

# 2021 Post Season Review

## Ketchikan Management Area

Purse Seine  
Districts 1-4

Bo Meredith  
Area Management Biologist  
Commercial Fisheries - Ketchikan

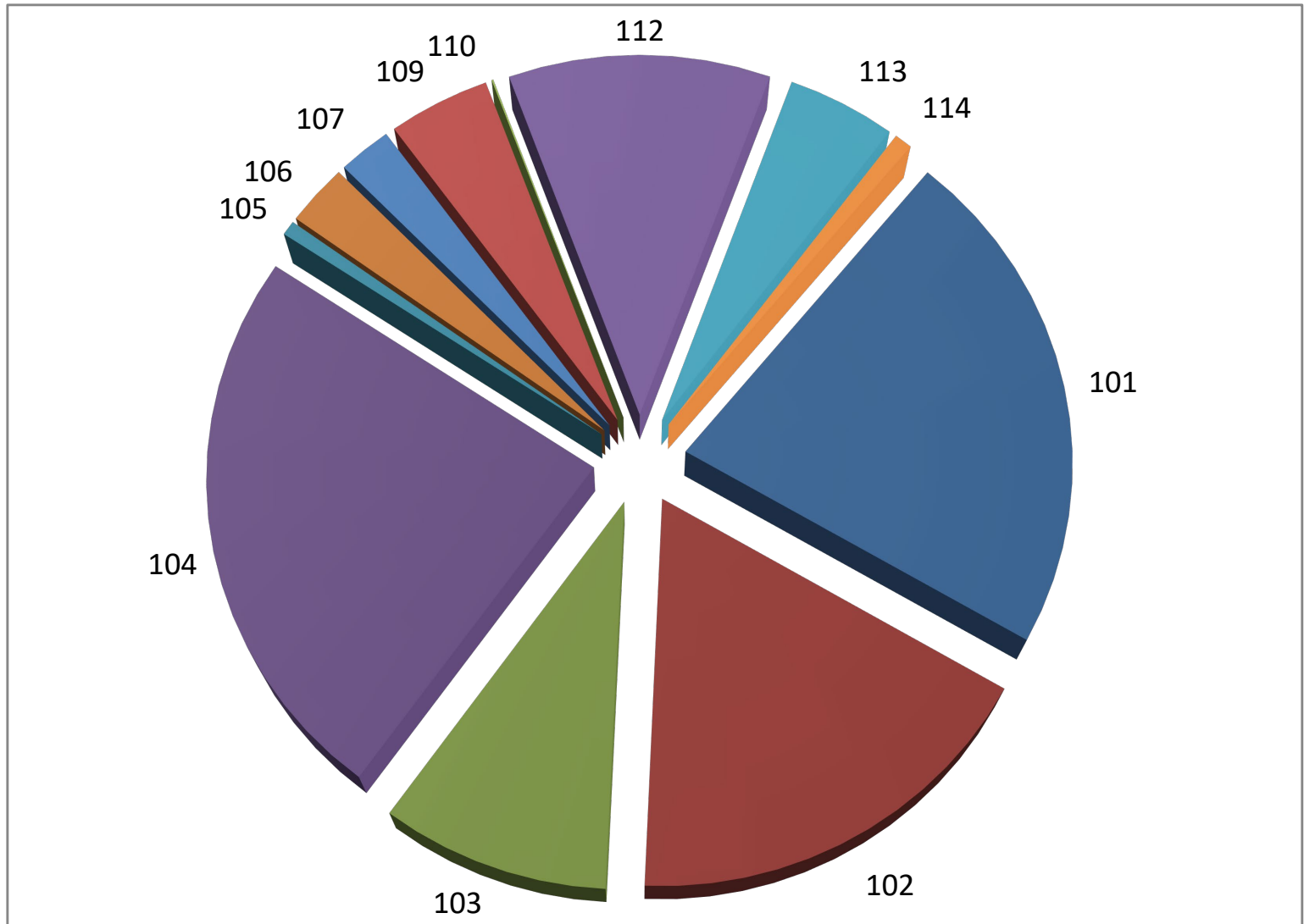


# Purse Seine Harvest – All Districts in Southeast Traditional Harvest Only – no THA's

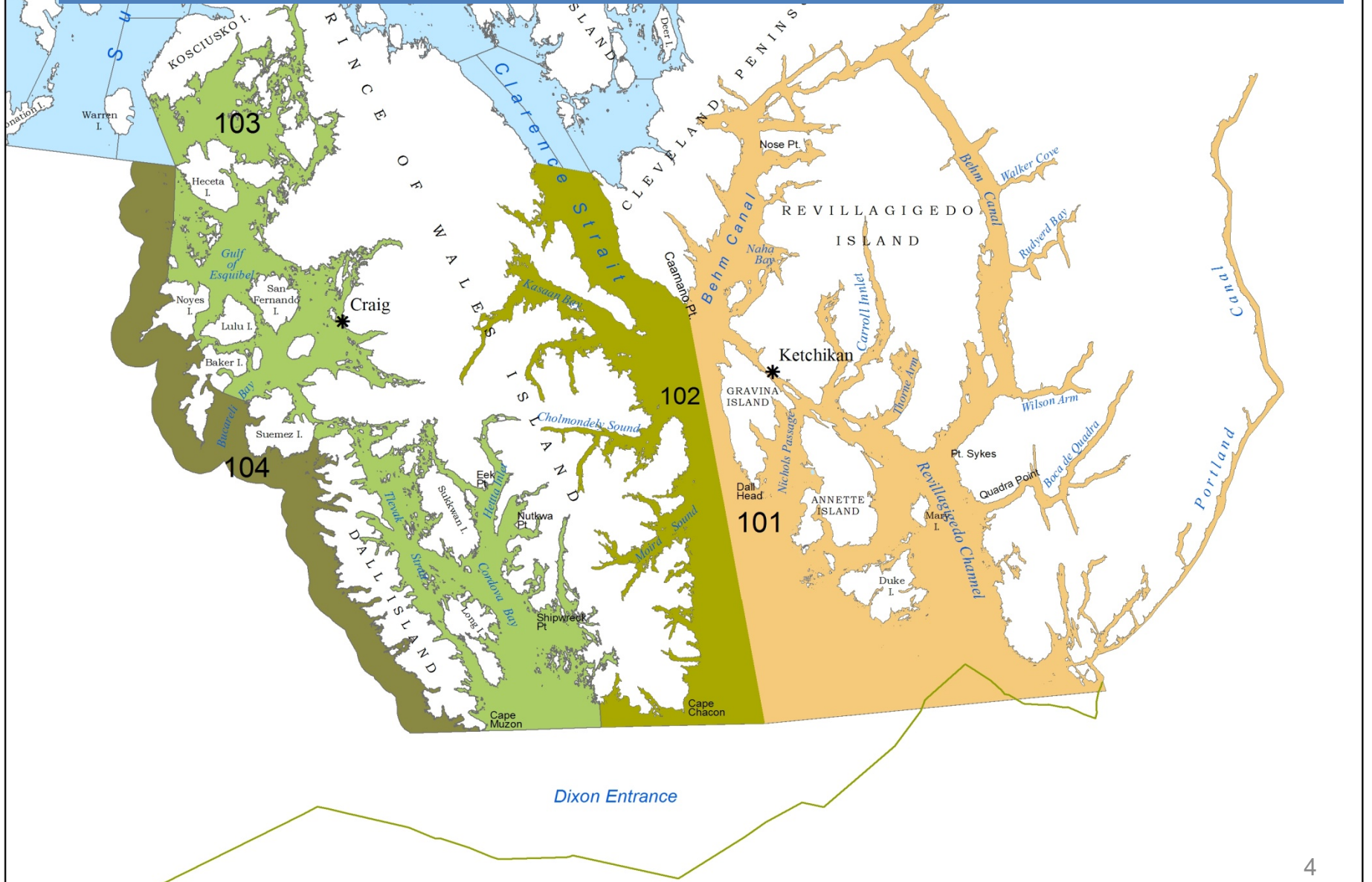
District	Chinook	Sockeye	Coho	Pink	Chum	Total	Number of Permits
101	9	94,591	54,394	9,854,467	200,944	10,204,405	127
102		69,461	54,035	7,741,394	435,263	8,300,153	122
103	49	28,229	29,347	4,129,189	154,006	4,340,820	81
104	6,516	496,404	97,575	10,746,081	212,045	11,558,621	102
105	1	9,618	1,991	285,021	6,213	302,844	6
106	65	28,637	10,390	1,224,094	21,147	1,284,333	28
107	208	12,759	3,779	1,050,823	64,657	1,132,226	58
109	12	5,373	11,061	1,951,579	20,446	1,988,471	40
110		223	743	33,986	30	34,982	12
112	57	37,624	27,642	5,020,737	43,458	5,129,518	73
113	25	6,488	5,385	2,085,621	137,717	2,235,236	78
114	1	1,815	1,617	342,625	2,303	348,361	17
<b>TOTAL</b>	<b>6,943</b>	<b>791,222</b>	<b>297,959</b>	<b>44,465,617</b>	<b>1,298,229</b>	<b>46,859,970</b>	<b>209</b>

Total boats Ketchikan = 182      Total boats all Southeast = 209

# Southeast Alaska Purse Seine Traditional Pink Salmon Harvest - 2021



# Ketchikan Purse Seine Districts

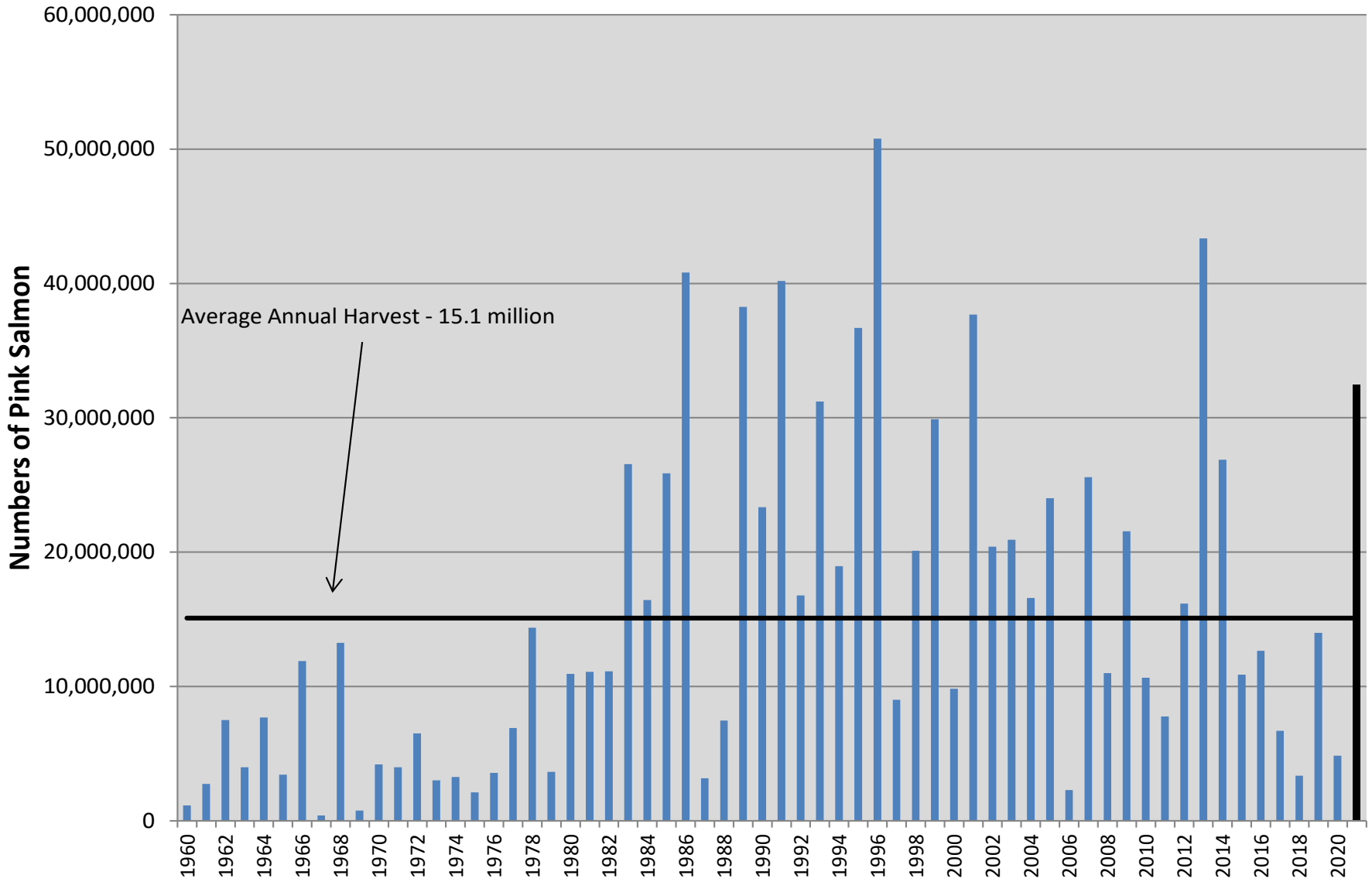


# 2021 Ketchikan Area Commercial Net Harvests

## Purse Seine and Gillnet Common Property Fisheries - Districts 1-4

Fishery	Chinook	Sockeye	Coho	Pink	Chum	Totals
PS 101	9	94,591	54,394	9,854,467	200,944	10,204,405
PS 102		69,461	54,035	7,741,394	435,263	8,300,153
PS 103	49	28,229	29,347	4,129,189	154,006	4,340,820
PS 104	6,516	496,404	97,575	10,746,081	212,045	11,558,621
GN 101	1,892	21,577	47,362	144,365	171,272	386,468
Carroll THA GN	1,737	0	0	0	13	1,750
Carroll THA SN	1,669	1	1	12	13	1,696
Neet Bay THA GN	2,354	0	1	3	123	2,481
Neets Bay THA PS	3,712	14	10	233	2,925	6,894
Nakat THA GN	119	259	6,209	3,915	55,424	65,926
Kendrick THA PS	0	138	651	15,301	11,698	27,788
Annette Island GN	819	2,808	14,454	147,514	88,052	253,647
Annette Island PS	478	10,516	9,188	2,584,339	46,151	2,650,672
<b>Totals</b>	<b>19,354</b>	<b>723,998</b>	<b>313,227</b>	<b>35,366,813</b>	<b>1,377,929</b>	<b>37,801,321</b>

