



2023 Adult Returns - Overview

2023 Salmon Return Overview

While NSRAA would like this season to be remembered for its chum salmon returns finally reaching levels not seen in decades, it will not. Instead, events outside NSRAA's control marked this season as one of the worst all-time in terms of value and return on investment for the fishermen. This occurs just one year after the 2nd all-time-highest value of NSRAA commercial fisheries in 2022.

While prices started out meager at best, hope still lingered. The season began with indications that NSRAA's chum returns would meet or exceed forecasts and wild pink returns were over double their pre-season projection. A last-minute victory for the trollers allowed for a summer Chinook fishery after months of uncertainty. Hidden Falls appeared to be on track for something special and the seine fishery was akin to the "glory days". Processors who were not expecting such a high volume had opted not to open all their plants and those who were open could hardly keep up with the volume. Deep Inlet harvests were double the historical average for the first half of the season and summer egg takes broke records across NSRAA facilities with fish to spare.

Besides the pre-season drama surrounding the Chinook fishery, the Chinook season was otherwise unremarkable for the fleets. Similar to chum releases from Medvejie, shortfalls relating to juvenile black cod predation were anticipated for adult Chinook returning to the facility. Early measures were taken to protect brood stock in Bear Cove, project goals were curtailed, and a meager egg take took place.

As summer returns wound down, Southeast Cove had been the only NSRAA project to come in under forecast and had not met cost recovery goals. Low fish numbers coupled with small sizes left NSRAA with a \$2 million deficit halfway through the season. The market was now weakening further and no processors were interested in making up this difference with surplus

chum at NSRAA hatcheries. Instead, the remaining 100,000 NSRAA fish were sold at a carcass price or donated. This constituted a further loss of at least \$400,000 to NSRAA and the fishermen. All eyes were now on the fall returns on West Baranof, where even best-case scenarios still suggested major shortfalls for fall brood stock at Medvejie.

Fall returns ended up tracking as expected at Deep Inlet and at high end of forecast at Crawfish. Nevertheless, fishery closures at Deep Inlet were necessary to allow for better escapement and brood transport to the hatchery. Then, the already strained chum salmon market collapsed entirely, causing processors to cease or limit production and drive prices down to levels not seen in 20 years. If adjusted for inflation, the 2023 average chum price is the 6th worst in Southeast Alaska (SEAK) history and the lowest since 2004.

The chum boom in Sitka Sound that had led to two consecutive record troll harvests became a waste of time for trollers who either tied up or went coho fishing. Processors now wanted to renegotiate their contracted cost recovery bids and evaded poor quality fish by forbidding their harvesters to fish in terminal areas. Seiners left Sitka in search of pinks and a few gillnetters stayed hoping they could keep selling Deep Inlet chum.

In hopes of keeping plants running, NSRAA opened Crawfish and Deep Inlet to all permitted gear groups 7 days a week and West Crawfish to commercial seining 4 days a week. It is a condition of our operations that we cannot allow hatchery fish to go unharvested, and it became clear that this would now require constant effort working with processors. Cost recovery price negotiations took place but ensured no reduction in volume and the harvest proceeded as fast as possible. The few seiners interested in fishing West Crawfish were allowed to sell but were put on daily limits. While every day that fish were being caught was a victory, the fish kept coming. By the time cost recovery was complete fish quality had degraded to the point where no one wanted them at all. In a final turn of paradoxical events, vessels were contracted and paid to harvest the remaining surplus of chum in both inlets and sold for a loss.

A possible bright spot near the end of the season was evidence of strong coho returns to Mist Cove and Hidden Falls. Coho cost recovery has been rare at Hidden Falls in recent years, and it seemed we were on track for a change and bring in some much-needed unanticipated revenue. Unfortunately, these runs never developed beyond average and a meager cost recovery is all that took place. Survivals for coho were a mixed bag and mimicked the last few years. Luckily, wild runs were strong and allowed for an extended troll season with a relatively favorable market. The small fleet experienced an all-time high catch per unit effort in September.

Detailed cost to benefit ratios for 2023 have yet to be compiled but surely with NSRAA's budget ever growing, the list of negative superlatives surrounding the 2023 season will grow.

What can NSRAA do to mitigate these issues going into 2024? We can assure you that we are striving to provide the best possible information for making the most informed decisions. While forecast uncertainty has been a hot topic in recent years, survivals keep improving. The combined chum forecast for all sites in 2024 is over 6.5 million fish which would be the 3rd largest chum return in NSRAA's history if it comes to fruition. Advancements in research and evaluation for NSRAA projects are being made to try and improve our understanding of our programs. Financially, NSRAA is still afloat and viable. With a record forecast, the setbacks we experienced in 2023 can be made up even with modest prices in 2024.

The following pages in this tab are a more in depth look at the 2023 NSRAA salmon returns. We would again like to extend our gratitude to the many processing plants, tendermen, fishermen, and ADF&G managers who allowed our staff critical access for taking samples, or for their corroboration necessary for us to gather this valuable information.



Chinook

2023 Chinook Return Overview

The Chinook quota is calculated in a new manner that began in 2019, in accordance with the 2018-2019 treaty agreement. The following is an excerpt from the 2019 News Release describing the methodology:

“Under provisions of the new 2019–2028 treaty agreement, the Chinook salmon harvest limit for the SEAK all-gear fishery is determined by the estimated CPUE from the winter power troll fishery in District 113 during statistical weeks 41-48 (Oct 11-Nov 30). The estimated CPUE is translated into a seven-tiered catch ceiling table, with each tier representing a range of CPUEs, the associated Abundance Index (AI) values, and the applicable harvest ceiling.”

For the 2023 season, this resulted in an all-gear harvest quota of 201,900 treaty fish, with a troll allocation of 149,100 treaty Chinook (44,100 fish lower than the limit in 2022).

The season began with a Winter Troll harvest of 27,207 fish, very similar to 2022. The Spring Troll fishery again saw widespread time and area restrictions due to wild stock escapement concerns and an estimated 17,074 (14,734 in 2022) fish were harvested in the Spring Troll fishery plus a small terminal harvest.

An estimated 96,000 Chinook were harvested in the 2023 Summer Troll fishery which had been heavily threatened due to litigation. This year, the fishery opened July 1 and the first period closed on July 12th with a harvest of 86,000 Chinook. In this time, the objective of 70% of summer troll allocation was met, leaving an estimated 25,000 Chinook salmon on the annual treaty troll allocation. However, with the sport fishery exceeding the 2023 preseason allocation by an estimated 15,000 king salmon, the second summer commercial troll fishery Chinook salmon retention period allocation was reduced to a harvest target of 10,000 Chinook salmon for the opening. This second opening fell just short with 8,240 Chinook caught on August 11. So, an unconventional third opening occurred during which each permit holder was allowed to

sell 9 Chinook between September 1 and 10th. Overall, the 2023 SEAK Chinook troll harvest was 143,000 fish (treaty and non-treaty), compared to the 2022 harvest 197,000.

Troll price per pound was down again from the previous season with winter troll averaging \$9.73, spring troll averaging \$7.99, and summer troll averaging \$5.78. Total Chinook value for all fisheries was \$12.78 million (\$16.68 million in 2022), or 13.6% of the total SEAK commercial salmon value (\$93.8 million) in 2023. (Values exclude Yakutat and Districts 181-191).

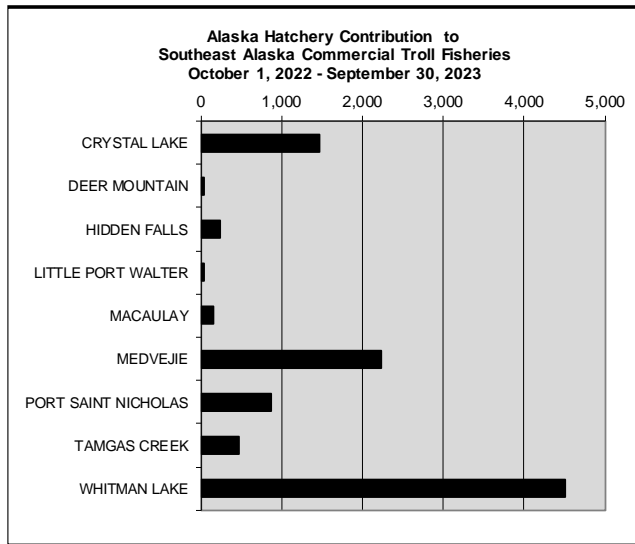
NSRAA Chinook notes:

- NSRAA’s Chinook returns came in well below forecast except for Hidden Falls and Gunnuk Creek releases.
- Medvejie had its second worst year since program inception for Chinook troll contribution this season with an estimated 2,445 fish, just 1.7% of the 2023 Chinook troll harvest. Hatchery returns were extremely poor and warranted sport fishery closures and no cost recovery opportunity. A notable absence of 3-ocean chinook from Bear Cove releases was observed, likely caused by juvenile black cod predation during spring releases in 2020. Medvejie egg-takes were curtailed due to brood shortages.
- Hidden Falls production has been moved to Southeast Cove in anticipation of future Keta River stock releases at Hidden Falls.
- Gunnuk Creek rack returns once again outnumbered Hidden Falls.

