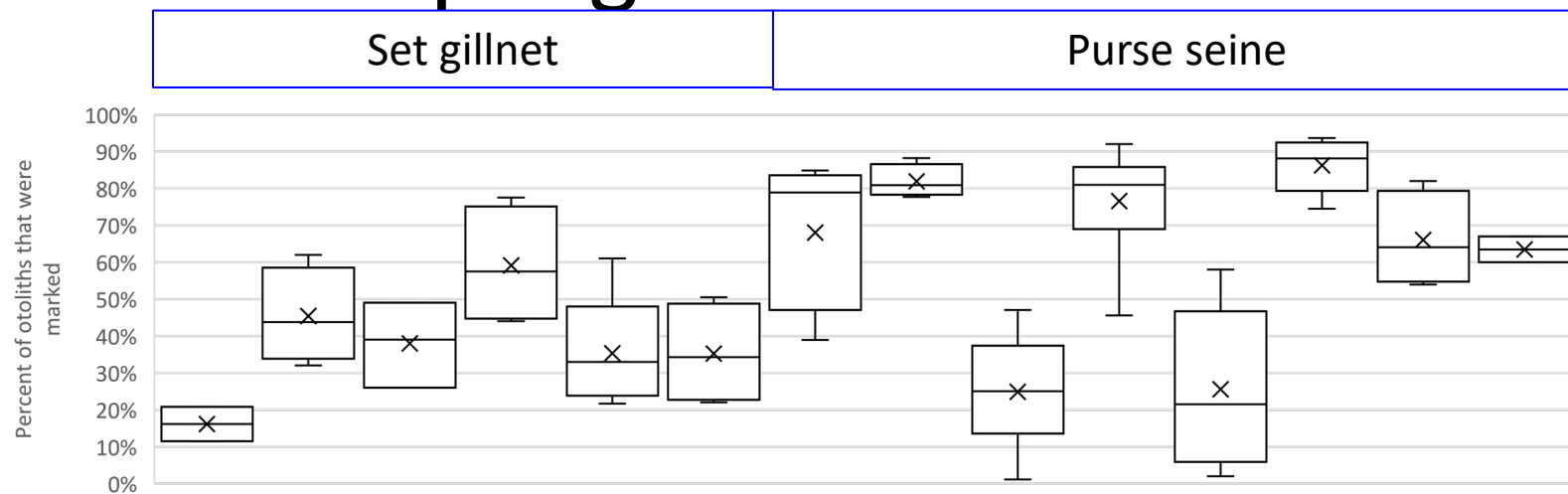
Set gillnet	Purse seine
-------------	-------------



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2015	2016	2017	2018	2019	2020	2021
Stat week 23, (June)		18.9%	31.3%		2.0%	30.0%	6.8%		55.8%							
Stat week 24, (June)		10.8%	40.2%		3.1%	14.3%	11.1%	11.6%	40.8%							
Stat week 25, (June)		4.4%	37.2%	38.7%	9.7%	17.6%	9.3%	6.8%	14.4%			91.9%	58.3%	72.8%	17.5%	
Stat week 26, (June)		28.7%	21.3%	19.0%	21.6%	18.0%	7.4%	11.3%	13.3%		96.8%	77.3%	81.7%	48.1%	58.7%	61.6%
Stat week 27, (July)		46.3%	12.1%	28.1%	13.0%	21.6%	12.4%	10.2%	13.9%	92.1%	81.0%	68.2%	78.2%	74.3%	53.3%	77.1%
Stat week 28, (July)	2.1%	39.6%	19.4%	27.2%	7.9%	18.0%	22.7%	6.6%	19.1%	61.7%	77.7%	29.9%	44.4%	52.8%	55.7%	80.7%
Stat week 29, (July)	6.3%	13.8%	7.1%	11.9%	7.1%	7.3%	18.0%	5.9%	13.4%		14.0%	27.4%	54.0%	57.3%	49.0%	84.1%
Stat week 30, (July)	8.4%	8.4%	14.4%	6.7%	10.3%	27.0%	9.4%	6.7%	5.2%	15.1%	21.5%	25.5%	27.8%	33.3%	69.9%	57.0%
Stat week 31, (July-Aug)			17.3%	25.9%	5.9%	16.8%	4.5%	5.3%	10.5%	6.5%		27.3%		18.5%		21.8%
Stat week 32, (August)			11.2%		11.5%		6.7%							4.7%		13.8%
Stat week 33, (August)							3.4%									
Average	5.6%	21.4%	21.2%	22.5%	9.2%	19.0%	10.2%	8.0%	20.7%	43.8%	58.2%	49.6%	57.4%	45.2%	50.7%	56.6%