# Ketchikan Management Area Traditional Purse Seine Pink Salmon Harvest, 1960-2021

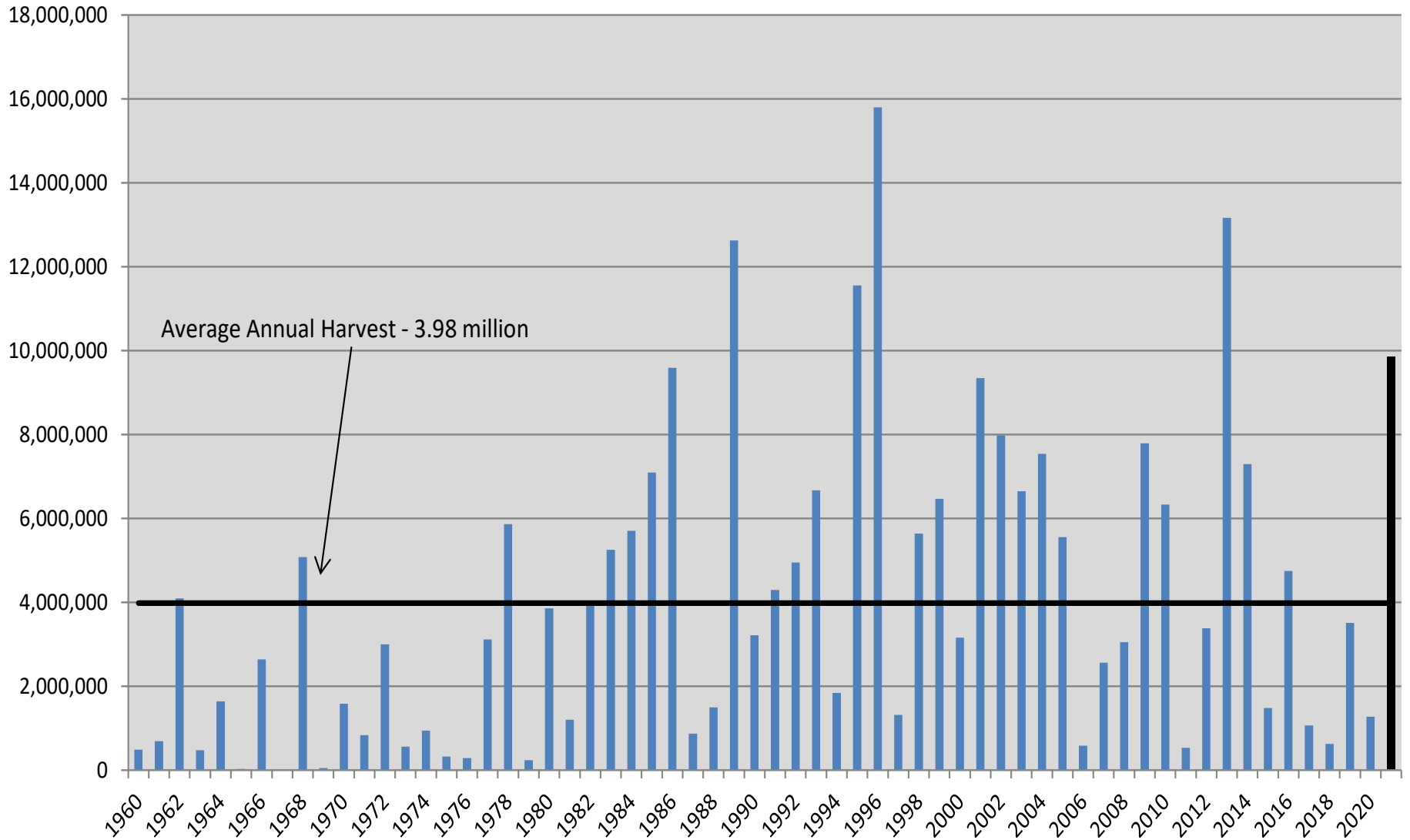


# 2021 District 1 Purse Seine – Harvest by Opening

Opening	Chinook	Sockeye	Coho	Pink	Chum	Boats	Hours
28	9	1,309	496	39,142	8,152	55	15
28B	0	656	338	80,900	5,300	39	15
29	0	575	425	111,020	4,223	26	15
29B	0	1,199	1,436	298,033	10,062	67	15
30	0	3,463	2,663	633,368	30,850	68	15
30B	0	2,501	2,457	474,613	16,147	72	15
31	0	14,465	4,364	685,653	26,115	57	39
31B	0	10,692	3,383	570,580	17,004	45	39
32	0	7,759	3,475	655,782	10,446	37	39
32B	0	8,914	1,842	614,740	7,655	26	39
33	0	6,249	2,502	919,408	10,492	32	39
33B	0	8,998	6,033	1,507,631	14,073	48	63
34	0	6,249	6,661	1,737,227	14,941	56	63
35	0	6,983	4,166	716,286	9,601	37	63
35B	0	5,014	4,455	421,408	5,779	21	39
36	0	7,331	3,204	248,155	4,749	19	39
36B	0	2,234	6,494	140,521	5,355	16	39
<b>Total</b>	<b>0</b>	<b>94,591</b>	<b>54,394</b>	<b>9,854,467</b>	<b>200,944</b>	<b>127</b>	<b>591</b>

- Pinks ranked 5<sup>th</sup> of 61 since 1960.
- 10-year avg = 4.2 million pinks.
- Hugh Smith restrictions persisted from SW 29-33. Hugh Smith final esc of 3,235 is ~40% of the lower end of the 8K escapement goal. Subsequently the pink systems in Quadra did well with a combined estimate of 1.5 million pink escapement into the Marten and Keta Rivers.

# District 1 Traditional Purse Seine Pink Salmon Harvest 1960-2021





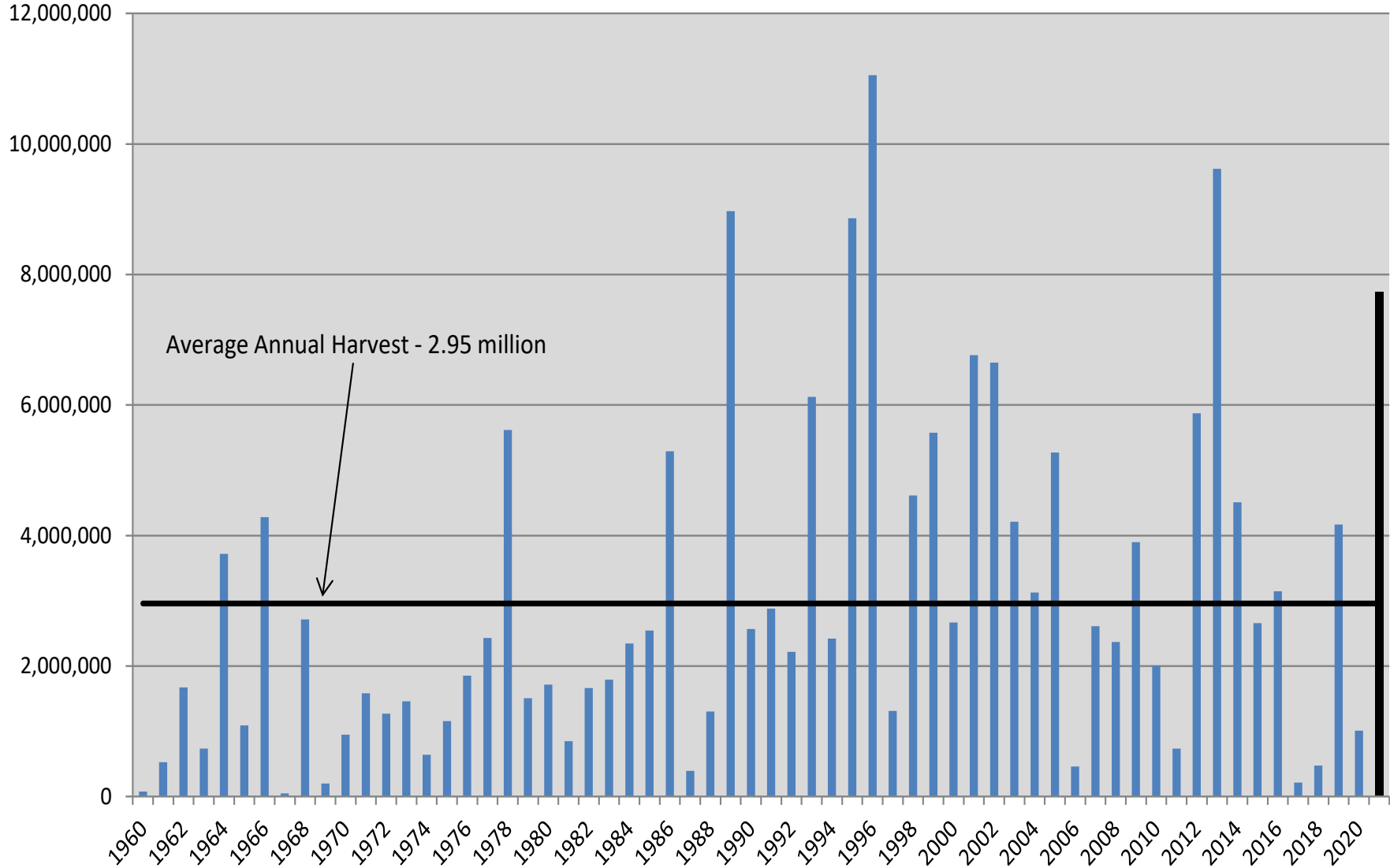
# 2021 District 2 Purse Seine – Harvest by Opening

Early outside Kendrick

Opening	Chinook	Sockeye	Coho	Pink	Chum	Boats	Hours
26	0	184	2,441	102,293	9,067	16	39
27	0	208	587	3,913	8,888	37	39
28	0	298	336	1,862	6,743	17	15
28B	0	642	378	2,590	15,442	17	15
29	0	641	693	7,117	18,322	17	15
29B	0	1,150	1,314	47,506	29,905	20	15
30	0	937	1,570	35,365	38,308	20	15
30B	0	1,157	1,361	110,287	37,361	17	15
31	0	5,000	4,141	218,469	93,482	29	39
31B	4	7,074	5,532	867,666	50,910	47	39
32	0	3,643	2,419	587,660	9,669	26	39
32B	0	4,545	2,335	694,686	21,596	22	39
33	0	3,480	3,014	1,074,416	20,537	34	39
33B	0	8,216	4,555	1,401,378	19,108	44	63
34	0	5,410	2,662	702,937	8,273	24	63
35	0	14,516	5,676	934,404	15,215	46	63
35B	0	3,493	2,571	520,901	15,560	24	39
36	0	7,105	6,405	324,096	12,259	14	39
36B	0	1,762	6,045	103,848	4,576	16	39
38	0	0	0	0	***	***	12
39	0	0	0	0	0	0	12
<b>Total</b>	<b>0</b>	<b>69,461</b>	<b>54,035</b>	<b>7,741,394</b>	<b>435,221</b>	<b>122</b>	<b>693</b>

- Pinks rank 5<sup>th</sup> out of 61 since 1960.
- 10 yr avg = 3.2 million
- Escapements extremely strong. Terminal fisheries in both Chomly and Moira.
- Limited fall chum fishery. Escapements ended up slightly above the upper bound of SEG.

# District 2 Traditional Purse Seine Pink Salmon Harvest 1960-2021

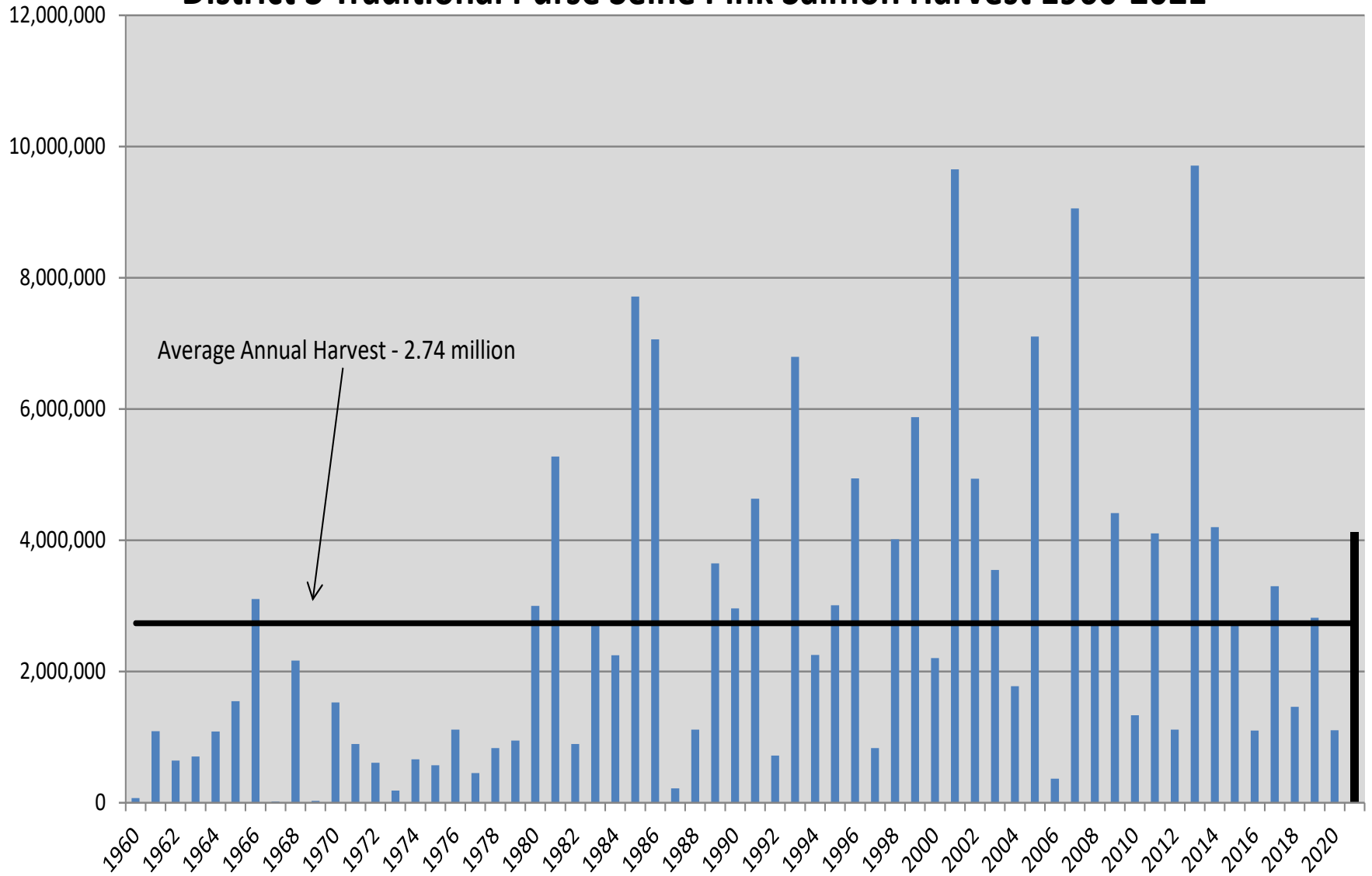


# 2021 District 3 Purse Seine – Harvest by Opening

Opening	Chinook	Sockeye	Coho	Pink	Chum	Boats	Hours
30	0	518	980	9,071	16,250	9	15
30B	0	91	111	1,142	3,776	5	15
31	0	814	428	12,392	29,464	7	39
31B	0	111	38	4,054	8,201	3	39
32	49	1,254	428	46,940	6,362	6	39
32B	0	4,114	7,808	328,690	20,038	20	39
33	0	4,242	2,263	717,287	21,774	35	39
33B	0	5,041	3,158	887,527	17,599	47	39
34	0	2,602	2,932	682,483	9,247	31	39
35	0	4,881	2,995	593,922	10,201	36	39
35B	0	2,618	3,334	516,044	7,088	29	39
36	0	1,563	3,126	276,747	3,627	23	39
36B	0	380	1,746	52,890	379	8	39
<b>Total</b>	<b>49</b>	<b>28,229</b>	<b>29,347</b>	<b>4,129,189</b>	<b>154,006</b>	<b>81</b>	<b>459</b>

- Pinks rank 16 out of 61.
- 10 yr avg = 3.1 million
- Not as strong as D1 and 2. Sea Otter and upper 3B were better, Cordova below average with less than 1 million pink harvest.

# District 3 Traditional Purse Seine Pink Salmon Harvest 1960-2021



The District 4 Purse Seine fishery is managed prior to statistical week 31 to achieve 2.45% of the Annual Allowable Harvest (AAH) of the combined Nass/Skeena sockeye run in that year.

- The AAH is calculated as the combined total run of adult Nass and Skeena sockeye salmon in that year minus the combined Nass and Skeena escapement target of 1.1 million fish or the actual in-river escapement; whichever is less.
- The total run calculation includes the catch of Nass and Skeena sockeye in the boundary area fisheries and the escapement to the Nass and Skeena rivers. The cumulative catch includes sockeye salmon in the Alaskan Districts of 101, 102, 103, 104 and 106 net fisheries and Canadian areas 1, 3, 4 and 5 net fisheries plus Canadian in-river fisheries.