On the following pages are summaries of this season’s NSRAA Chinook returns.

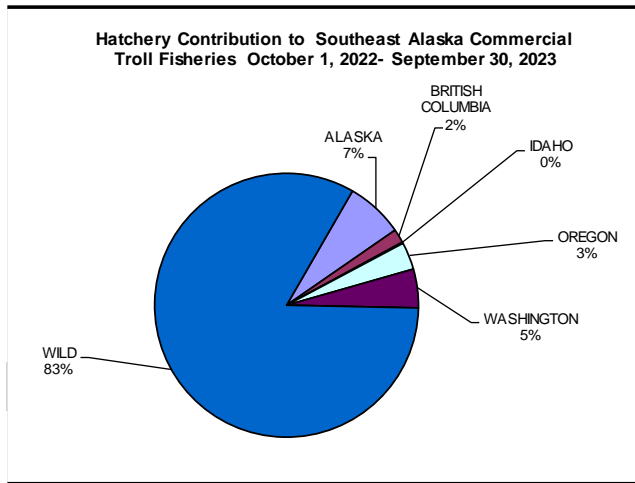
NSRAA CHINOOK CONTRIBUTIONS - 2023									
Oct 2022 - Sept 2023									
		MEDVEJIE				HIDDEN FALLS		NSRAA	
		BEAR COVE	CRESCENT BAY	CRAWFISH	Total	KASNYKU BAY	GUNNUK	TOTAL	
TROLL	Winter	42	185	92	320	105	61	486	
	Spring	808	197	169	1,174		24	1,198	
	Terminal	88		8	97			97	
	Troll Term Add-on	139	21	79	239	-		239	
	Summer	467	106	43	616		57	673	
	MSF				-			-	
	Total		1,544	510	391	2,445	105	142	2,692
SEINE	Terminal					182	284	467	
	Seine Term Add-on	718	110	411	1,239	649		1,888	
	Traditional	52			52			52	
	Total	770	110	411	1,291	832	284	2,407	
GILLNET	Terminal	389		560	949			949	
	Gillnet Term Add-on	275	42	157	475			475	
	Traditional	114	41		155	53	18	226	
	Total	778	83	717	1,578	53	18	1,649	
Commercial Subtotal		3,092	702	1,519	5,314	989	444	6,748	
		58.4%		77.1%	1				
SPORT	CWT	132	61	172	366	-	41	407	
	Terminal Estimate				-			-	
	Total	132	61	172	366	-	41	407	
Common Property Subtotal		3,224	763	1,692	5,679	989	485	7,154	
Cost Recovery				8	8			8	
Staff Use/Donation		-		20	20			20	
Brood (Rack)		1,552			1,552	607	600	2,759	
Lagoon/Channel morts/Esc.		500		250	750	65	100	915	
CWT recoveries at other sites		22			22			22	
Non-NSRAA fish in CR					-			-	
Non-NSRAA fish in Rack					-			-	
Hatchery Subtotal		2,074	-	278	2,352	672	700	3,724	
TOTAL ADULT CHINOOK		5,298	763	1,970	8,031	1,661	1,185	10,878	

NSRAA CHINOOK CONTRIBUTIONS TO COMMERCIAL TROLL FISHERIES



Alaskan Hatcheries	Contribution	Percent
CRYSTAL LAKE	1,466	15%
DEER MOUNTAIN	35	0%
HIDDEN FALLS	247	2%
LITTLE PORT WALTER	50	0%
MACAULAY	154	2%
MEDVEJIE	2,227	22%
PORT SAINT NICHOLAS	873	9%
TAMGAS CREEK	467	5%
WHITMAN LAKE	4,517	45%
TOTAL	10,036	100%

NSRAA SUBTOTAL 2,474 25%

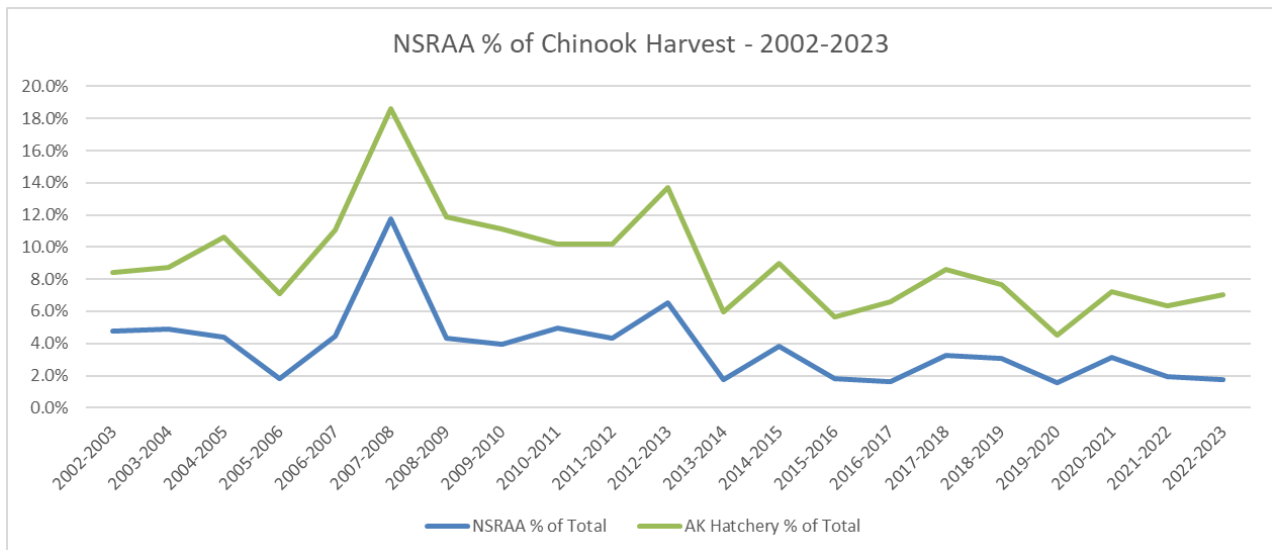


State / Province	Contribution	Percent
ALASKA	10,036	7%
BRITISH COLUMBIA	2,415	2%
IDAHO	222	0%
OREGON	4,796	3%
WASHINGTON	6,784	5%
WILD	118,448	83%
TOTAL	142,701	100%

NSRAA SUBTOTAL 2,474 1.7%

TOTAL TROLL 142,701
CWT 24,253
WILD 118,448

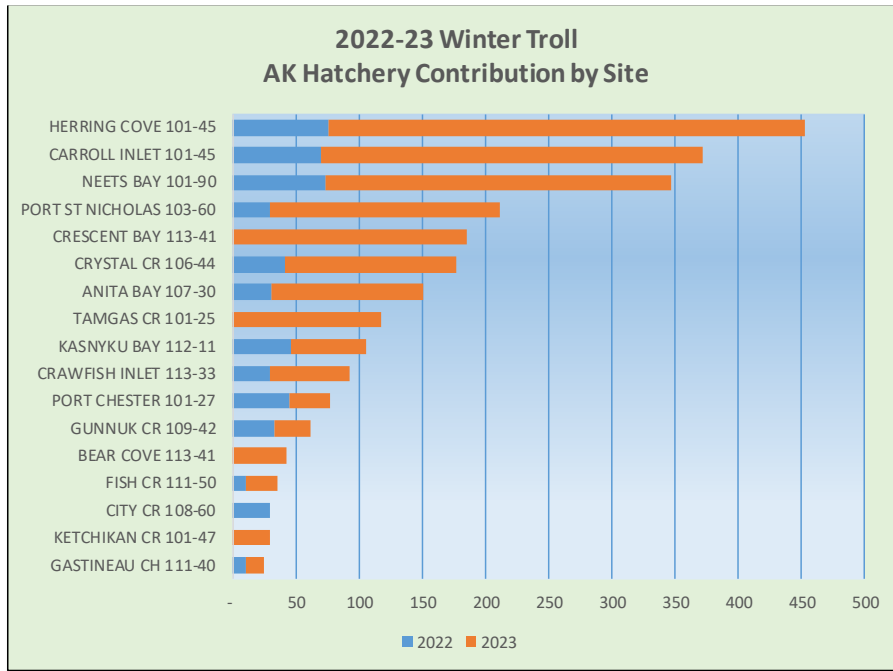
Data from ADF&G Commercial Fisheries Division, Mark Tag and Age Lab Preliminary Estimates, 10/2023.