Note: Bottom and top of the boxes are 25th and 75th percentile. Horizontal line in the box is the 50th percentile, (median). The "X" is the mean, (average). Whiskers show the minimum and maximum values.

Southern District Pink Salmon otolith sampling 2015-2022



	2017	2018	2019	2020	2021	2022	2015	2016	2017	2018	2019	2020	2021	2022
Stat week 25, (June)		32.0%												
Stat week 26, (June)														
Stat week 27, (July)					26.0%		82.3%				43.0%			
Stat week 28, (July)				47.0%	21.7%		78.9%		38.9%	81.0%	7.2%			
Stat week 29, (July)		39.5%		77.5%	61.0%	22.0%	84.9%	80.0%	32.8%	85.7%	23.2%	86.0%	82.0%	
Stat week 30, (July)	20.8%	62.0%		44.0%	35.0%	43.5%	55.2%	81.8%	16.0%	77.2%	19.8%	90.3%	71.3%	60.0%
Stat week 31, (July-Aug)	11.5%	48.0%	49.0%	68.0%	33.0%	50.5%	38.9%		26.3%	85.8%	58.0%	92.0%	56.8%	67.0%
Stat week 32, (August)			39.0%			25.0%		77.7%	47.1%	45.6%	2.0%	93.7%	54.0%	
Stat week 33, (August)			26.0%					88.2%	23.8%	69.0%		81.0%		
Stat week 34, (August)									12.8%			74.5%		
Stat week 35, (Aug-Sept)									1.1%					
Stat week 36, (Sept)										92.0%				
Average	16.2%	45.4%	38.0%	59.1%	35.3%	35.3%	68.0%	81.9%	24.9%	76.6%	25.5%	86.3%	66.0%	63.5%

Note: Bottom and top of the boxes are 25th and 75th percentile. Horizontal line in the box is the 50th percentile, (median). The "X" is the mean, (average). Whiskers show the minimum and maximum values.