For 2021:

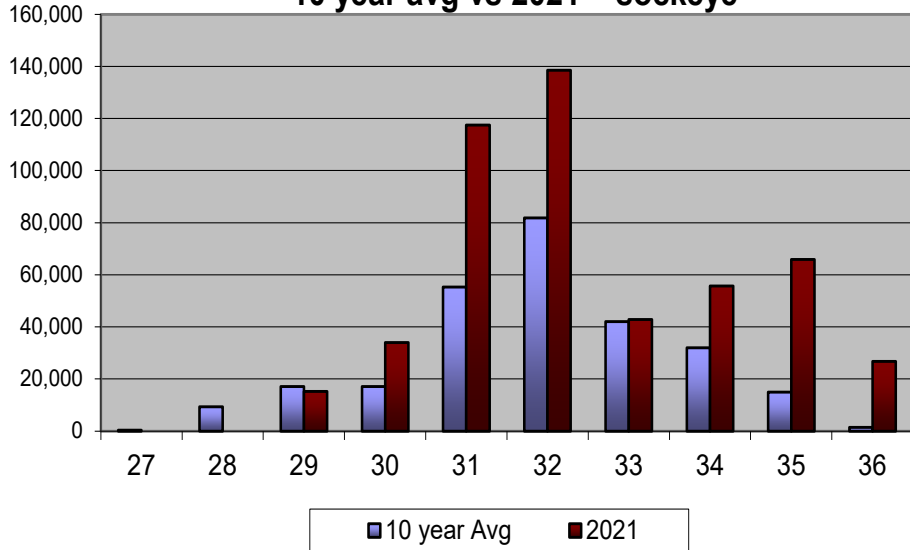
- Skeena preseason forecast of 1.67M
- Nass preseason forecast of 437K
- Combined preseason forecast of 2.134 million
  - Estimated pre-week 31 AAH of ~25.3K Canadian sockeye
  - First official in-season forecast did not come out until July 12. Delayed due to flood conditions on the river. The inseason forecast dropped to a low of 650K which translated into an AAH of ~8k.

# 2021 District 4 Purse Seine – Harvest by Opening

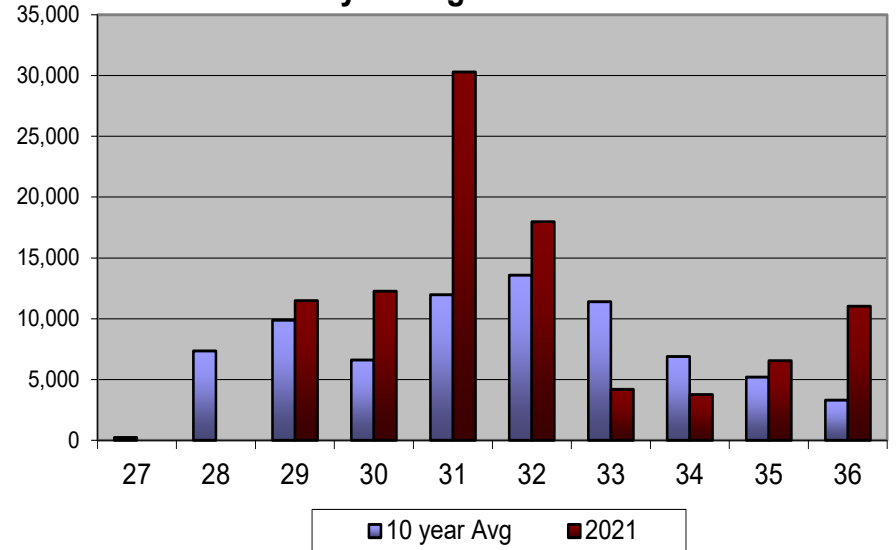
	Opening	Chinook	Sockeye	Coho	Pink	Chum	Boats	Hours
Treaty Period	28				<b>CLOSED</b>			
	28B				<b>CLOSED</b>			
	29	0	4,048	4,596	91,323	14,684	37	8
	29B	0	11,201	6,880	90,327	19,651	29	8
	30	0	7,564	3,639	80,654	10,376	22	8
	30B	0	26,491	8,633	320,256	12,425	27	15
	31	0	37,755	14,221	524,619	33,090	53	39
	31B	0	79,743	16,070	2,036,995	24,483	54	39
	32	6,400	83,714	11,931	2,656,744	26,117	85	39
	32B	0	54,788	6,048	2,254,512	23,591	71	39
	33	0	18,729	1,756	642,199	13,747	32	39
	33B	93	38,533	3,191	685,651	10,102	28	39
	34	23	41,288	3,023	444,107	9,226	20	39
	35	0	42,888	3,040	384,911	4,728	32	39
	35B	0	22,969	3,523	298,543	5,117	24	39
	36	0	21,597	6,293	186,778	3,566	22	39
	36B	0	5,096	4,731	48,462	1,142	9	39
	<b>Total</b>	<b>6,516</b>	<b>496,404</b>	<b>97,575</b>	<b>10,746,081</b>	<b>212,045</b>	<b>102</b>	<b>468</b>

- Pre-week 31 sockeye catch = 49,304 Approx 32K Canadian
- D4 was open for three 8-hour periods and one 15-hour period out of a potential 90 hours during the treaty period. Avg. hours is 56.
- Combination of factors on the 15-hour opening in SW 30. Weather, pinks in Chatham and Icy Strait, questionable inseason numbers based on river conditions and a strong desire for meaningful fishery performance data.

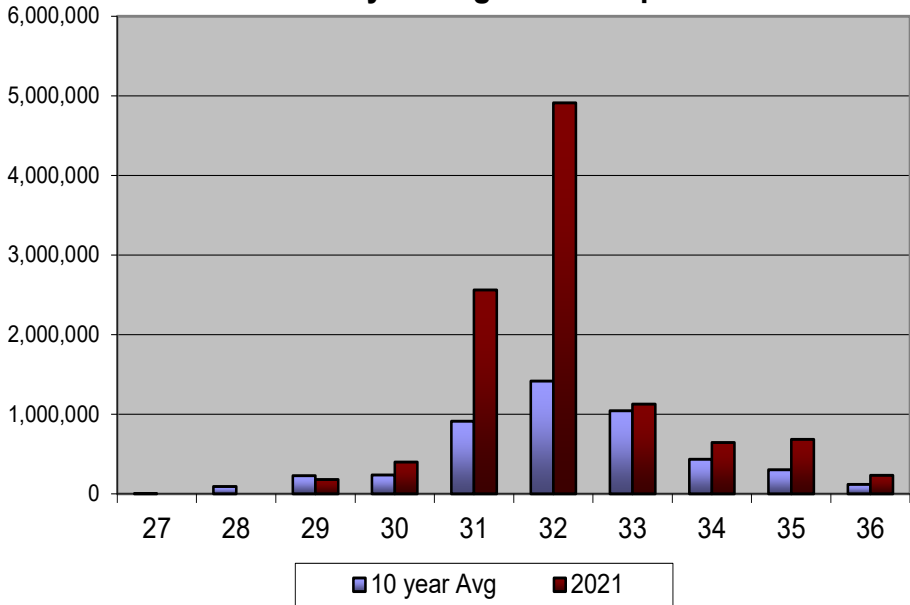
**District 4 Purse Seine Weekly Harvest  
10 year avg vs 2021 - sockeye**



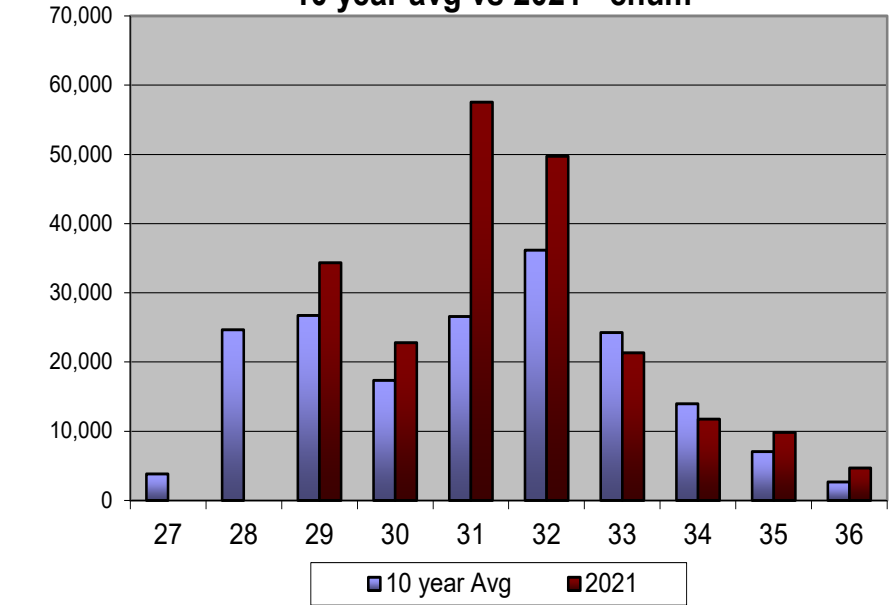
**District 4 Purse Seine Weekly Harvest  
10 year avg vs 2021 - coho**



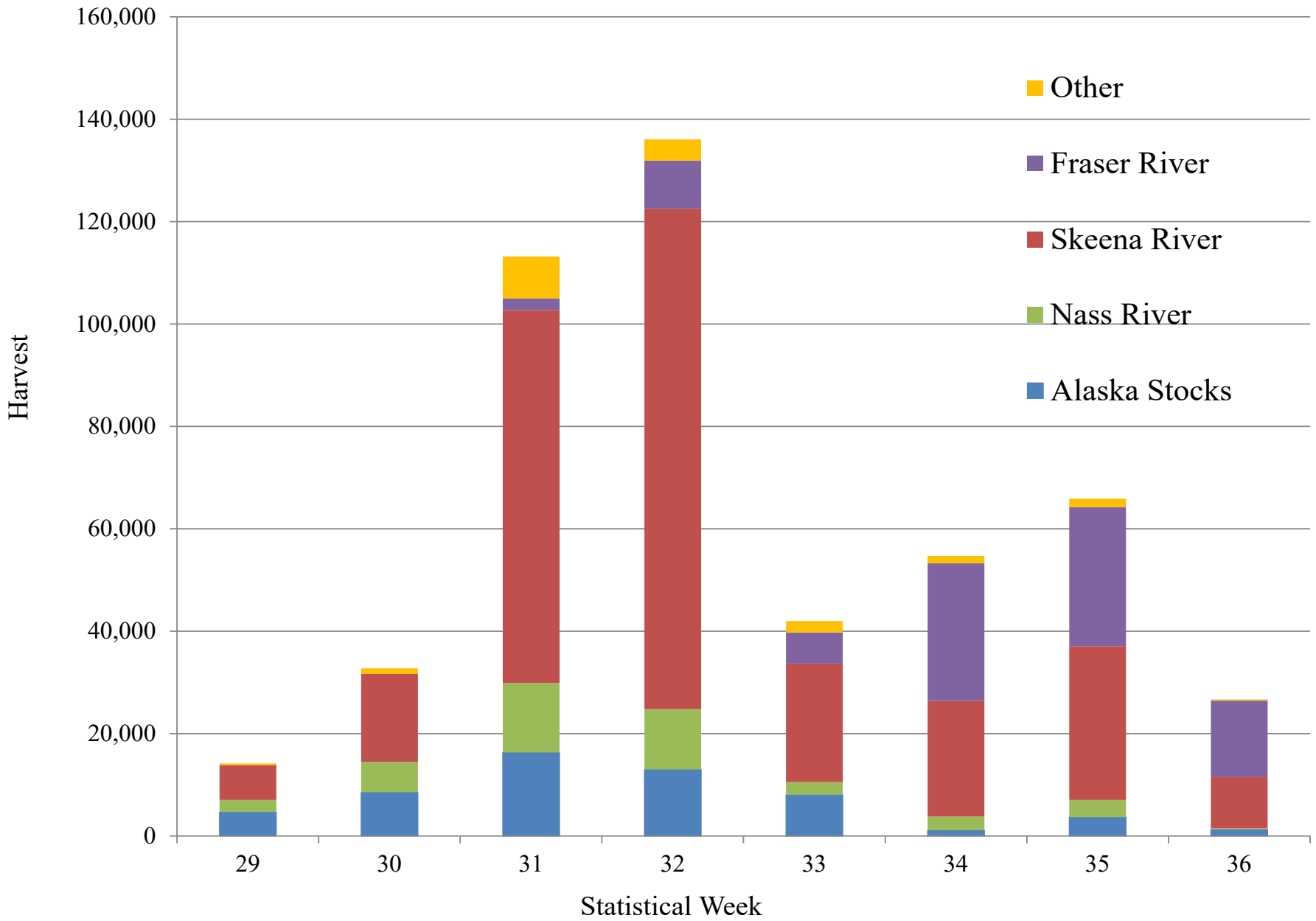
**District 4 Purse Seine Weekly Harvest  
10 year avg vs 2021 - pink**



**District 4 Purse Seine Weekly Harvest  
10 year avg vs 2021 - chum**



# District 104 Purse Seine Fishery Sockeye Harvest Stock Composition - 2021





# District 104 – Purse Seine

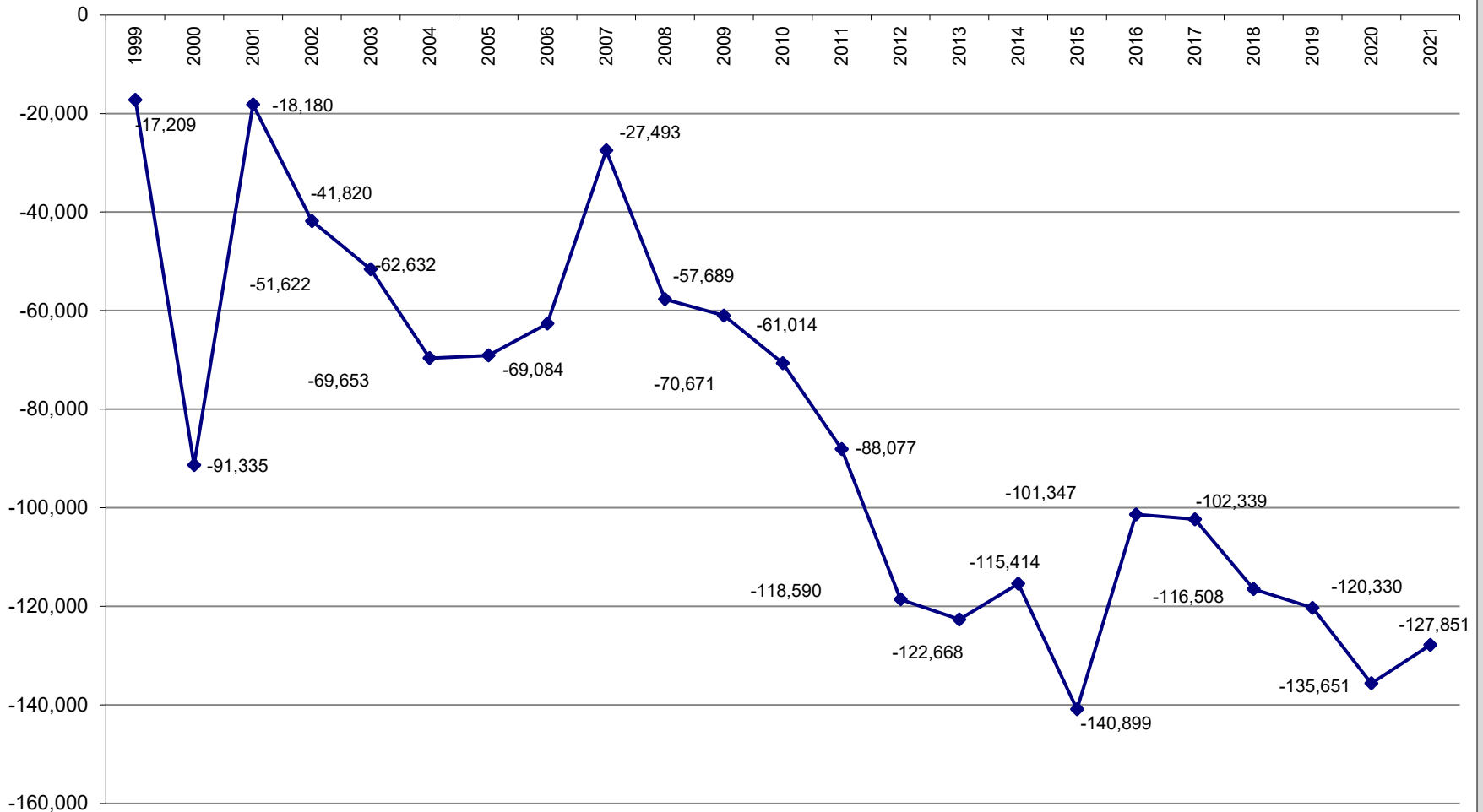
## Fishery Performance, 2021 (preliminary)