DATA: SE AK Chinook Troll Contrib 2022-23.xlsx

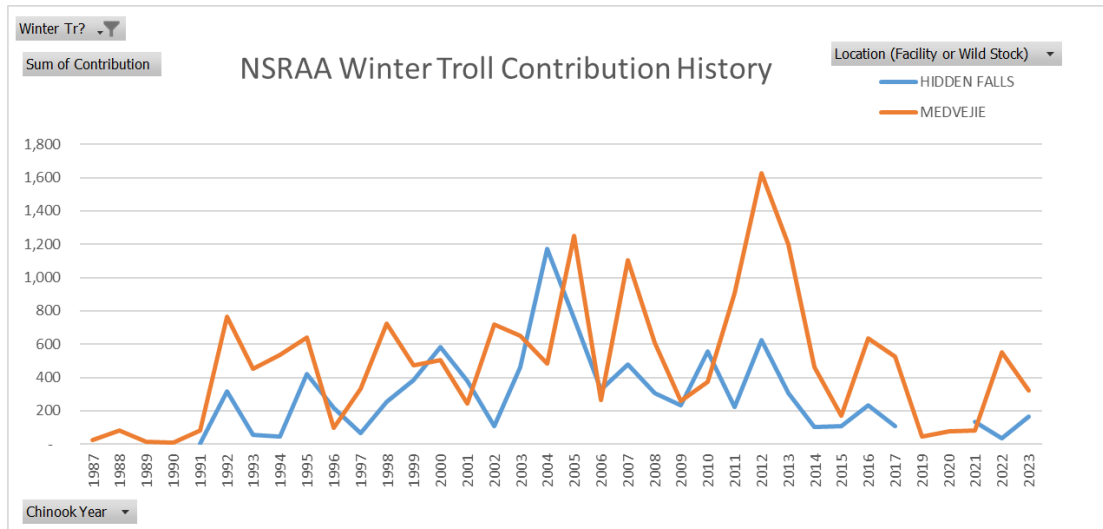
NSRAA accounted for 25% of the Alaskan hatchery troll harvest in 2023, with Medvejie ranking as the second largest Alaskan hatchery contributor. However, NSRAA's 2,474 Chinook contribution accounted for just 1.7% of the season's 142,701 total catch for all troll fisheries, effectively lowest on record since the 2000-2001 season.

Winter Troll Fishery (October 11, 2022 – April 15, 2023)



SITE	CATCH	PERCENT
BEAR COVE 113-41	42	0.2%
CRAWFISH INLET 113-33	92	0.3%
CRESCENT BAY 113-41	211	0.8%
GUNNUK CR 109-42	61	0.2%
KASNYKU BAY	105	0.4%
Total	512	1.9%

TOTAL WINTER TROLL CATCH: 27,207



DATA: Winter Troll Summary 2022-23.xlsx

NSRAA had a contribution of 512 Chinook in the Winter Troll fishery. The fishery was first opened from October 11, 2023, and remained open until April 15th (in confined waters), due to higher abundance of non-Alaskan stocks offshore. Most of the NSRAA catch occurred in the final weeks of the fishery.

The value of this year's winter fishery is estimated at \$1.53 million.

Spring Troll Fishery (May1 – June 30, 2023)

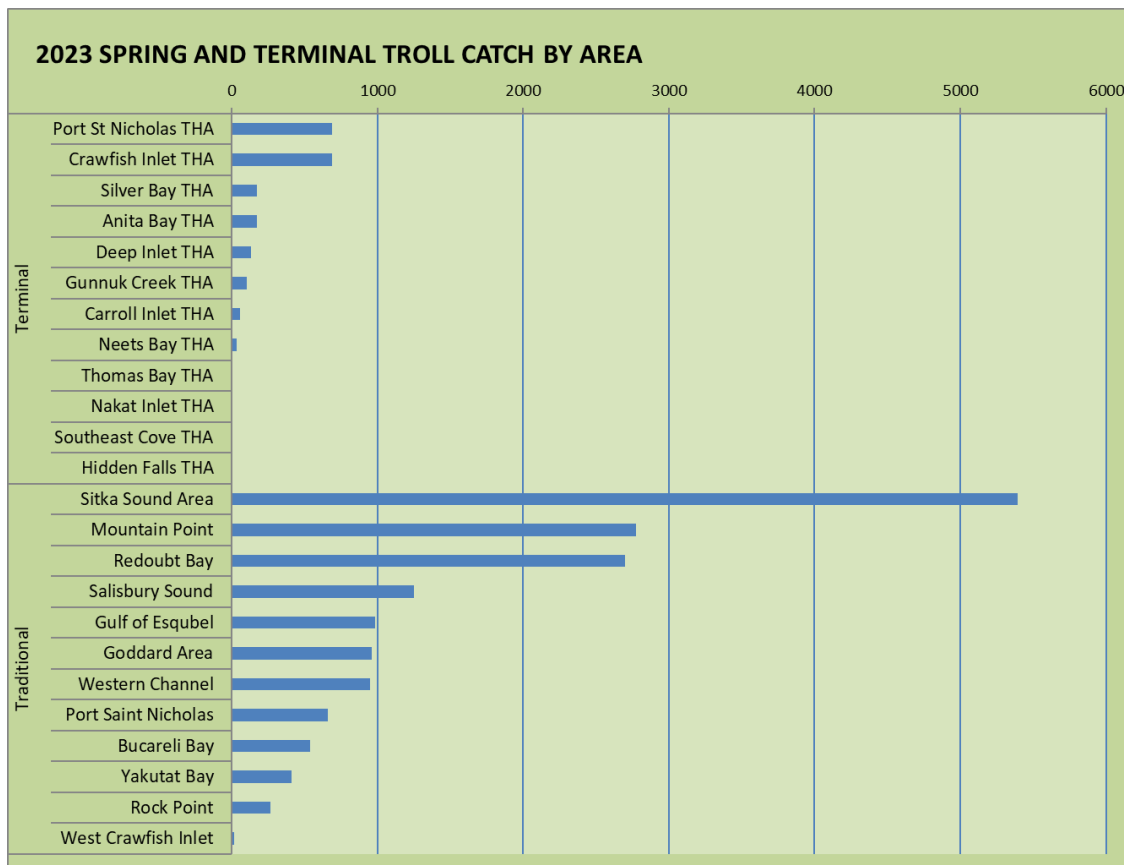
2023 SPRING AND TERMINAL TROLL CATCH BY AREA WITH (ALASKA) HATCHERY CONTRIBUTION!

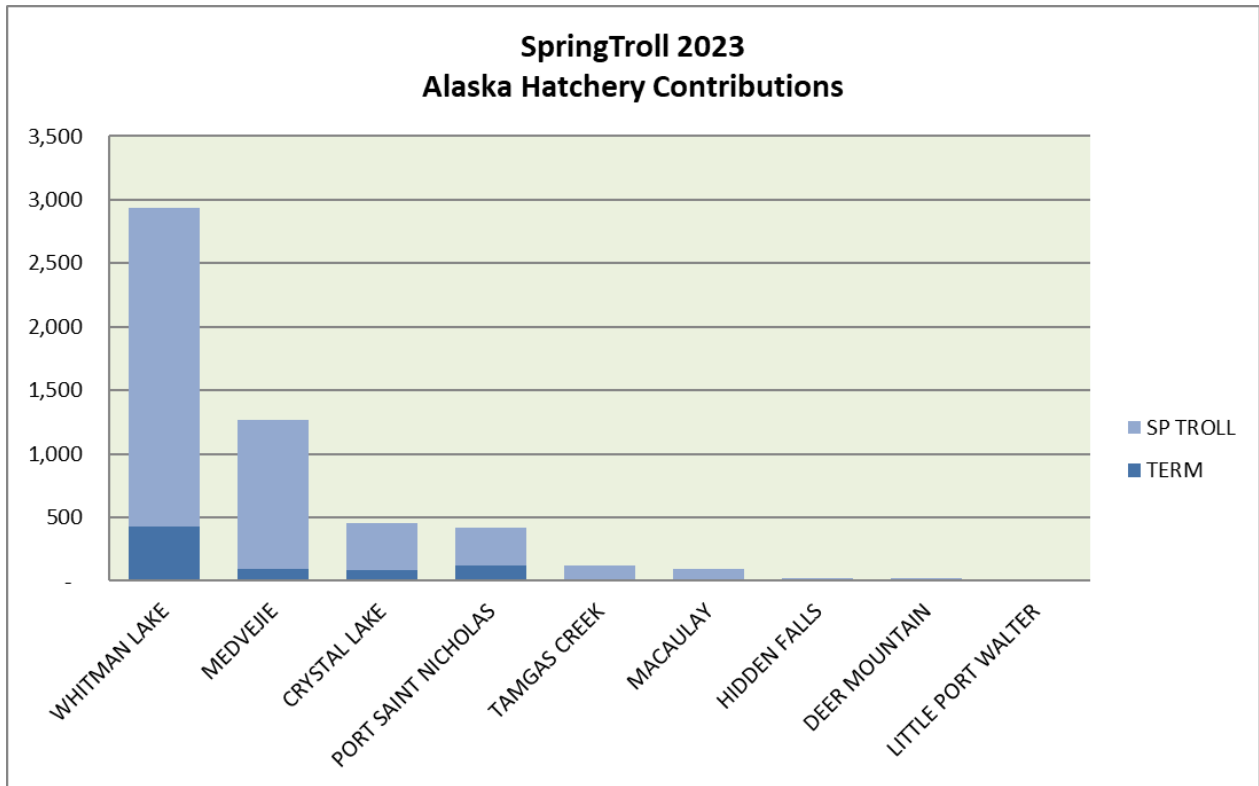
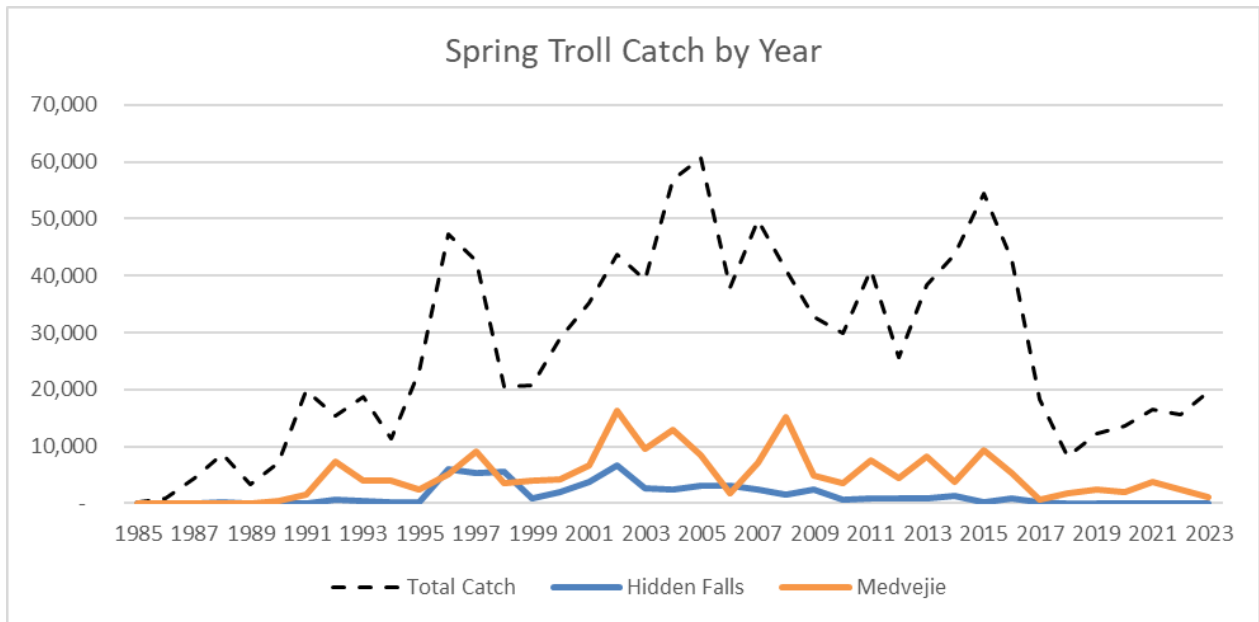
10/18/2023