Hatchery Salmon Harvests 2000-2023



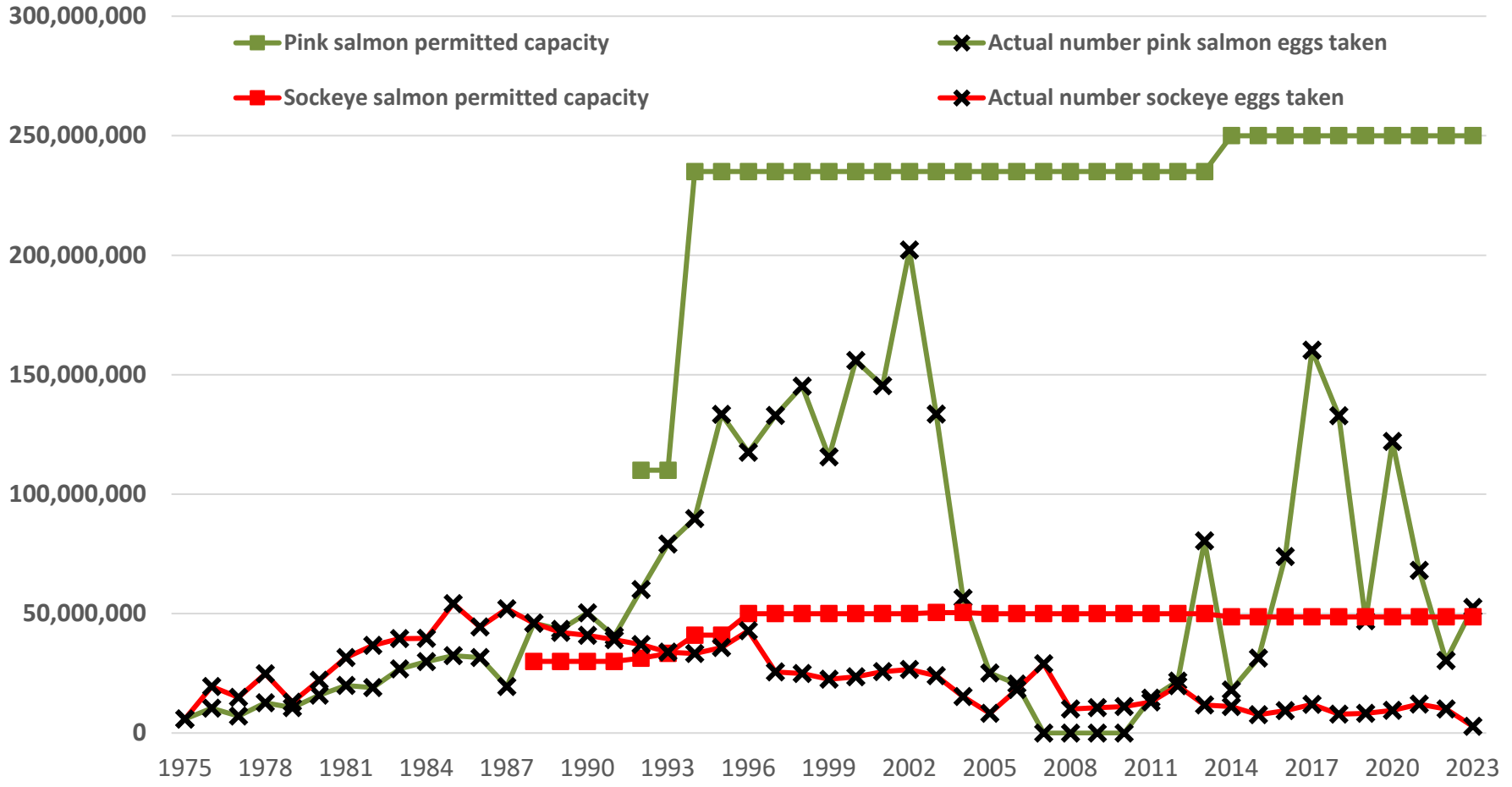
Hatchery subdistricts: Cost recovery versus commercial harvest