	Nass/Skeena Total Return	Nass/Skeena Escapement	Allowable Nass/Skeena AAH	Allowable D4 Harvest (2.45%)	Total Pre- Week 31 Sockeye Harvest	Actual Nass/Skeena Harvest	Overage/ Underage Per Year	Cumulative overage / (underage)
1999	1,771,048	936,705	834,343	20,441	7,664	3,232	-17,209	-17,209
2000	5,318,227	1,100,000	4,218,227	103,347	48,969	29,221	-74,126	-91,335
2001	4,965,286	1,100,000	3,865,286	94,700	203,090	167,854	73,154	-18,180
2002	2,776,504	1,051,335	1,725,169	42,267	26,554	18,627	-23,640	-41,820
2003	3,306,526	1,100,000	2,206,526	54,060	84,742	44,258	-9,802	-51,622
2004	2,620,994	1,100,000	1,520,994	37,264	30,758	19,233	-18,031	-69,653
2005	1,770,472	1,000,142	770,330	18,873	35,690	19,442	569	-69,084
2006	3,650,525	1,100,000	2,550,525	62,488	89,615	68,940	6,452	-62,632
2007	2,752,076	1,100,000	1,652,076	40,476	112,135	75,615	35,139	-27,493
2008	2,531,703	1,100,000	1,431,703	35,077	6,262	4,880	-30,197	-57,689
2009	1,602,960	1,053,859	549,101	13,453	15,971	10,128	-3,325	-61,014
2010	1,395,619	956,957	438,662	10,747	4,612	1,091	-9,656	-70,671
2011	2,487,985	1,100,000	1,387,985	34,006	25,280	16,599	-17,407	-88,077
2012	2,737,168	1,100,000	1,637,168	40,111	18,300	9,598	-30,513	-118,590
2013	981,476	642,461	339,015	8,306	13,102	4,228	-4,078	-122,668
2014	3,824,537	1,100,000	2,724,537	66,751	114,375	74,005	7,254	-115,414
2015	3,015,042	1,100,000	1,915,042	46,919	43,873	21,433	-25,486	-140,899
2016	2,140,259	1,100,000	1,040,259	25,486	110,346	65,039	39,553	-101,347
2017	1,422,783	1,100,000	322,783	7,908	12,036	6,916	-992	-102,339
2018	2,086,458	1,100,000	986,458	24,168	19,743	9,999	-14,169	-116,508
2019	1,200,155	862,549	337,606	8,271	9,399	4,450	-3,821	-120,330
2020	1,941,682	1,100,000	841,682	20,621	6,923	5,300	-15,321	-135,651
2021	2,100,000	1,100,000	1,000,000	24,500	49,500	32,300	7,800	-127,851

- 2021 pre-season AAH = approx. 25.5K      Final AAH = approx. 24K

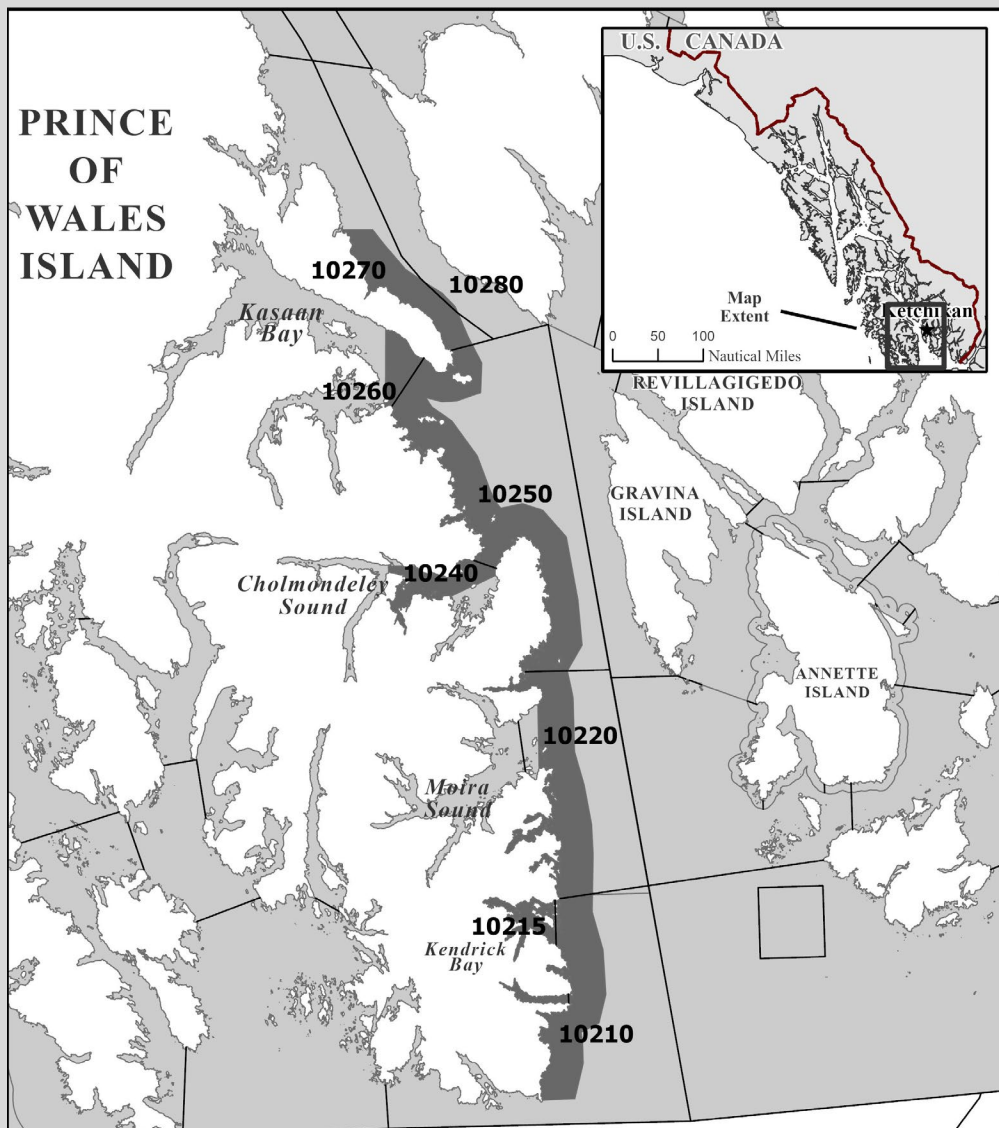
# District 104 – Purse Seine Treaty Performance 1999-2021

## 104-Purse Seine - Cumulative Overage/Underage since 1999



# District 102 Fall Fishing

- Limited fall chum fishing in the Ketchikan area for 2021
- Confidential harvest



Peak Cholmondeley Sound Chum  
Index counts  
Total = 55,000

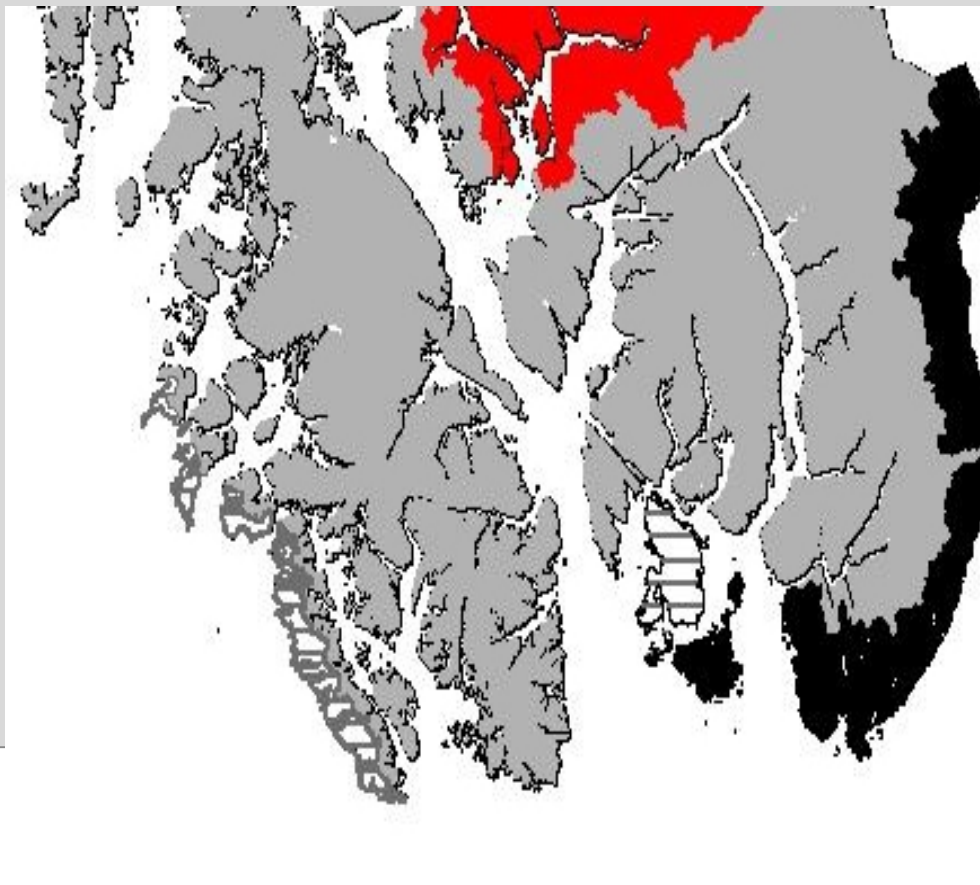
Disappearance – 35,000  
Lagoon – 20,000

# 2022 Expectations

- District 1 – parent year escapements for all three stock groups were within goal.
  - West Behm stock group was near the upper end. East Behm Canal was average to above average with the early Wilson-Blossom driver being weak. The Wilson-Blossom confluence has been weak since 2016 with the exception of 2021. This is a major driver in the early District 1 seine fishery.
  - Portland Canal was the only stock group that was very weak and the stock group was carried by the Tombstone River.
  - Plan for a July 4 (SW 28) start date with the typical early lines south of Cone Point and Pt. Davison.
- District 2 – parent year escapement was near the upper end of the range in the Kasaan/Chomly stock group but Chomly was very weak. Moira near the mid range.
  - Anticipate a June 20 (SW 26) start date for the early McLean to Polk Island fishery with the July 4 start date to coincide with District 1 south of Polk Island.
- District 3 – parent year escapements were near the midpoint to upper end of the goal for all four of the stock groups. Klakas remained weak even with Cordova Bay closing on Aug. 8, 2020.
- Sockeye Restrictions:
  - Canadian, Hugh Smith, McDonald
  - Nass/Skeena combined forecast of 2.5 million. D4 AAH of ~??K.

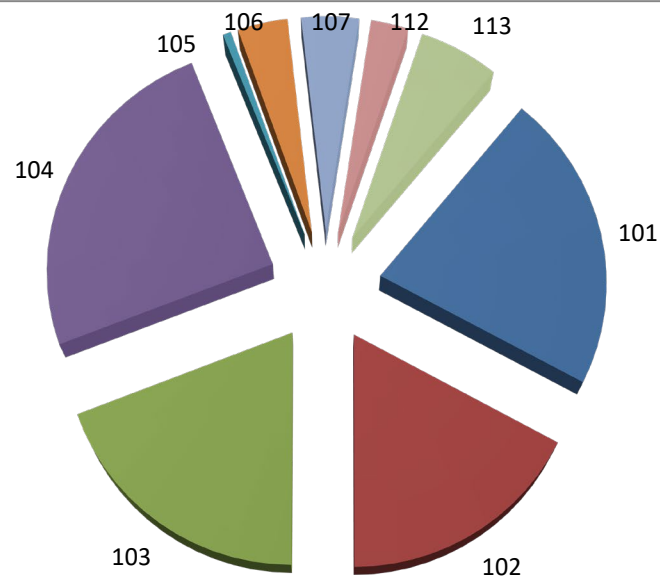
## 2020 Conditions & Esc.

- Good spawning conditions with excessive rainfall.
- Escapements ended up adequate with some exceptions
  - Chomly & Klakas very weak.