	Fishery	Total Catch	Medvejie	Hidden Falls	SSRAA	DIPAC	All AK Hatchery
Terminal	Port St Nicholas THA	692	16	-	213	-	230
	Crawfish Inlet THA	688	28	-	26	-	54
	Silver Bay THA	176	12	-	-	-	12
	Anita Bay THA	176	-	-	33	-	33
	Deep Inlet THA	131	40	-	-	-	40
	Gunnuk Creek THA	104	-	-	-	-	-
	Carroll Inlet THA	56	-	-	32	-	38
	Neets Bay THA	32	-	-	19	-	19
	Thomas Bay THA	3	-	-	-	-	-
	Nakat Inlet THA	-	-	-	-	-	-
	Southeast Cove THA	-	-	-	-	-	-
	Hidden Falls THA	-	-	-	-	-	-
Traditional	Sitka Sound Area	5,395	619	-	185	29	854
	Mountain Point	2,776	-	-	2,313	-	2,392
	Redoubt Bay	2,697	144	-	-	31	184
	Salisbury Sound	1,250	206	24	51	25	306
	Gulf of Esqubel	984	-	-	97	-	97
	Goddard Area	963	138	-	45	-	183
	Western Channel	949	57	-	18	9	84
	Port Saint Nicholas	659	-	-	100	-	100
	Bucareli Bay	539	-	-	118	-	118
	Yakutat Bay	409	-	-	17	-	17
	Rock Point	265	-	-	194	-	194
	West Crawfish Inlet	19	10	-	-	-	10
	TOTAL	18,963	1,270	24	3,462	94	4,966

NOTE:

Hatchery contributions in this table are estimates based on coded-wire tag recoveries. These estimates are expansions based off fishery sub-sampling and include fractions. These values are rounded to the nearest whole number, which can also be zero.





DATA: Spring Troll 2023.xlsx

Due to poor survivals, there was an unusual shortage of Medvejie 2020 released 3-Ocean Chinook. As a result, Medvejie was the second highest hatchery contributor to Spring Troll fisheries and NSRAA contributions were down this year, with only 1,198 Chinook, representing 7% of the total Spring Troll harvest.

The value of the Spring/Terminal fishery is estimated at \$1.53 million, with NSRAA's contribution worth about \$107,200.

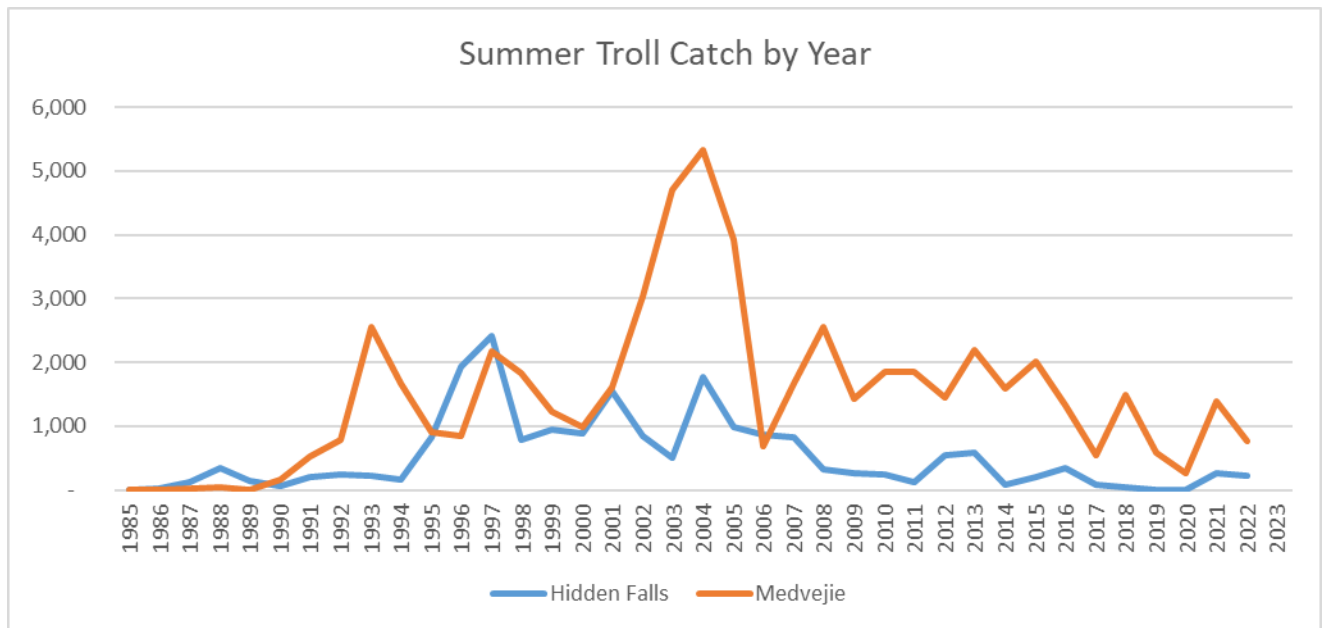
The spring troll fishery was very restricted again this season, due to Alaska wild Chinook conservation measures. Fishing was limited mainly to outside areas and THAs. As per usual, most NSRAA harvest occurred towards the end of the Spring Troll period.

Summer Troll Fishery (July 1 - 12, August 11, & September 1-10, 2023)

Summer Troll Fisheries 2023

	Catch	Wt	Price	Value	Percent
Summer Troll	95,948	10.5	\$ 5.79	\$ 5,833,159	100.0%
Medvejie	616	10.5	\$ 5.79	\$ 37,439	0.64%
Hidden Falls	57	10.5	\$ 5.79	\$ 3,469	0.06%
NSRAA	673			\$ 40,908	0.70%

Opening Dates	Catch	Days Open
July 1-12	86,059	8
Aug 11 (1-day)	8,240	1
Sept 1-10 (9/permit)	1,649	10
	95,948	19



DATA: Summer Troll 2023.xlsx

An estimated 95,948 Chinook were harvested in three Summer Troll openings. The first opening (July 1-12) saw a harvest of 86,059 Chinook caught in 8 days. The second summer opening was a single day (August 11) with a harvest of 8,240 fish, and the third opening (September 1-10) saw an additional 1,649 Chinook landed.