Year	Sockeye salmon - Tutka, China Poot, Neptune Bay subdistricts				Pink salmon - Tutka Subdistrict				Sockeye salmon - Resurrection Bay Subdistrict			
	Commercial harvest (n-fish)	Cost recovery (n-fish)	Total harvest (n-fish)	Percent cost recovery	Commercial harvest (n-fish)	Cost recovery (n-fish)	Total harvest (n-fish)	Percent cost recovery	Commercial harvest (n-fish)	Cost recovery (n-fish)	Total harvest (n-fish)	Percent cost recovery
2000	67,000	19,000	86,000	22%	9,000	1,044,000	1,052,000	99%	19,000	31,000	50,000	62%
2001	107,000	27,000	134,000	20%	110,000	421,000	531,000	79%	3,000	4,000	6,000	59%
2002	111,000	30,000	141,000	21%	5,000	703,000	708,000	99%	13,000	2,000	15,000	13%
2003	358,000	36,000	393,000	9%	5,000	507,000	512,000	99%	7,000	3,000	10,000	27%
2004	26,000	13,000	39,000	33%	2,000	1,175,000	1,177,000	100%	17,000	0	17,000	0%
2005	68,000	30,000	98,000	30%	5,000	1,632,000	1,637,000	100%	19,000	36,000	55,000	66%
2006	57,000	23,000	80,000	29%	11,000	0	11,000	0%	28,000	34,000	62,000	55%
2007	70,000	23,000	92,000	24%	0	0	0	0%	15,000	8,000	24,000	35%
2008	69,000	17,000	85,000	19%	2,000	0	2,000	16%	57,000	33,000	90,000	37%
2009	9,000	12,000	21,000	56%	2,000	0	2,000	0%	0	137,000	137,000	100%
2010	6,000	39,000	45,000	86%	3,000	0	3,000	6%	0	21,000	21,000	100%
2011	17,000	8,000	25,000	31%	2,000	0	2,000	0%	56,000	150,000	207,000	73%
2012	10,000	30,000	40,000	74%	5,000	0	5,000	4%	0	84,000	84,000	100%
2013	32,000	18,000	51,000	36%	1,000	48,000	49,000	98%	0	43,000	43,000	100%
2014	35,000	30,000	65,000	47%	11,000	0	11,000	0%	5,000	126,000	131,000	96%
2015	64,000	32,000	96,000	34%	112,000	2,087,000	2,199,000	95%	5,000	93,000	97,000	95%
2016	50,000	29,000	79,000	37%	51,000	25,000	77,000	33%	3,000	103,000	105,000	98%
2017	72,000	38,000	110,000	34%	292,000	110,000	402,000	27%	0	26,000	26,000	100%
2018	64,000	69,000	133,000	52%	188,000	940,000	1,128,000	83%	22,000	158,000	181,000	88%
2019	56,000	13,000	69,000	18%	9,000	180,000	188,000	95%	4,000	124,000	128,000	97%
2020	73,000	16,000	89,000	18%	134,000	635,000	770,000	83%	2,000	62,000	64,000	97%
2021	79,000	35,000	114,000	31%	35,000	303,000	338,000	90%	3,000	52,000	55,000	95%
2022	91,000	26,000	117,000	22%	7,000	50,000	57,000	88%	0	80,000	80,000	100%
2023	82,000	48,000	130,000	37%	538,000	1,934,000	2,473,000	78%	0	87,000	87,000	100%
10-yr avg	67,000	34,000	100,000	33%	138,000	626,000	764,000	82%	4,000	91,000	96,000	95%

Note: Red font indicates years where CIAA cost recovery goal was not achieved.



Permitted egg capacity vs. actual number of eggs taken, 1975 - 2023





2023 Commercial Harvest

3.1 million fish with a preliminary ex-vessel value of **\$4.1 million**.

- Sockeye salmon accounted for approximately 57% of the total value at **\$2.3 million** and 11% of the harvest at 350,000 fish. Of those 168,000 were cost recovery fish valued at **\$1.3 million**.
- Pink salmon accounted for approximately 40% of the value at **\$1.6 million**, and 87.3% of the harvest overall at 2.5 million fish. Of those, 1.9 million were cost recovery harvested and valued at **\$1.2 million**.
- Chum salmon accounted for 2% of the value at **\$83,000** and 1% of the harvest at 39,500 fish.
- Coho salmon accounted for approximately <1% of the total value at **\$2,200** and <1% of the harvest at 857 fish.
- The king salmon harvest was 328 fish with an estimated preliminary ex-vessel value of **\$11,000**.
- 71.0% of the pink salmon harvested by the common property seine and gillnet fleet were taken from hatchery subdistricts, as were 48.7% of the sockeye salmon harvest.



2023 LCI Subsistence Finfish Proposals

- One proposal before the board
 - Proposal 30: Specifically allow the harvest of herring spawn



2023 LCI Commercial Salmon Proposals

There were 10 commercial salmon proposals submitted:

- three address salmon hatchery regulations (42,43,36),
- two address salmon gear used for cost recovery (37,38),
- three address commercial salmon closed waters (41,40,39), and
- two propose to create new fishery management plans in LCI (34,35).

Thank you for your time.
Questions?