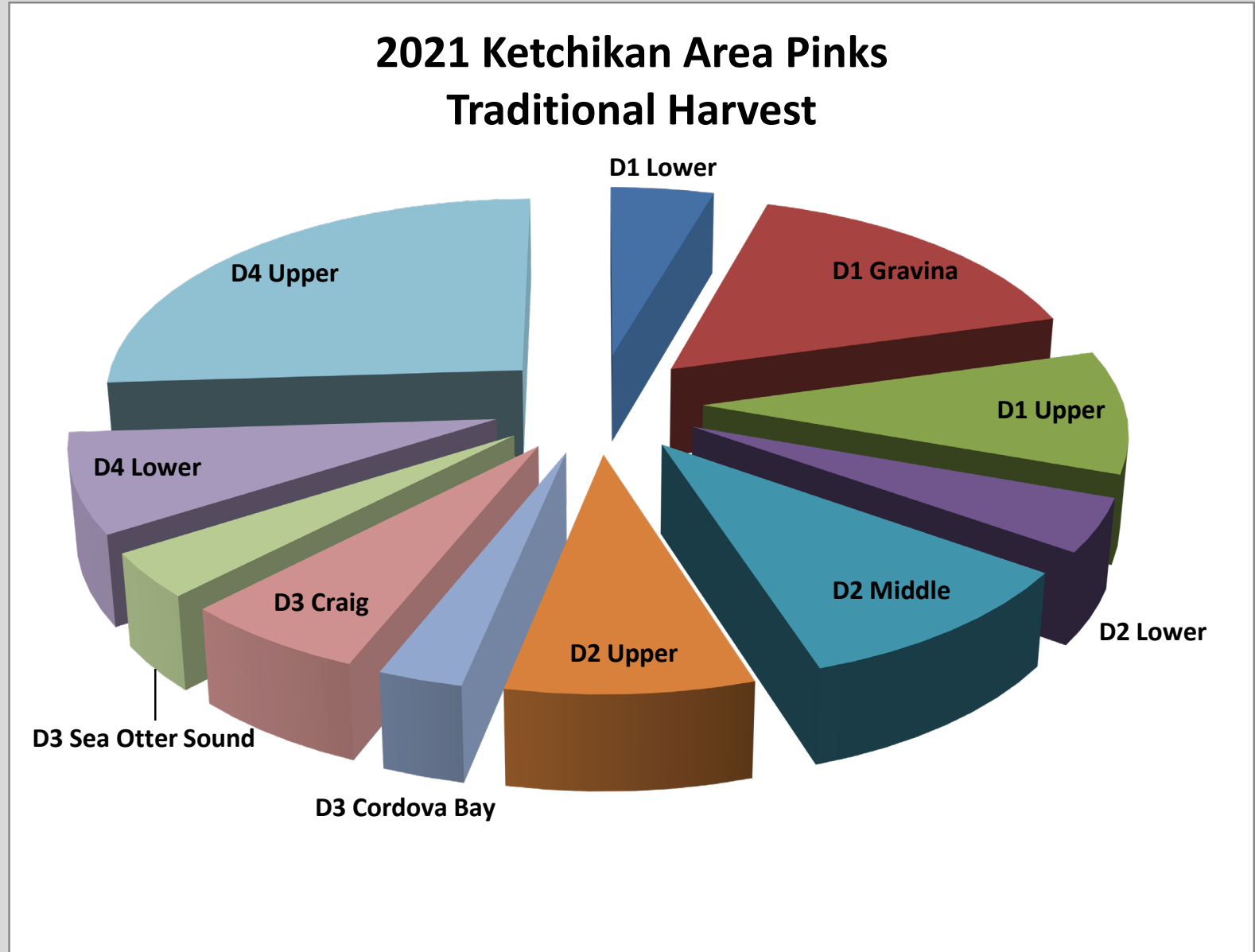
## 2020 Pink Harvest – SE

- Total Pink Harvest 5.87 million

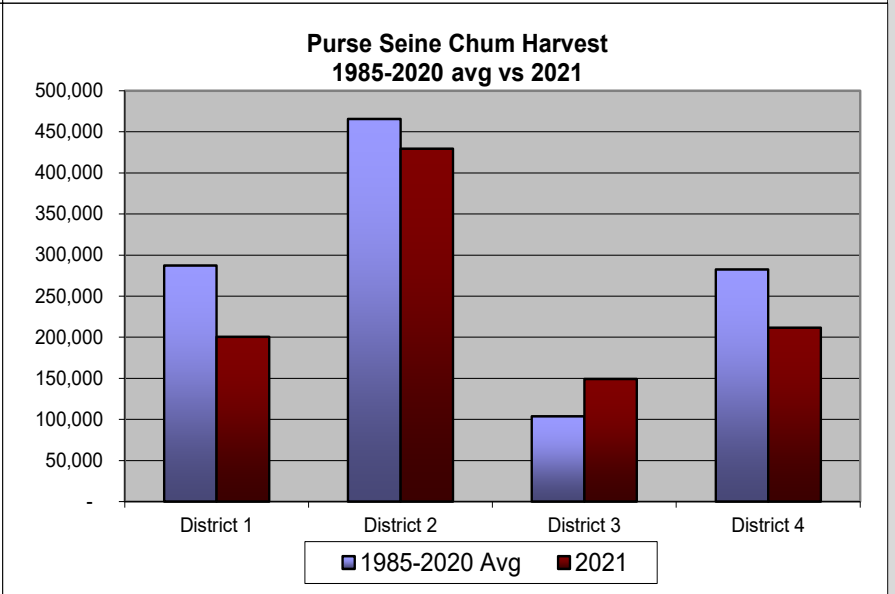
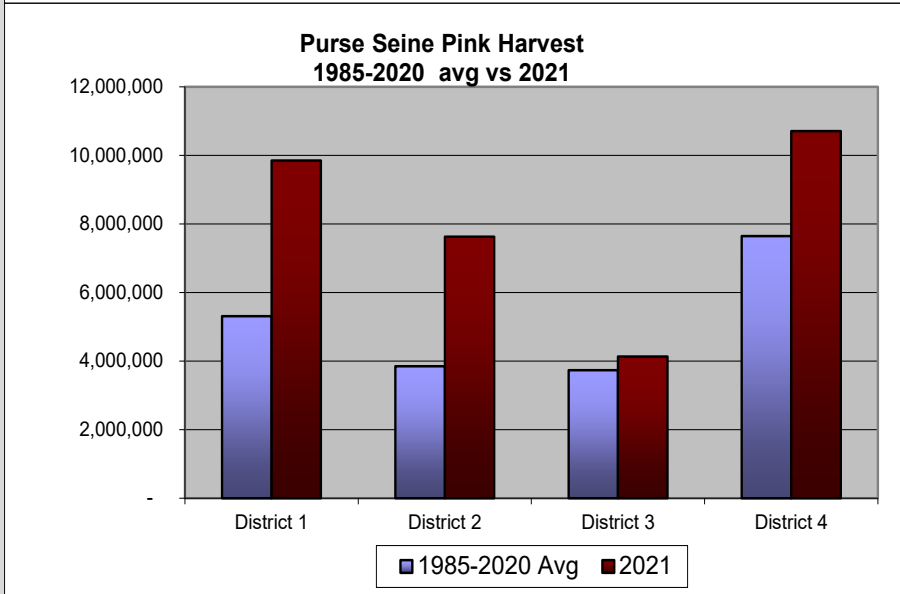
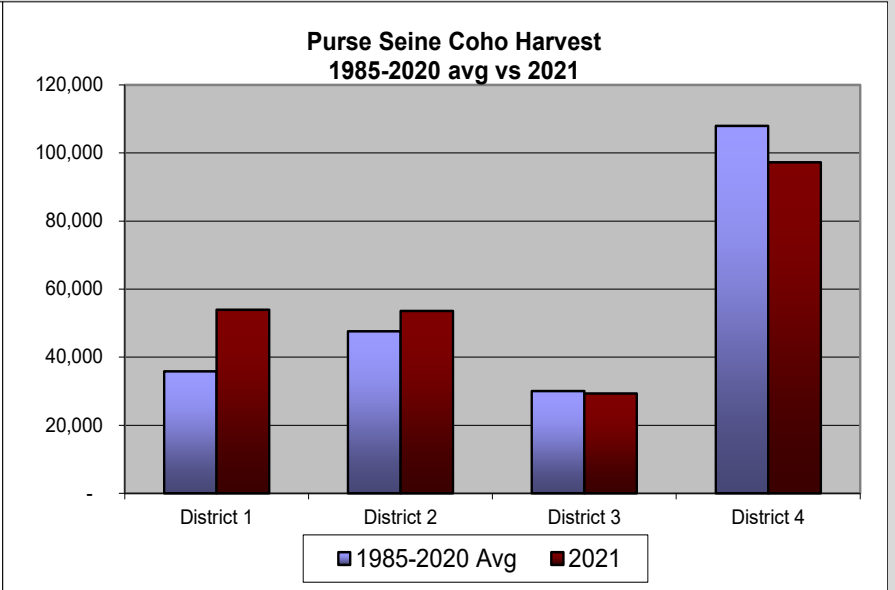
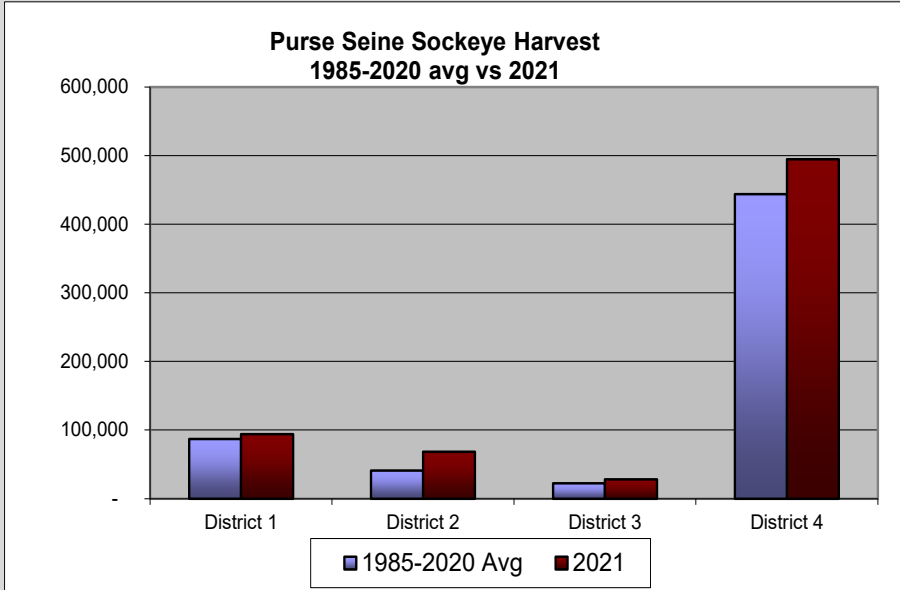




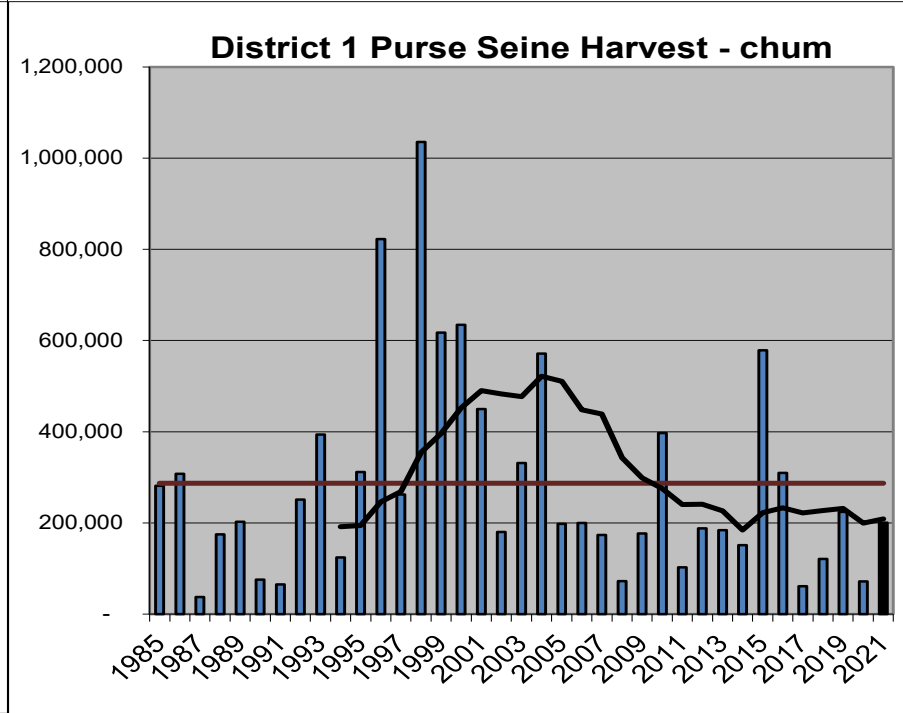
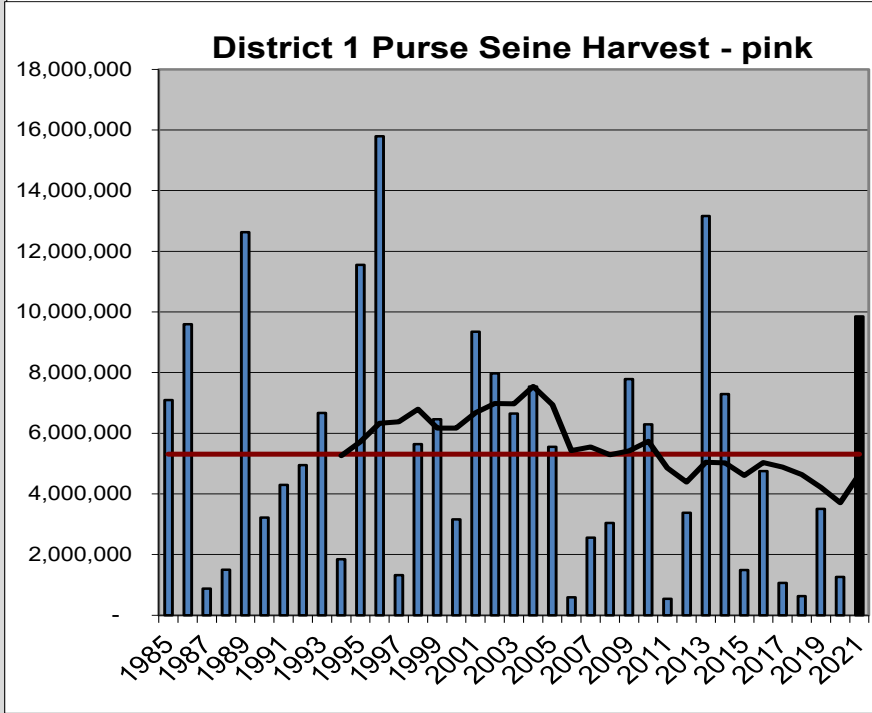
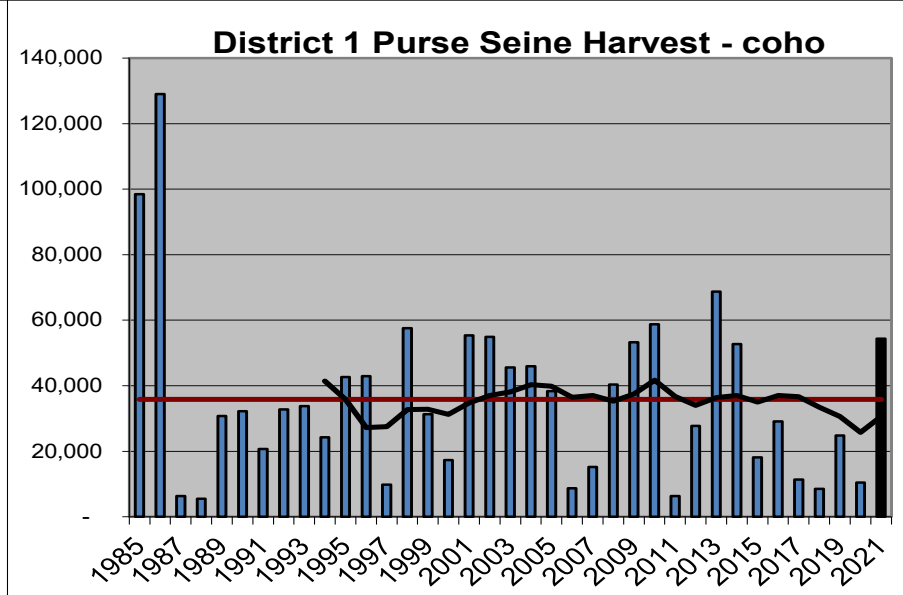
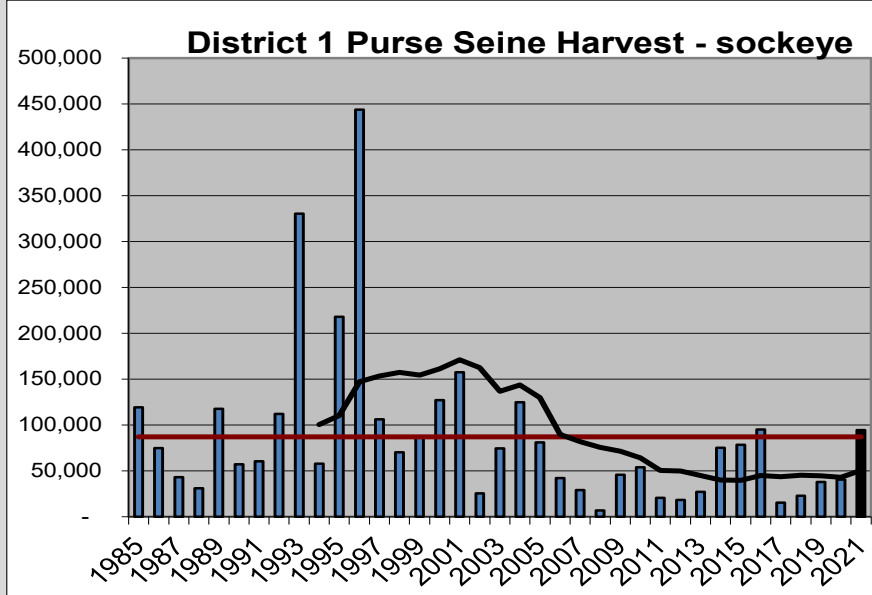
# 2021 Pink Salmon Harvest in the Ketchikan Management Area