NSRAA contributed 673 Chinook (0.7% of catch) to the Summer Troll fishery. Value of the fishery was \$5.83 million; value of the NSRAA contribution was \$40,908.

Deep Inlet Chinook

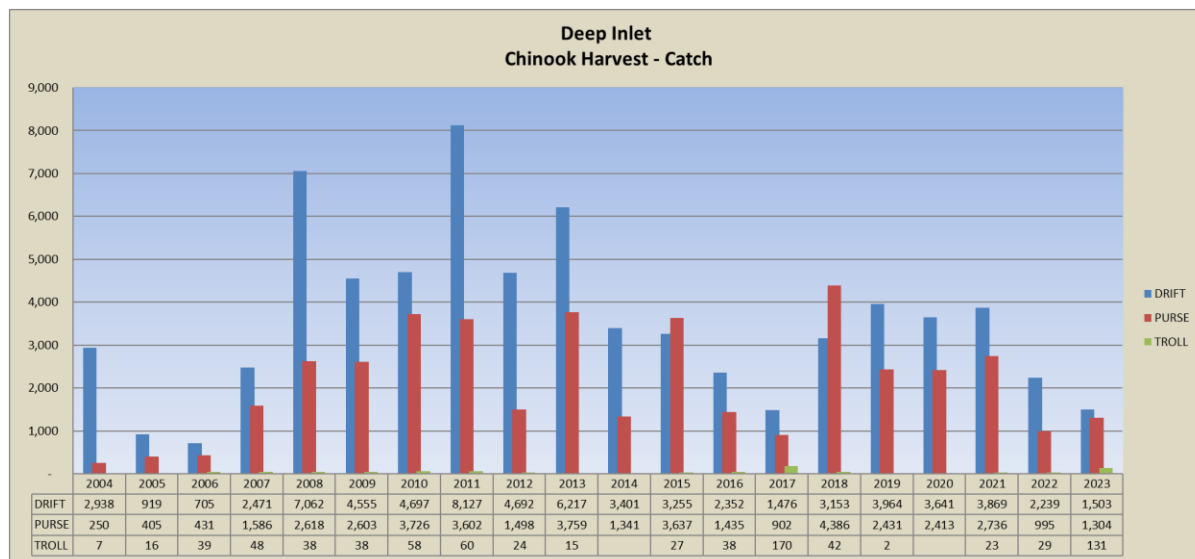
Table 1. Catch - Number of Fish (ADF&G data)

Year	DRIFT	PURSE	TROLL	Grand Total	RANK
2004	2,938	250	7	3,195	16
2005	919	405	16	1,340	19
2006	705	431	39	1,175	20
2007	2,471	1,586	48	4,105	13
2008	7,062	2,618	38	9,718	3
2009	4,555	2,603	38	7,196	6
2010	4,697	3,726	58	8,481	4
2011	8,127	3,602	60	11,789	1
2012	4,692	1,498	24	6,214	10
2013	6,217	3,759	15	9,991	2
2014	3,401	1,341		4,742	12
2015	3,255	3,637	27	6,919	7
2016	2,352	1,435	38	3,825	14
2017	1,476	902	170	2,548	18
2018	3,153	4,386	42	7,581	5
2019	3,964	2,431	2	6,397	9
2020	3,641	2,413		6,054	11
2021	3,869	2,736	23	6,628	8
2022	2,239	995	29	3,263	15
2023	1,503	1,304	131	2,938	17
Grand Total	71,236	42,058	805	114,099	

Table 2. NSRAA Value Estimates

Year	DRIFT	PURSE	TROLL	TOTAL	RANK
2004	\$ 56,739	\$ 2,300	\$ 246	\$ 59,285	18
2005	\$ 44,250	\$ 5,497	\$ 689	\$ 50,435	19
2006	\$ 36,705	\$ 8,289	\$ 2,285	\$ 47,279	20
2007	\$ 112,603	\$ 29,428	\$ 2,601	\$ 144,633	17
2008	\$ 477,843	\$ 101,034	\$ 3,751	\$ 582,628	1
2009	\$ 228,625	\$ 77,007	\$ 2,041	\$ 307,672	9
2010	\$ 158,477	\$ 123,107	\$ 3,868	\$ 285,452	10
2011	\$ 210,255	\$ 107,177	\$ 4,541	\$ 321,973	7
2012	\$ 192,255	\$ 67,398	\$ 1,472	\$ 261,125	11
2013	\$ 376,763	\$ 141,143	\$ 1,169	\$ 519,075	2
2014	\$ 190,456	\$ 62,222	\$ -	\$ 252,678	12
2015	\$ 130,721	\$ 302,016	\$ 1,219	\$ 433,956	5
2016	\$ 127,821	\$ 62,034	\$ 3,158	\$ 193,013	15
2017	\$ 122,611	\$ 52,272	\$ 19,139	\$ 194,022	14
2018	\$ 262,683	\$ 239,019	\$ 5,133	\$ 506,835	3
2019	\$ 209,775	\$ 120,976	\$ 165	\$ 330,916	6
2020	\$ 204,610	\$ 106,066	\$ -	\$ 310,675	8
2021	\$ 268,447	\$ 165,186	\$ 2,250	\$ 435,883	4
2022	\$ 130,023	\$ 47,640	\$ 2,355	\$ 180,017	16
2023	\$ 119,428	\$ 91,776	\$ 11,331	\$ 222,535	13

Grand Total	\$ 3,661,088	\$ 1,911,587	\$ 67,411	\$ 5,640,087
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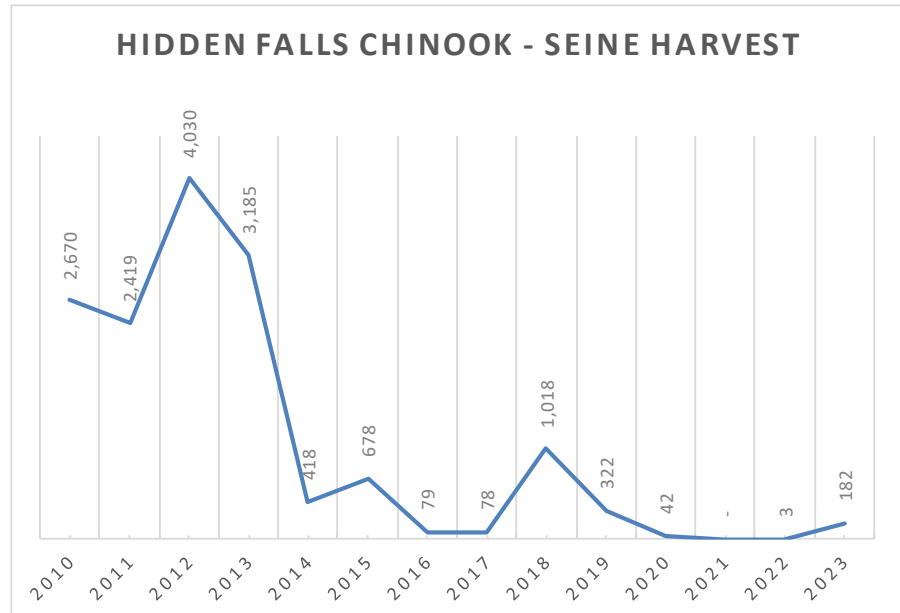
DATA: Deep Inlet Chinook Harvest 2004-23.xlsx

The Deep Inlet Chinook catch was the 17th highest to date and 13th in terms of value. The harvest was 49% of the previous 5-year average. The value is estimated at \$222,500.

Hidden Falls Chinook

Hidden Falls Terminal Chinook
Harvest - Seine

Year	CHINOOK
2010	2,670
2011	2,419
2012	4,030
2013	3,185
2014	418
2015	678
2016	79
2017	78
2018	1,018
2019	322
2020	42
2021	-
2022	3
2023	182
Grand Total	15,124



With smaller Chinook returns and reduced seine opportunity in general, Chinook catch in the Hidden Falls seine fishery has been down since 2014.

There were 182 Chinook reported in Common Property Harvest at Hidden Falls this year.