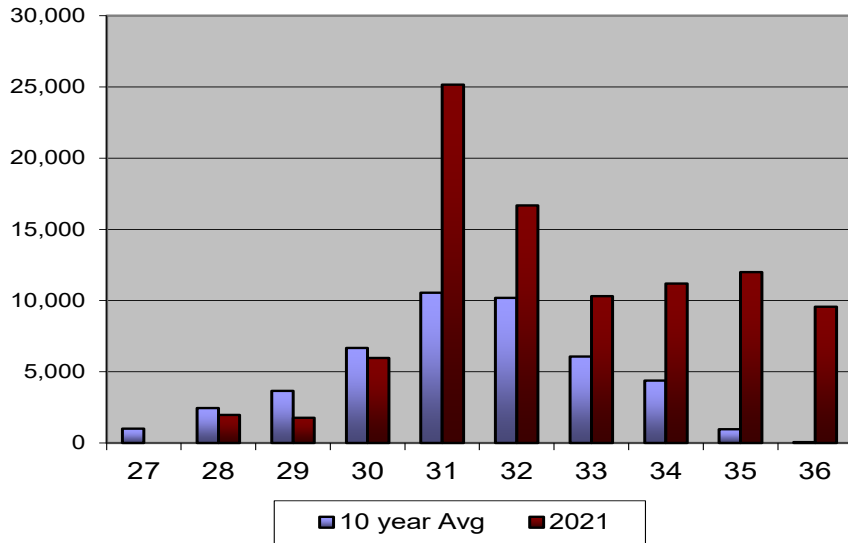
# Purse Seine Traditional Harvest by District by Species



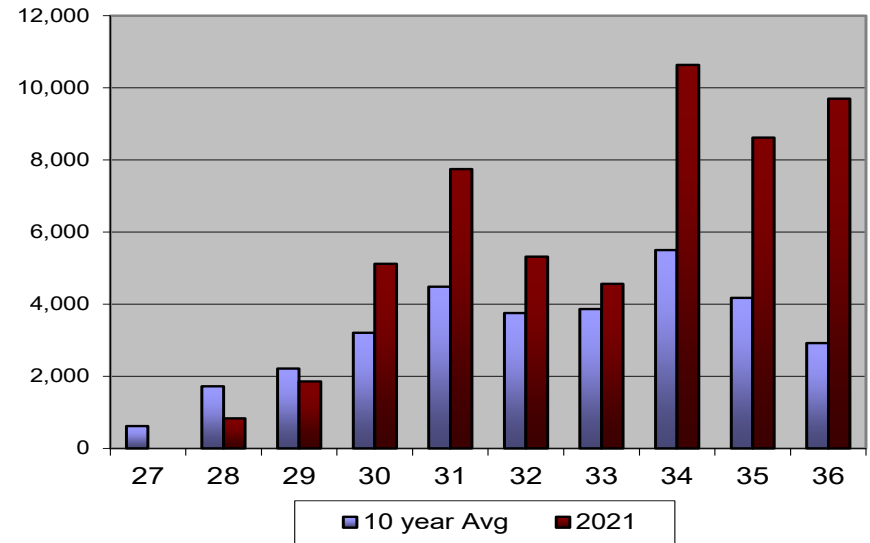




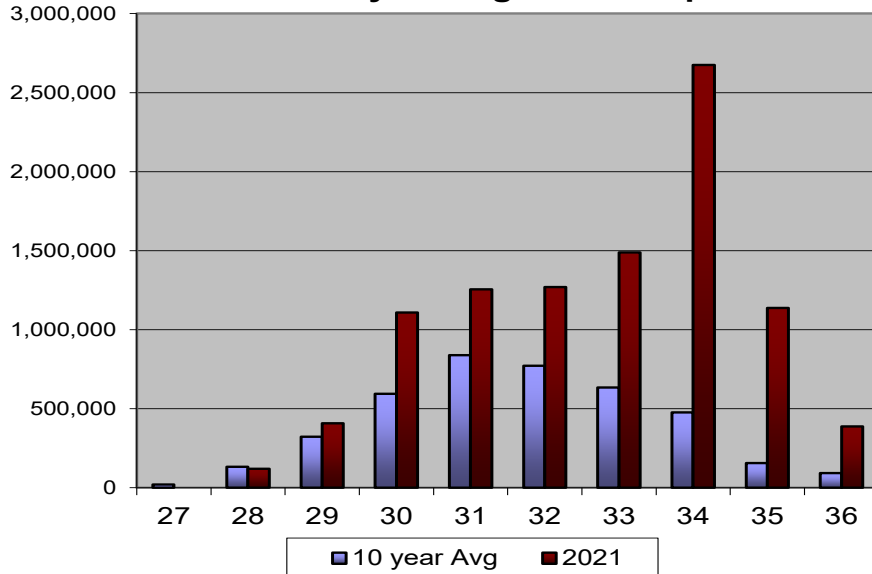
**District 1 Purse Seine Weekly Harvest  
10 year avg vs 2021 - sockeye**



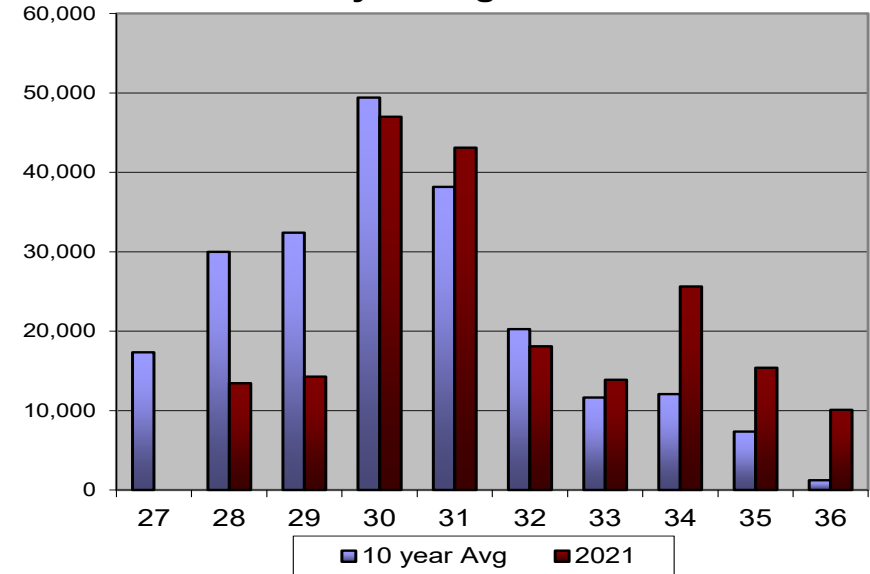
**District 1 Purse Seine Weekly Harvest  
10 year avg vs 2021 - coho**



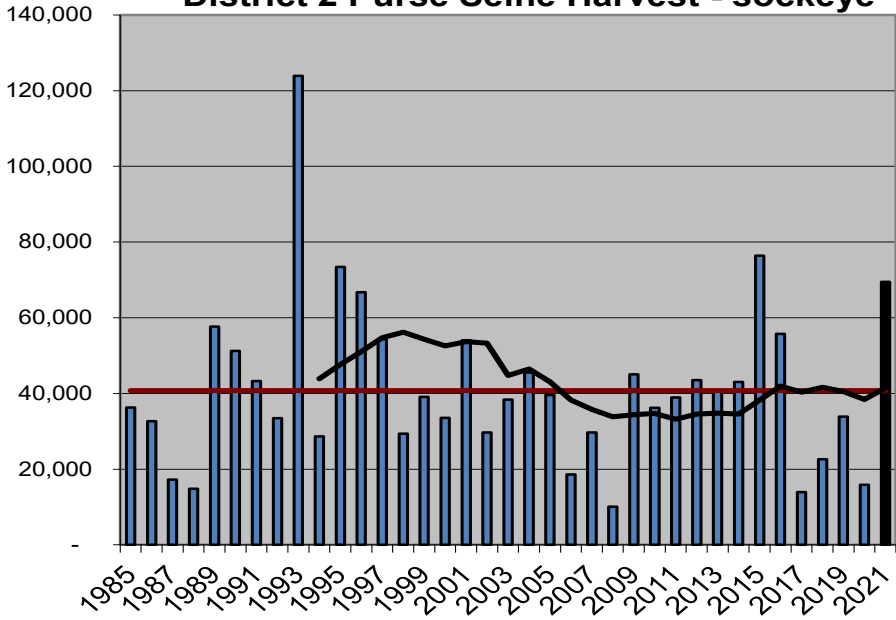
**District 1 Purse Seine Weekly Harvest  
10 year avg vs 2021 - pink**



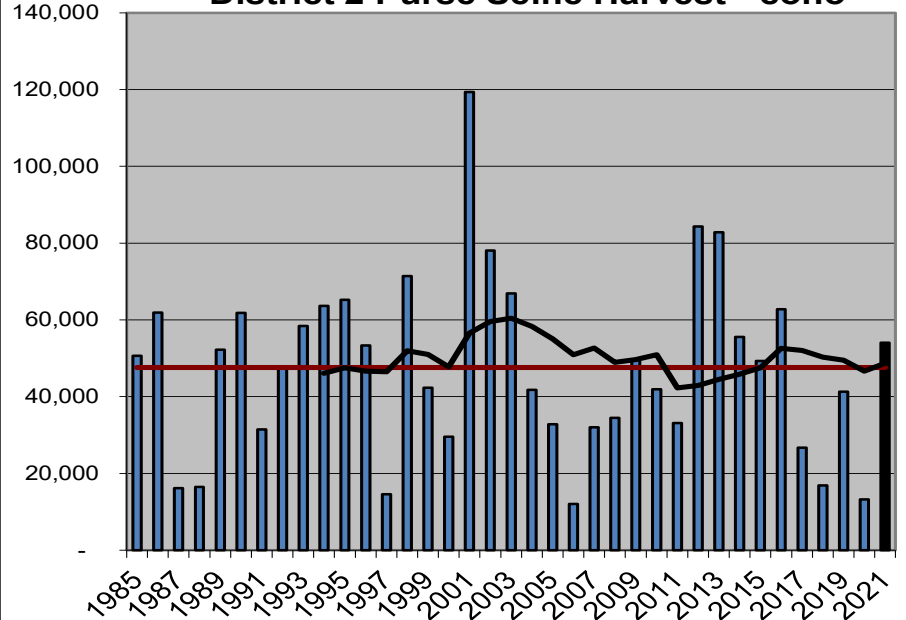
**District 1 Purse Seine Weekly Harvest  
10 year avg vs 2021 - chum**



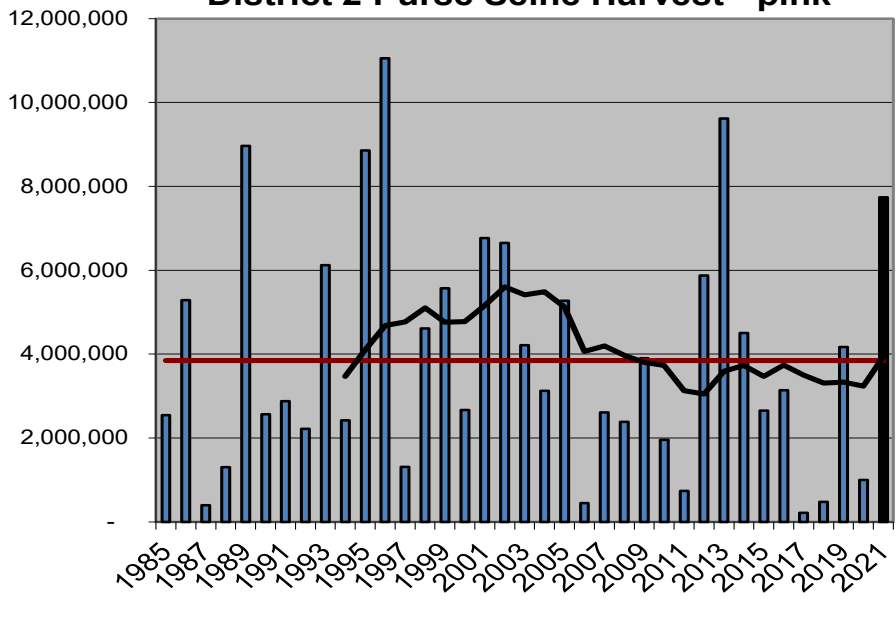
**District 2 Purse Seine Harvest - sockeye**



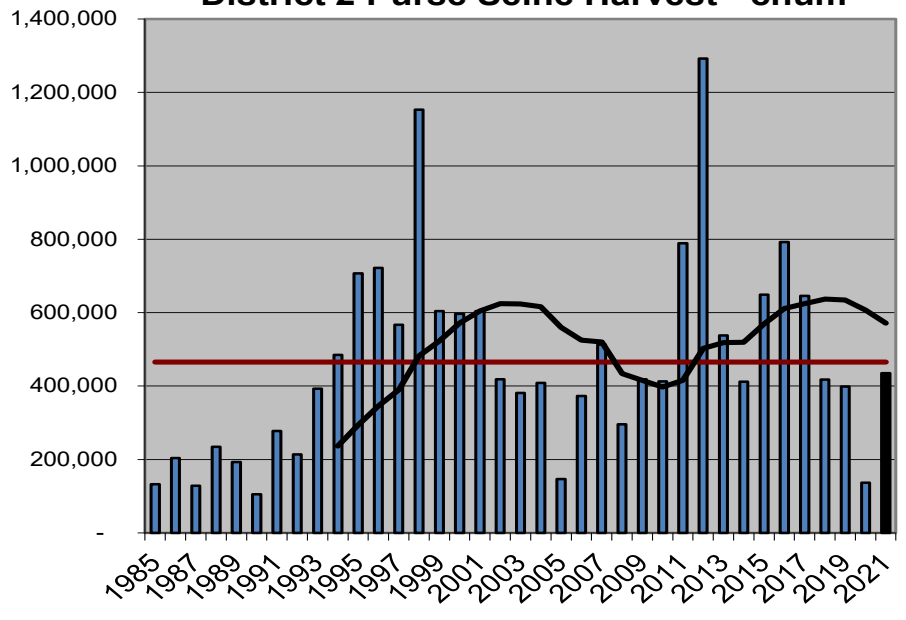
**District 2 Purse Seine Harvest - coho**



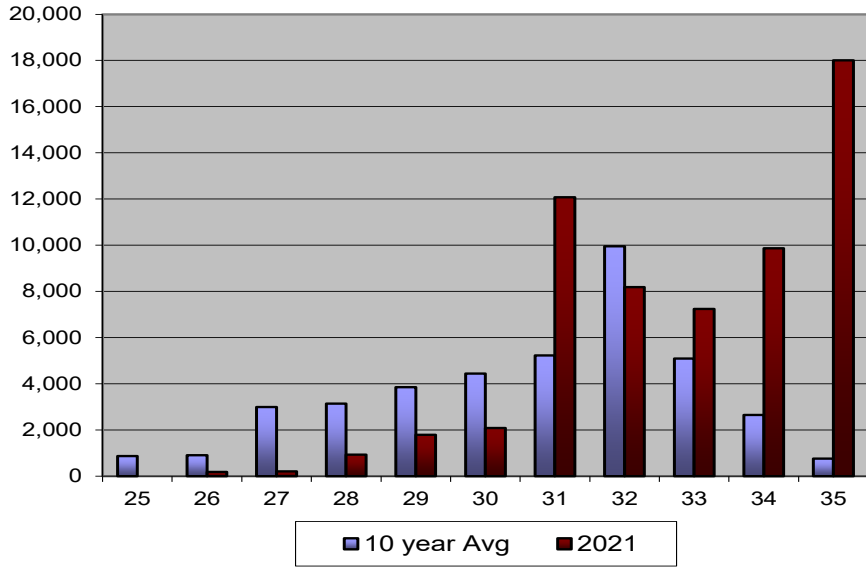
**District 2 Purse Seine Harvest - pink**



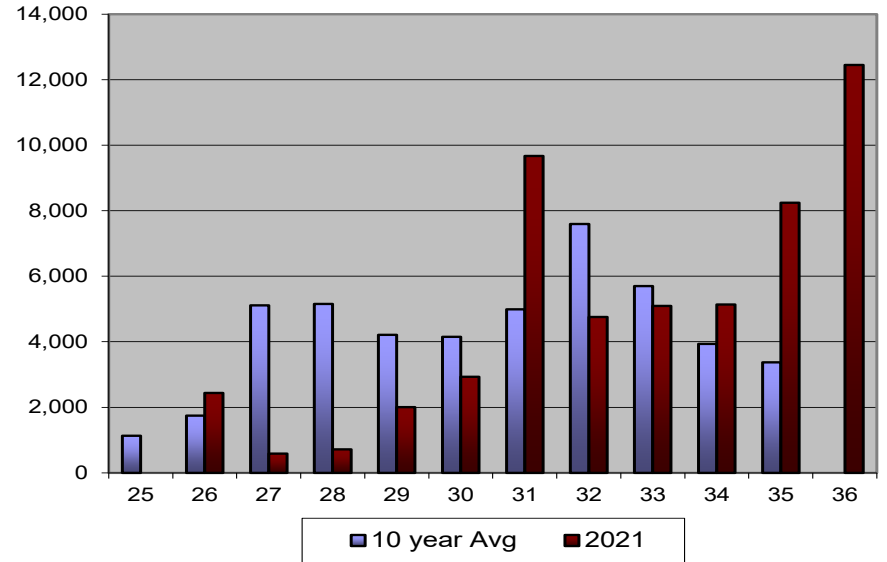
**District 2 Purse Seine Harvest - chum**



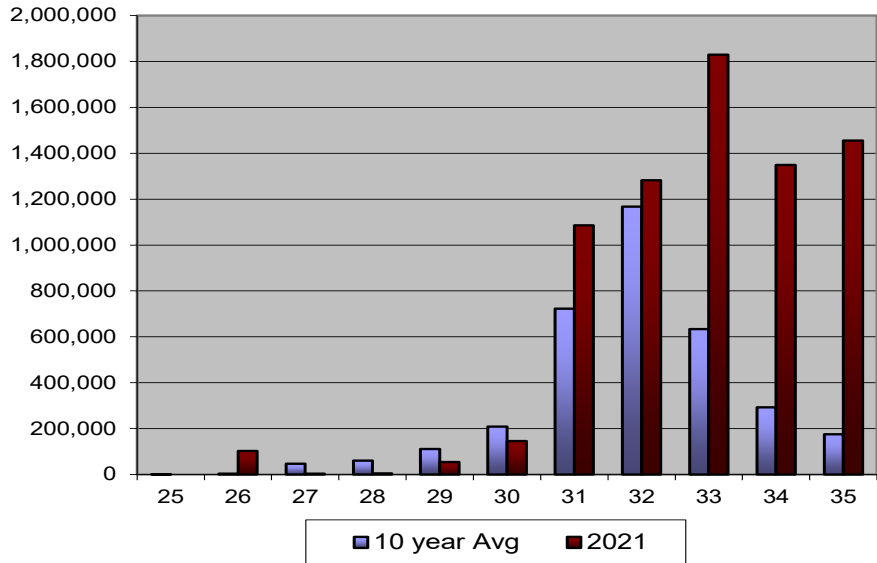
**District 2 Purse Seine Weekly Harvest  
10 year avg vs 2021 -sockeye**



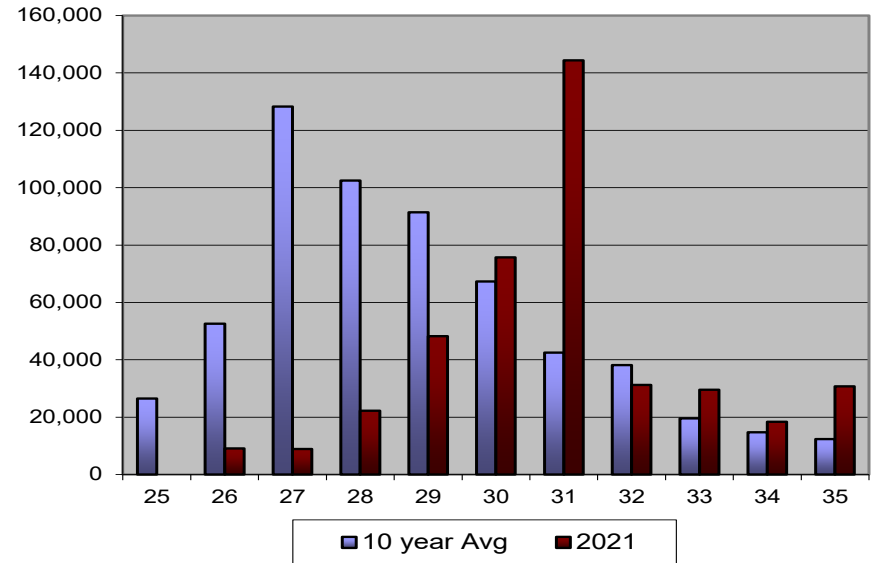
**District 2 Purse Seine Weekly Harvest  
10 year avg vs 2021 -coho**



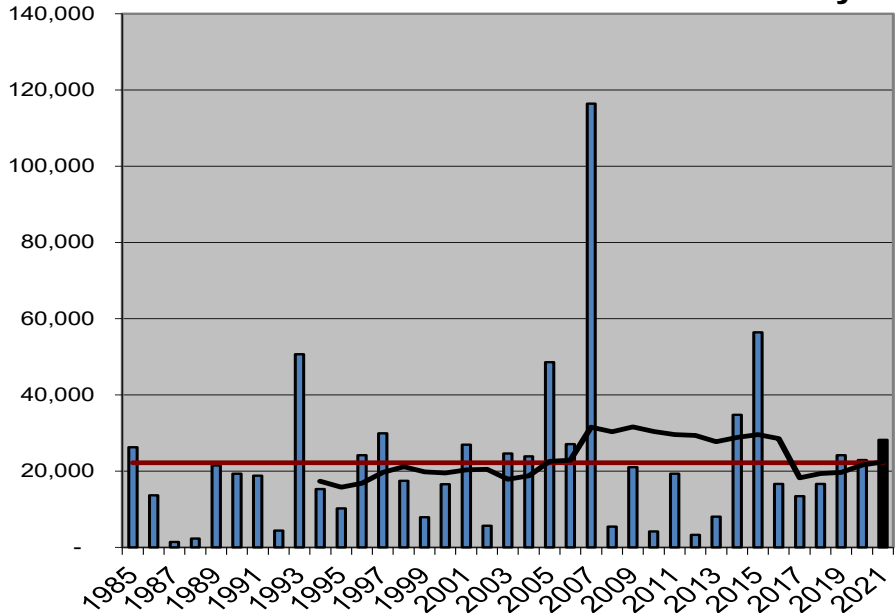
**District 2 Purse Seine Weekly Harvest  
10 year avg vs 2021 -pink**



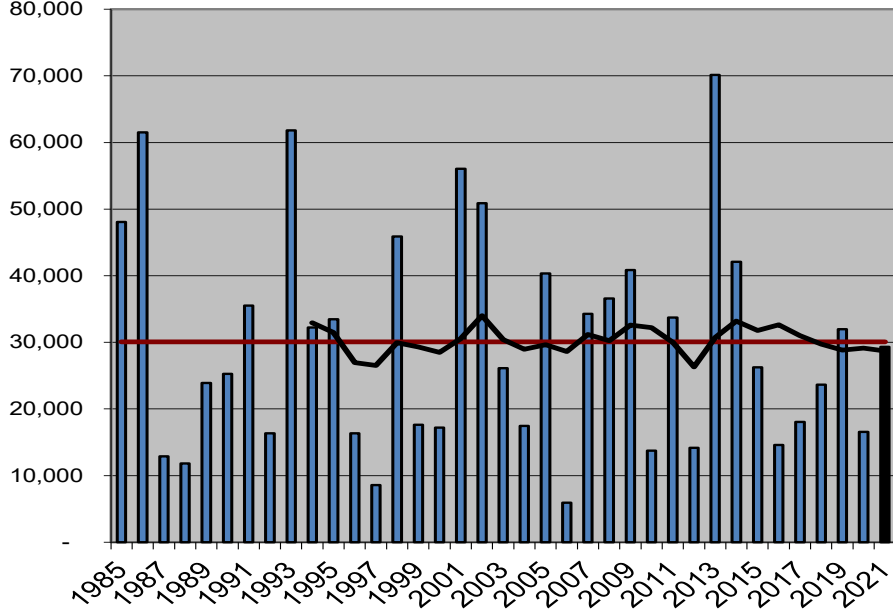
**District 2 Purse Seine Weekly Harvest  
10 year avg vs 2021 -chum**



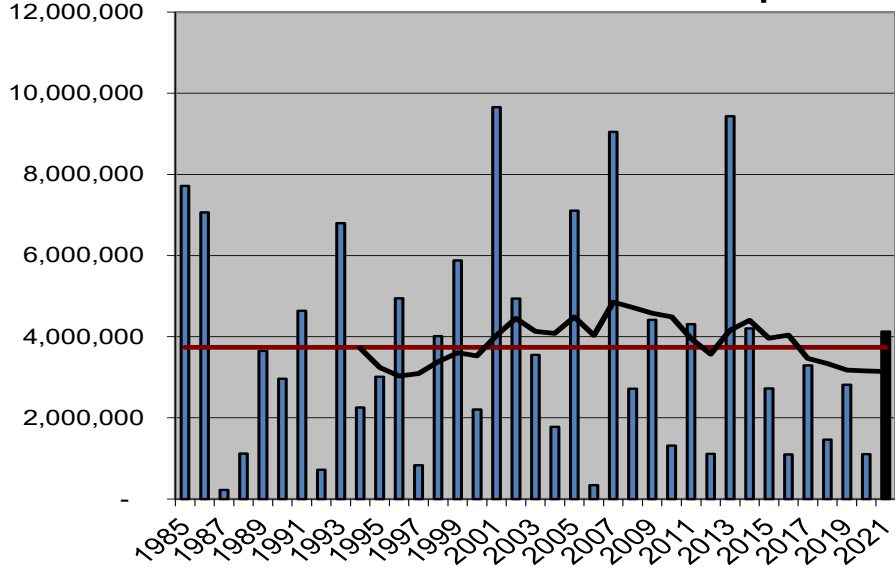
**District 3 Purse Seine Harvest - sockeye**



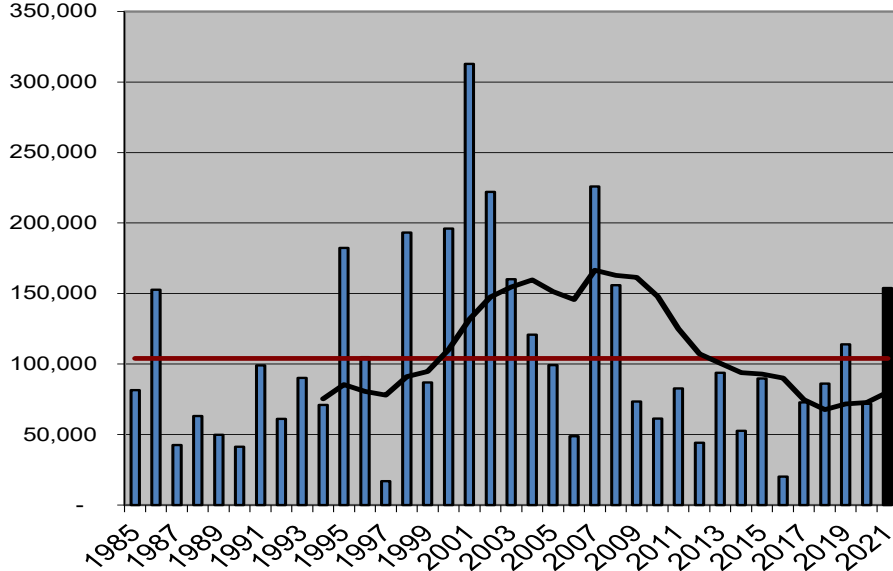
**District 3 Purse Seine Harvest - coho**



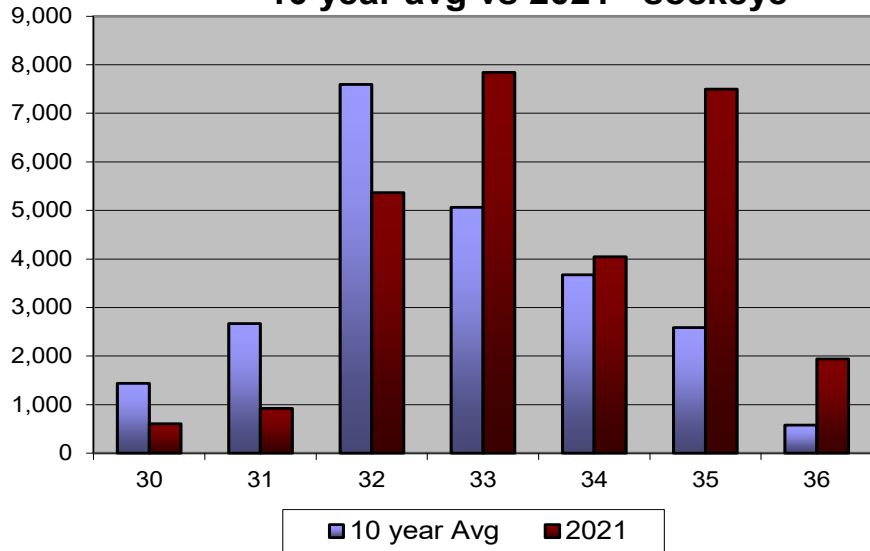
**District 3 Purse Seine Harvest - pink**



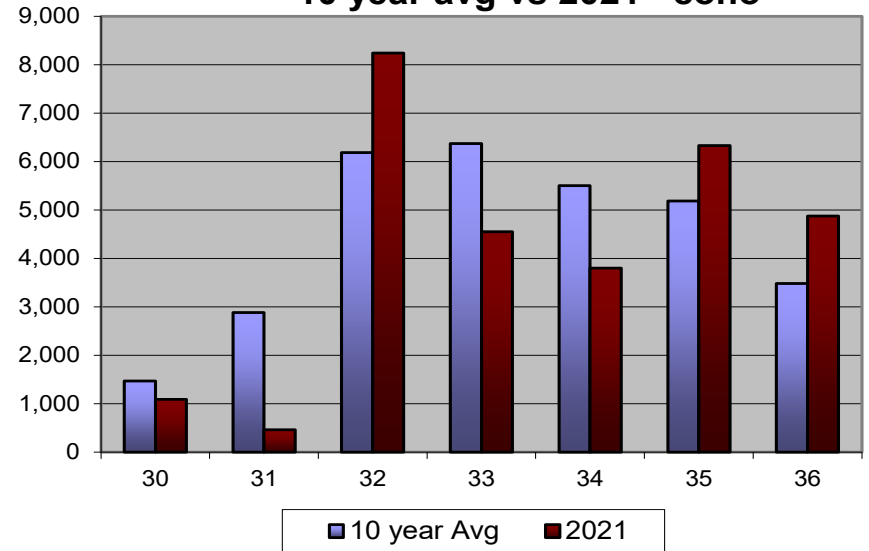
**District 3 Purse Seine Harvest - chum**