DATA: Hidden Falls seine harvest 2010-2023.xlsx

Value estimates for all Chinook Year 2023 troll fisheries are shown below:

SE AK Commercial Troll 2022-23

	TROLL	AVG Wt	Avg Price	Value
Winter Troll	27,207	10.60	\$ 9.73	\$ 2,806,076
Spring	17,074	11.20	\$ 7.99	\$ 1,527,918
TERM	2,477	11.80	\$ 7.33	\$ 214,246
Summer	95,943	10.50	\$ 5.78	\$ 5,822,781
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TOTAL	142,701			\$ 10,371,020

DATA: SE AK Chinook Troll Contrib 2022-23 10.3.23



Coho

2023 Coho Return Overview

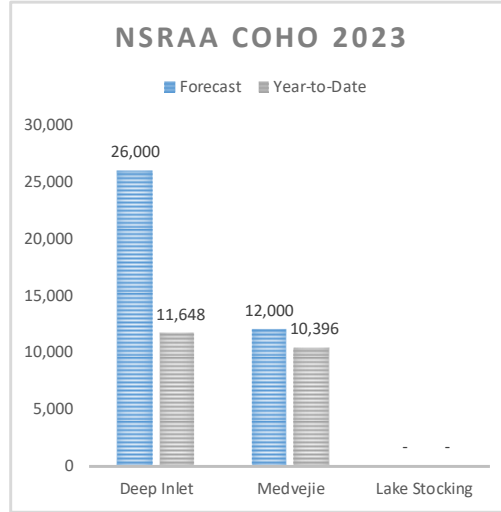
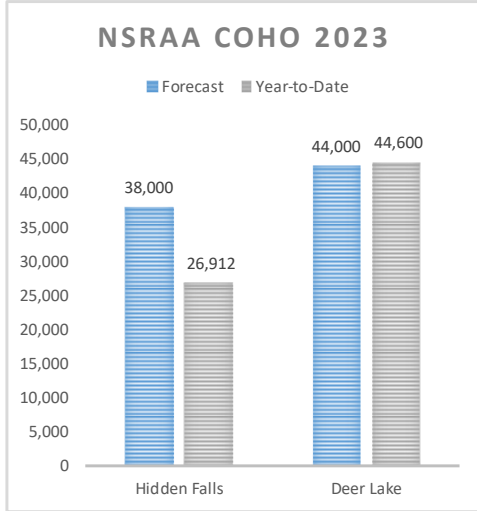
Southeast experienced a 26% increase in all-gear coho catch numbers from 2022, with a 22% increase in troll harvest from 2022.

The SEAK coho troll harvest was 1.04 million fish. The all-gear harvest was 1.42 million fish. About 58% of the harvest was in northern districts.

Prices and fish size were down from 2022 with the summer troll price averaging \$1.71 and average weight for the season coming in at 4.9 pounds. The troll fleet harvested \$8.7 million worth of coho, which was 90% of the \$9.6 million value in 2022.

NSRAA Coho notes:

- NSRAA's coho returns showed relatively poor marine survival at Hidden Falls and Deep Inlet, and decent survival at Medvejie and Deer Lake.
- Early indicators suggested a strong run at Hidden Falls and targeted cost recovery took place, producing the most cost recovery pounds at Hidden Falls since 2015. Only three harvest efforts were made before it became evident that it was not actually a strong run.
- No supplemental lake stocking returns took place in 2023.
- Due to weak coho markets there was no interest in the last of the terminal coho at Mist Cove.
- Returns to Medvejie were poor and meeting brood stock goals required sport closures in Bear Cove as well as brood transport from Deep Inlet.

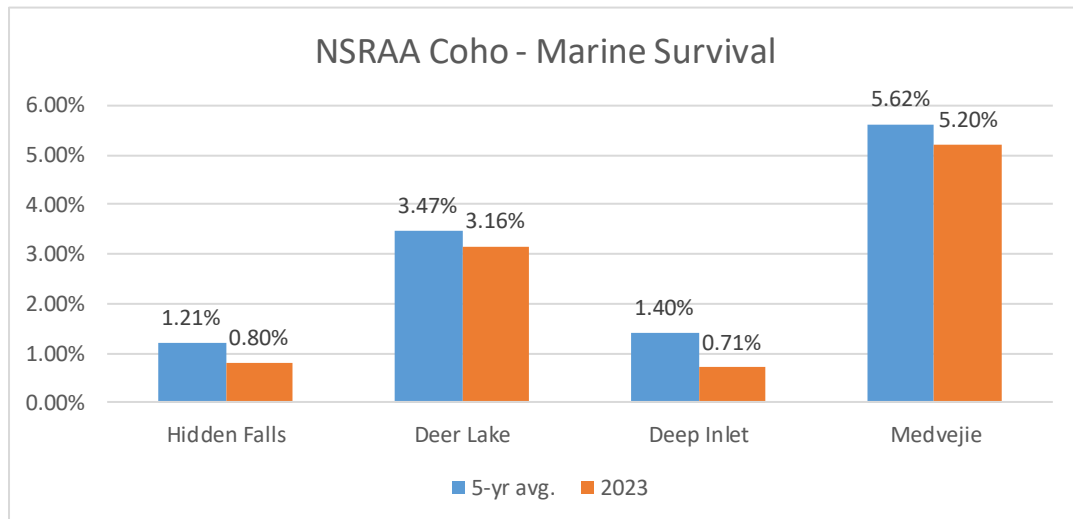


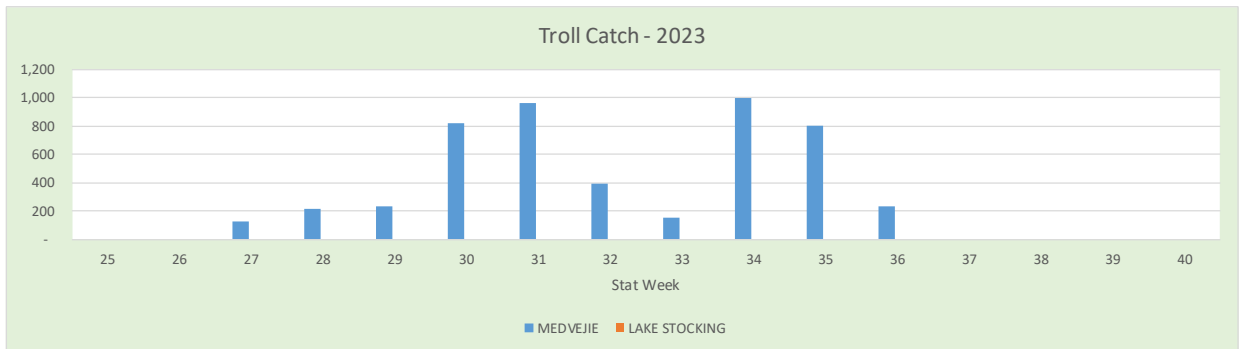
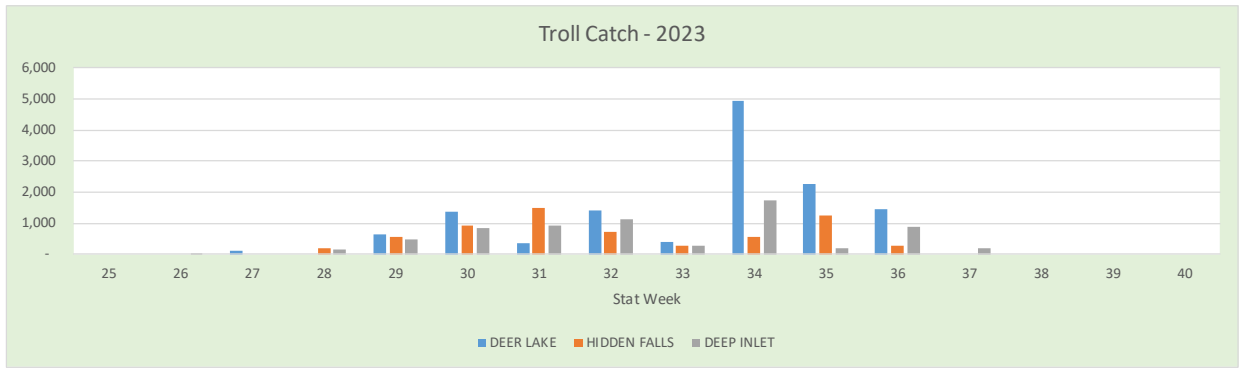
Site	Forecast	Return	% of Fcast	Smolt Release	Marine Survival to Date
Hidden Falls	38,000	26,912	70.8%	3,375,361	0.80%
Deer Lake	44,000	44,600	101.4%	1,413,417	3.16%
Deep Inlet	26,000	11,648	44.8%	1,649,843	0.71%
Medvejie	12,000	10,396	86.6%	199,977	5.20%
Lake Stocking	-	-	-	-	-
Total	120,000	93,556	77.96%	6,638,598	

All projects except for Deer Lake fell short of forecast. Rack and terminal area estimates have not been finalized; these numbers may increase slightly.

Run projections are based on 5-year average marine survival rates for each project. The table and graph below show each project's 2023 marine survival compared to its 5-year average. Only Deer Lake exceeded this average.

Site	5-yr avg.	2023
Hidden Falls	1.21%	0.80%
Deer Lake	3.47%	3.16%
Deep Inlet	1.40%	0.71%
Medvejie	5.62%	5.20%





Troll

Week's end date	Week	DEER LAKE	HIDDEN FALLS	DEEP INLET	MEDVEJIE	LAKE STOCKING	TOTAL
24-Jun	25	-	-	-	-	-	-
1-Jul	26	-	-	16	-	-	16
8-Jul	27	120	-	-	129	-	250
15-Jul	28	-	179	152	216	-	546
22-Jul	29	654	545	455	233	-	1,886
29-Jul	30	1,362	909	833	819	-	3,924
5-Aug	31	362	1,496	909	966	-	3,733
12-Aug	32	1,423	716	1,112	396	-	3,647
19-Aug	33	381	278	278	158	-	1,096
26-Aug	34	4,956	566	1,715	1,002	-	8,239
2-Sep	35	2,270	1,256	208	807	-	4,541
9-Sep	36	1,428	286	865	237	-	2,817
16-Sep	37	-	-	201	-	-	201
23-Sep	38	-	-	-	-	-	-
30-Sep	39	-	-	-	-	-	-
7-Oct	40	-	-	-	-	-	-
Total		12,956	6,231	6,744	4,964	-	30,895

Data: 2023 NSRAA Coho.xlsx

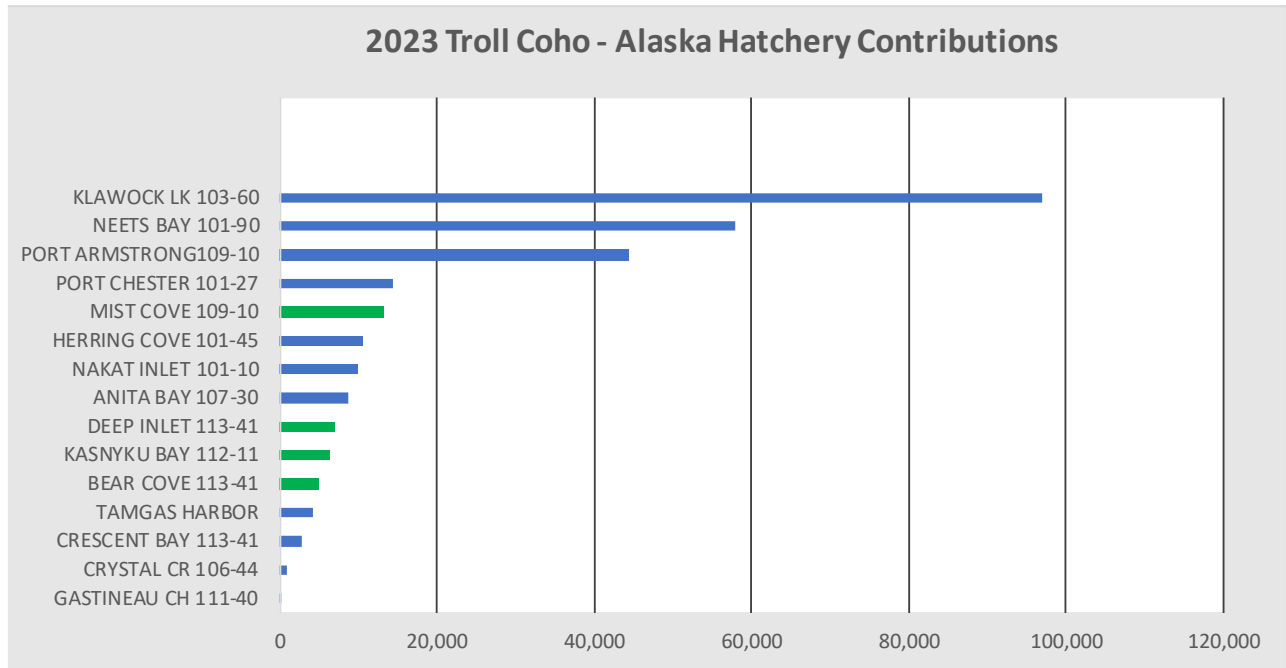
When examining CWT data, NSRAA contributed an estimated 30,895 coho to the troll fishery this season. CWT sampling in terminal areas is generally very low. As a result, NSRAA calculates "add-ons" to account for NSRAA fish in these under-sampled areas/weeks.

Gear	DEER LAKE	HIDDEN FALLS	DEEP INLET	MEDVEJIE	LAKE STOCKING	TOTAL
TROLL	12,956	6,231	6,744	4,964	-	30,895
TROLL ADD-ON			237	59		296

Data: 2023 NSRAA Coho.xlsx

Add-ons accounted for an additional 296 Troll caught NSRAA coho in 2023.

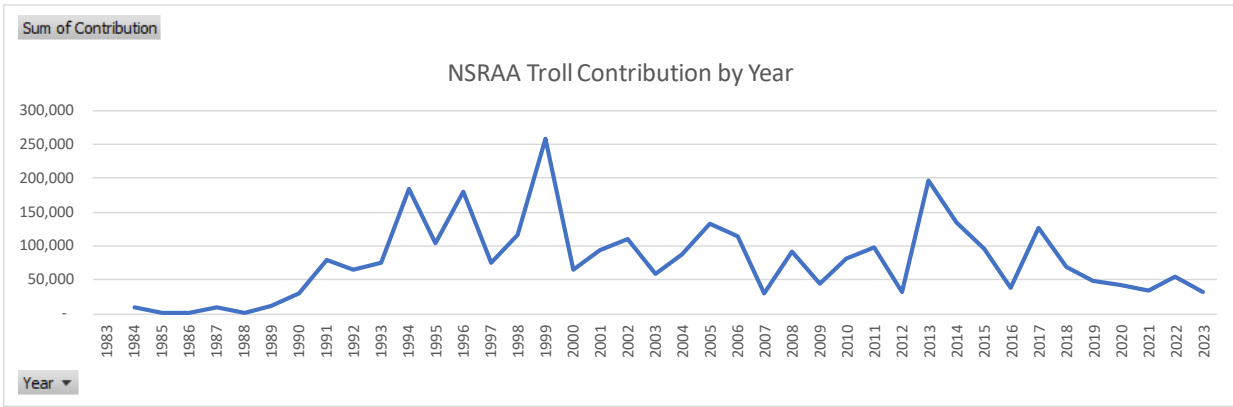
NSRAA represented 11% of the Alaska hatchery troll contribution in 2023 with contributions down in recent years.



Year	2023	<input type="button" value="v"/>
Gear Class	TROLL	<input type="button" value="v"/>
State	AK	<input type="button" value="v"/>
Rearing Code	H	<input type="button" value="v"/>

Site	Sum of Contribution
GASTINEAU CH 111-40	196
CRYSTAL CR 106-44	869
CRESCENT BAY 113-41	2,734
TAMGAS HARBOR	4,276
BEAR COVE 113-41	5,007
KASNYKU BAY 112-11	6,285
DEEP INLET 113-41	6,953
ANITA BAY 107-30	8,803
NAKAT INLET 101-10	9,793
HERRING COVE 101-45	10,541
MIST COVE 109-10	13,141
PORT CHESTER 101-27	14,348
PORT ARMSTRONG109-10	44,373
NEETS BAY 101-90	57,858
KLAWOCK LK 103-60	97,056
Grand Total	282,232
NSRAA	31,386
NSRAA Percent	11%

Data: 2023 SEAK HATCHERY Coho



Row La	CLR	BEAR COVE 113-41	DEEP INLET 113-41	KASNYKU BAY 112-11	Grand Total
1984	4,450				4,450
1985	57				57
1986	905			444	1,348
1987	8,450				8,450
1988	747				747
1989	11,202				11,202
1990	30,770				30,770
1991	69,685				69,685
1992	54,460		57	5,231	78,576
1993	45,219		307	3,513	64,054
1994	101,761		11,300	18,657	75,483
1995	101,761		299	11,755	151,426
1996	36,895		94	1,984	60,746
1997	67,933		318	2,052	101,695
1998	45,734		81		26,919
1999	36,593		549		64,560
2000	145,245		688		99,824
2001	7,501		611		56,434
2002	21,856		329		69,718
2003	32,668		268		72,527
2004	14,225		488		38,914
2005	13,354		298		64,933
2006	56,252		317	406	62,779
2007	39,152		323		70,359
2008	7,459		86	1,294	20,166
2009	665		3	658	91,237
2010	8,250		7	118	35,971
2011	17,094			191	64,765
2012	23,638				74,770
2013	17,833		593	2,886	10,966
2014	133,709		2,620	6,289	53,340
2015	98,127		3,525	9,452	23,292
2016	69,905		2,212	7,201	15,599
2017	12,946		3,323	10,427	11,795
2018	60,637		12,177	35,476	18,892
2019	12,503		8,051	40,050	9,286
2020	17,612		6,075	15,510	8,538
2021	15,946		6,646	16,579	3,528
2022	10,437		6,588	9,314	7,168
2023	41,066		4,266	2,298	7,692
2023	13,151		5,012	6,961	6,289
Grand Tot	1,406,090	66,211	201,388	1,318,652	2,992,342

Data: Historical NSRAA Troll Coho Contributions

Purse Seine

Week's end dat	Week	DEER LAKE	HIDDEN FALLS	DEEP INLET	MEDVEJIE	LAKE STOCKING	TOTAL
8-Jul	27	-	-	-	-	-	-
15-Jul	28	-	143	-	-	-	143
22-Jul	29	94	66	-	-	-	160
29-Jul	30	-	60	-	-	-	60
5-Aug	31	-	604	-	-	-	604
12-Aug	32	-	752	-	-	-	752
19-Aug	33	-	478	53	-	-	530
26-Aug	34	-	1,238	-	-	-	1,238
2-Sep	35	-	-	-	-	-	-
9-Sep	36	-	-	-	-	-	-
16-Sep	37	-	-	-	-	-	-
23-Sep	38	-	-	-	-	-	-
30-Sep	39	-	-	-	-	-	-
7-Oct	40	-	-	-	-	-	-
Total		94	3,340	53	-	-	3,486

Gear	DEER LAKE	HIDDEN FALLS	DEEP INLET	MEDVEJIE	LAKE STOCKING	TOTAL
SEINE	94	3,340	53	-	-	3,486
SEINE ADD-ON			1,099	275		1,374

Data: 2023 NSRAA Coho.xlsx

Deer Lake and Hidden Falls had no seine effort in the terminal areas. Seine catches for these fish occurred primarily in traditional fisheries outside of these areas. Add-ons accounted for an additional 1,374 Seine caught NSRAA coho in 2023.