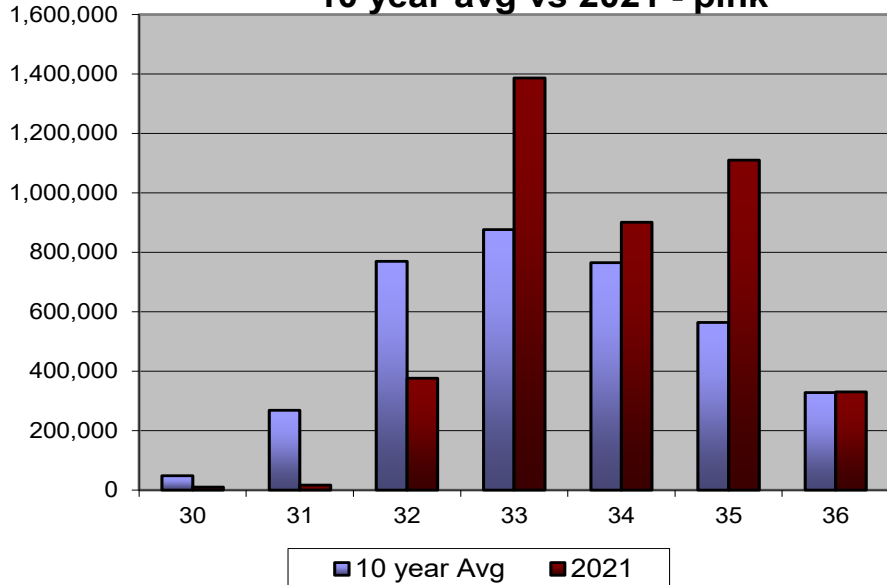
**District 3 Purse Seine Weekly Harvest  
10 year avg vs 2021 - sockeye**



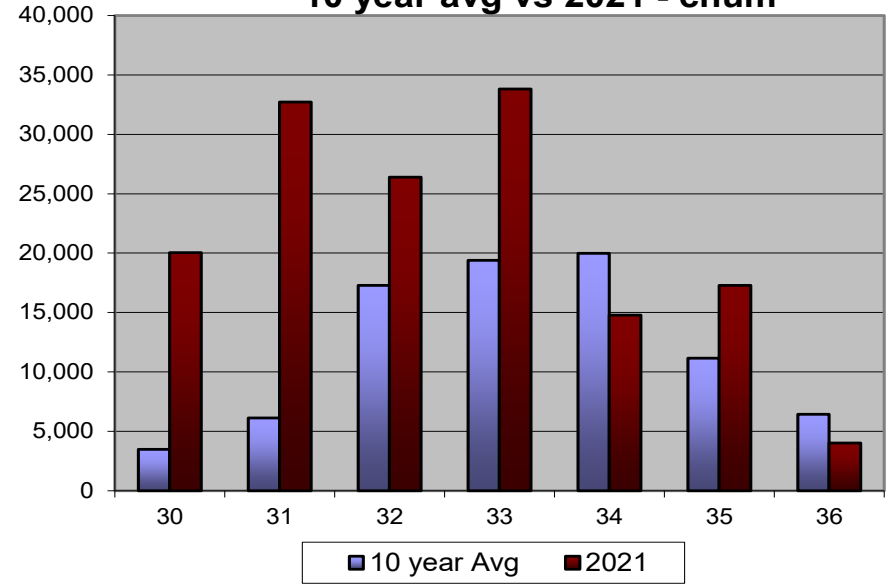
**District 3 Purse Seine Weekly Harvest  
10 year avg vs 2021 - coho**



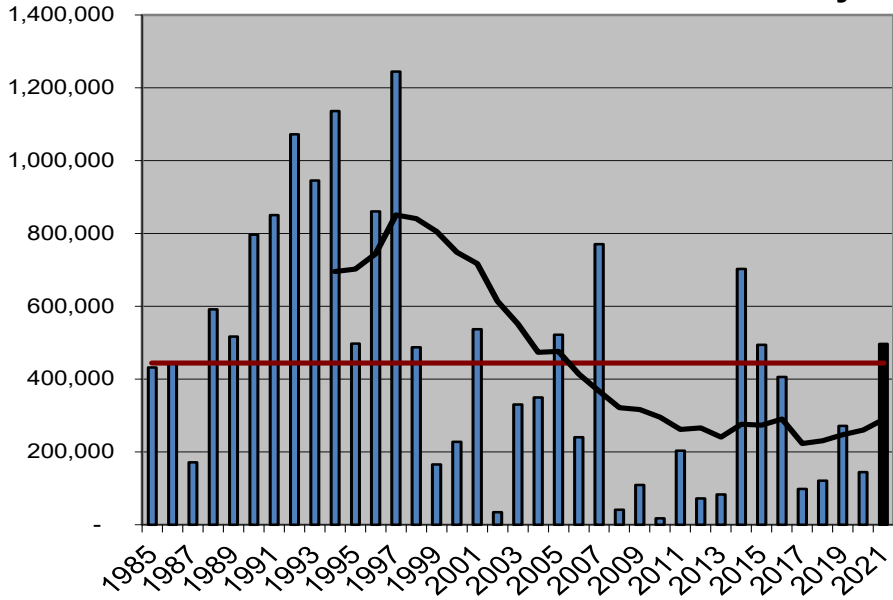
**District 3 Purse Seine Weekly Harvest  
10 year avg vs 2021 - pink**



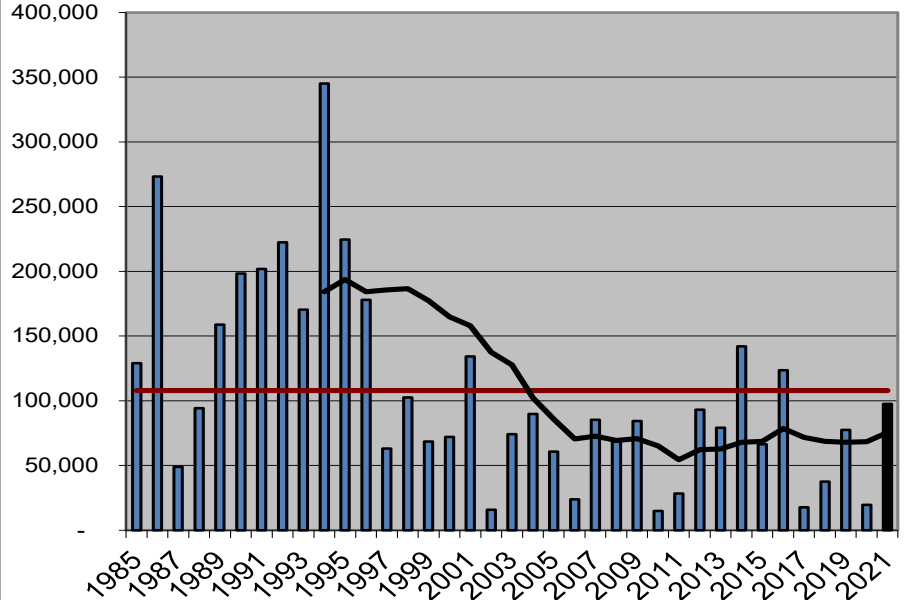
**District 3 Purse Seine Weekly Harvest  
10 year avg vs 2021 - chum**



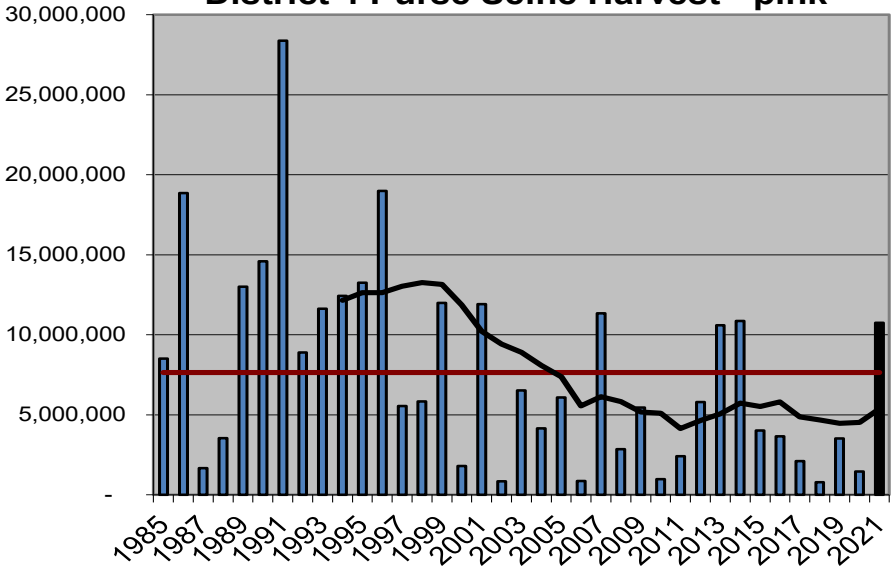
**District 4 Purse Seine Harvest - sockeye**



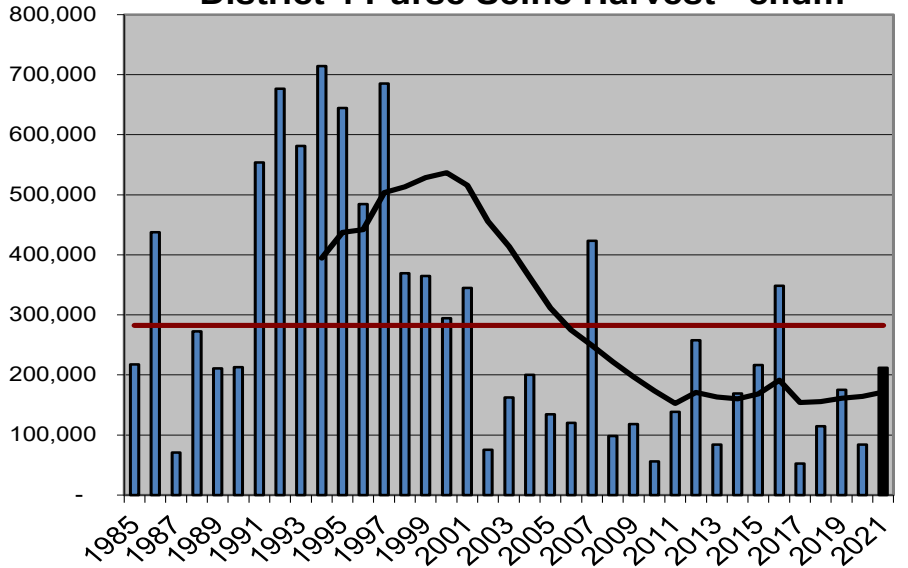
**District 4 Purse Seine Harvest - coho**



**District 4 Purse Seine Harvest - pink**



**District 4 Purse Seine Harvest - chum**



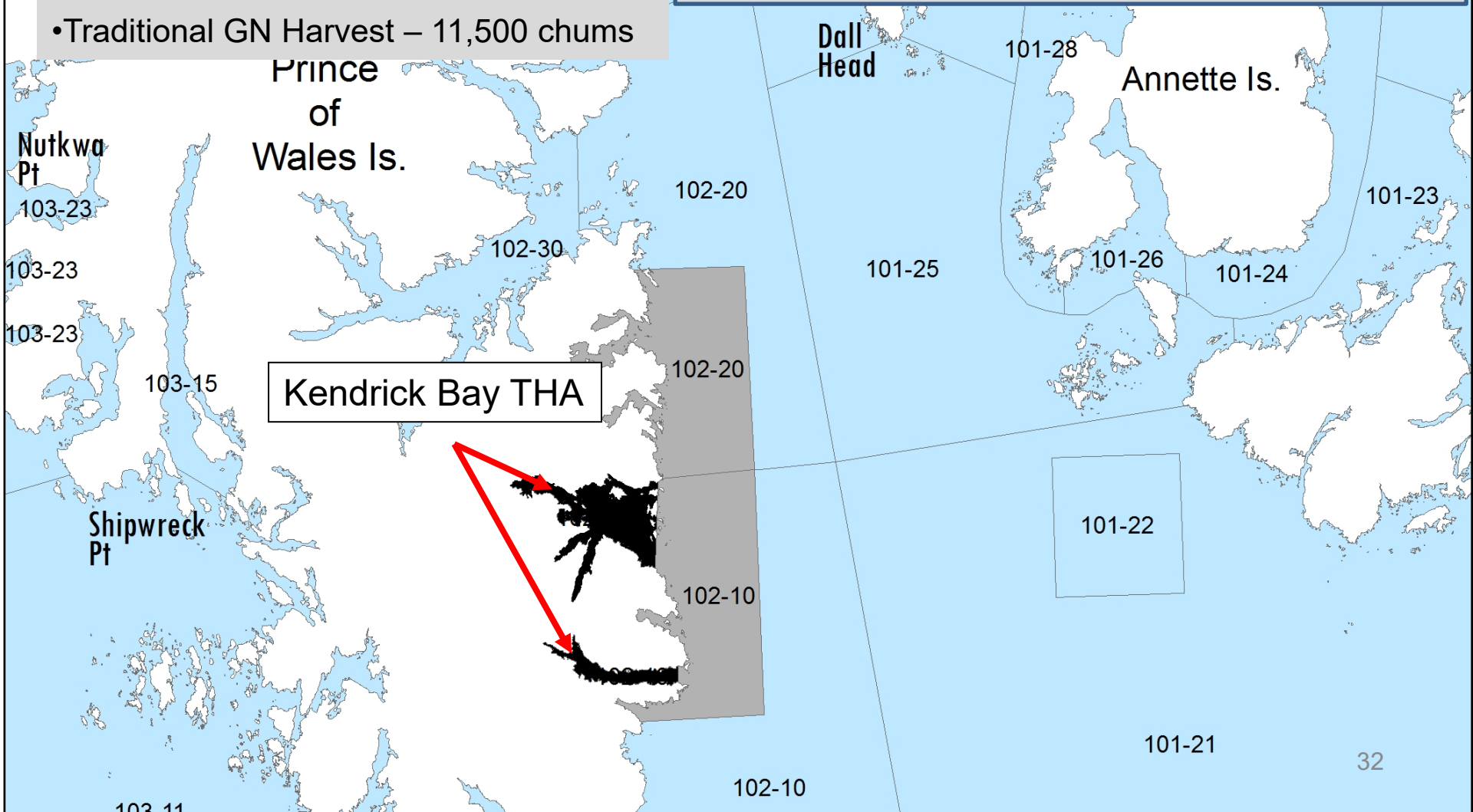
# Kendrick Bay 2021

- Projected return – 714,000 chums
- THA Harvest – 11,700 chums
- Traditional PS Harvest – 358,000 chums
- Traditional GN Harvest – 11,500 chums

Outside Kendrick Bay Fishery

## 2021 District 2 Purse Seine

Opening	Chinook	Sockeye	Coho	Pink	Chum	Boats	Hours
26	0	184	2,441	102,293	9,067	16	39
27	0	208	587	3,913	8,888	37	39



Kendrick Bay THA



# New Northern Boundary Treaty Language for 2019 Pertinent to D4 seine:

- Federal Funding. Previous versions failed to identify funding.
- Treaty extended through 2028, unless both parties agree that modifications are required, then a five year review.
- Establishes in treaty language what is already being done with regards to Canada providing the pre-season run forecast for both the Nass and Skeena rivers.
- Review of D4 pink salmon fishery.
  - New agreement stipulates the U.S. will complete a review that evaluates long-term changes in abundance of pink salmon stocks; changes in timing, location of harvest, impacts of pink harvest on Nass/Skeena sockeye, and efficacy (if any) of assessing pink salmon run timing through D4 using available data.
- Establishes in the treaty what was done in 2017 and 2018 with regards to low pre-season forecasts, specifically:
  - Expected total run is below 900,000 sockeye salmon. At this level, there are no Canadian commercial marine harvests. The United States shall undertake measures to reduce the impact of the D104 purse seine fishery, which may include delaying the start date and duration of the fishery.
  - Expected total run is below 600,000 sockeye salmon. At this level, there are no Canadian marine or in-river commercial harvests with the exception of terminal fisheries adjacent to enhancement spawning channels. The United States shall undertake additional measures to reduce the impact of the D104 purse seine fishery, which may include delaying the start date and duration of the fishery, and/or reducing the fishing area.
- Review of current run reconstruction model. Less complex model with the accuracy of genetic stock id.