Gear	DEER LAKE	HIDDEN FALLS	DEEP INLET	MEDVEJIE	LAKE STOCKING	TOTAL
DRIFT	-	-	-	-	-	-
DRIFT ADD-ON			1,004	251		1,255

No CWTs were sampled from Deep Inlet gillnet, however add-ons accounted for an additional 1,255 Gillnet caught NSRAA coho in 2023.

Sport

Week's end dat	Week	DEER LAKE	HIDDEN FALLS	DEEP INLET	MEDVEJIE	LAKE STOCKING	TOTAL
24-Jun	25	-	-	-	-	-	-
1-Jul	26	-	-	-	-	-	-
8-Jul	27	339	-	-	145	-	484
15-Jul	28	214	-	128	73	-	414
22-Jul	29	107	-	60	-	-	167
29-Jul	30	109	-	-	403	-	512
5-Aug	31	-	82	142	52	-	276
12-Aug	32	-	250	91	-	-	341
19-Aug	33	49	270	185	-	-	504
26-Aug	34	96	-	370	527	-	993
2-Sep	35	-	-	518	-	-	518
9-Sep	36	-	-	518	147	-	665
16-Sep	37	-	-	-	-	-	-
23-Sep	38	-	-	-	-	-	-
30-Sep	39	-	-	-	-	-	-
7-Oct	40	-	-	-	-	-	-
Total		914	602	2,011	1,347	-	4,874

Gear	DEER LAKE	HIDDEN FALLS	DEEP INLET	MEDVEJIE	LAKE STOCKING	TOTAL
SPORT	914	602	2,011	1,347	-	4,874
SPORT - TERMINAL	1,847			500		2,347

Data: 2023 NSRAA Coho.xlsx

NSRAA projects again made good contributions to the local sport fishing. Estimates in the upper table are from ADF&G port sampling. Terminal sport estimates shown in the lower table are NSRAA estimates from observations, creel census, and information from charter outfits.

Total NSRAA Coho returns are summarized in the tables below:

Summary

Gear	DEER LAKE	HIDDEN FALLS	DEEP INLET	MEDVEJIE	LAKE STOCKING	TOTAL
TROLL	12,956	6,231	6,744	4,964	-	30,895
TROLL ADD-ON			237	59		296
SEINE	94	3,340	53	-	-	3,486
SEINE ADD-ON			1,099	275		1,374
DRIFT	-	-	-	-		-
DRIFT ADD-ON			1,004	251		1,255
SPORT	914	602	2,011	1,347	-	4,874
SPORT - TERMINAL	1,847			500		2,347
COST RECOVERY	17,864	12,739				30,603
RACK	-	4,000		2,400		6,400
TERMINAL-OTHER	10,925		500			11,425
Donation						-
Total	44,600	26,912	11,648	9,796	-	92,956

Data: 2023 NSRAA Coho.xlsx

NSRAA represented 10% of the Alaska hatchery all-gear contribution in 2023.

State	AK
Rearing Code	H

Sum of Contribution	Gear Class					Release	% of Rel
Site	DRIFT	PURSE	TROLL	Sport	Grand Total		
KLAWOCK LK 103-60	535	23,723	97,056	11,108	132,422	3,801,342	3.5%
NEETS BAY 101-90	11,942	4,412	57,858	4,302	78,515	3,209,738	2.4%
PORT ARMSTRONG109-10			44,373	2,084	46,458	3,673,263	1.3%
ANITA BAY 107-30	12,526	256	8,803	1,419	23,004	506,258	4.5%
PORT CHESTER 101-27	3,294	1,605	14,348	1,603	20,850	5,898,323	0.4%
NAKAT INLET 101-10	5,638	1,611	9,793	533	17,574	532,463	3.3%
HERRING COVE 101-45	2,797	591	10,541	843	14,772	406,068	3.6%
MIST COVE 109-10		94	13,141	914	14,149	1,413,417	1.0%
KASNYKU BAY 112-11		3,378	6,285	602	10,266	3,375,361	0.3%
DEEP INLET 113-41		53	6,953	2,011	9,017	1,649,843	0.5%
BEAR COVE 113-41			5,007	1,347	6,354	199,977	3.2%
TAMGAS HARBOR	938	353	4,276	199	5,767	1,630,581	0.4%
CRESCENT BAY 113-41			2,734	300	3,034	163,955	1.9%
CRYSTAL CR 106-44	275	54	869	122	1,320	129,495	1.0%
GASTINEAU CH 111-40	1,019		196	29	1,243	222,886	0.6%
Grand Total	38,964	36,132	282,232	27,417	384,745		

NSRAA	39,785
NSRAA Percent	10%

Data: 2023 SEAK HATCHERY Coho



Chum

2023 Chum Return Overview

Coming off the 2022 season, we expected an uptick in chum returns to most of our summer return sites and foresaw the potential for the largest return to Hidden Falls in decades. The question was: “by how much”? Fall runs were less than certain, with the severe lack of returning 3-year-olds to Medvejie in 2022.

During the first two weeks it was difficult to decipher how the summer runs would shape up. With pre-season forecasts giving us confidence, Hidden Falls was opened at the start of the season for the first time since 2018. Securing test fishery samples in the early weeks was extremely problematic and little data was available from Pt. Gardner or Kingsmill, but the presence of NSRAA fish in the Homeshore troll fishery was reassuring. Early harvest at Hidden Falls appeared to be average, with the initial scale age structure showing a much stronger than expected occurrence of three-year-old chum. This is generally considered a good thing; however, in the early weeks it could indicate that the anticipated 4- and 5-year-old survivals were lower than expected meaning we would come in below forecast.

By early-July, things ramped up and Hidden Falls harvest was trending with the long-term historical average. Data was eventually collected in the Pt. Gardner and Kingsmill test fisheries as well as multiple pink salmon areas along North Chatham. It became evident that a large volume of chum was in the area, with otolith composition and sex ratios looking favorable for Hidden Falls to come in above forecast. Despite the confidence in our returns, some brood management was still necessary to keep from over harvesting. Over 40 seiners competed in the July 13th opener, the largest single day harvest at Hidden Falls in over a decade, landing approximately 250,000 chum.

Eggtakes at Hidden Falls (now with an increase of 40 million due to a new AKI chum partnership) began early on July 13th, spanning just 23 days. By the end, it was (again) the largest return to Hidden Falls since 2013, the best survival of 3-year-olds to Hidden Fall in over 40 years, the largest eggtake in the program’s history at over 230,000,000 eggs, and the most fish processed at the rack with over 320,000.

Gunnuk Creek and Medvejie saw their largest summer hatchery returns to date as well, despite Medvejie’s run lacking 5-year-olds from the brood year 2018 shortage as well as the black cod predation on the 2020 released brood year 2019 4-year-olds. Summer forecasts had been poor for Deep Inlet but this stronger than expected presence of 3-year-olds had the return plotting well ahead of forecast and double the average harvest rates in the first half of the season. Despite these Medvejie/Deep Inlet

summer 3-year-olds coming in almost 6x stronger than our high end of forecast (another all-time record for 3's) we knew there could be no making up for the loss of four-year-olds at the hatchery during egg take. Fortunately, little was needed from Medvejie during summer egg takes thanks to the tremendous return to Hidden Falls and the fishermen welcomed the strong start to the season at Deep Inlet. Fall egg takes, however, would be a different story.

Thomas Bay returns aligned well with pre-season forecasts, with the exception of some early harvest being misreported. The site continues to show poor survival, however we are finally seeing a strong return of three-year-olds which suggests the possibility of a strong run in 2024.

Southeast Cove tracked below forecast all season and fish size now became a real problem for NSRAA. With an average weight of just 5.0 lbs for the season, Southeast Cove cost recovery was well behind schedule and only reached 52% of its goal despite the return reaching 69% of forecast. With the main cost recovery harvest being split 50/50 between Southeast Cove and Crawfish, this was a grim start.

Fall chum returns to Medvejie and Deep Inlet were similar in nature to the summer run in terms of age composition. At both return sites, the three-year-old component was strong and the four-year-old component was extremely weak. We knew going into the season that there would need to be drastic intervention on the fall return to Medvejie in order to meet egg take goals, especially if troll interception remained as high as it had been in the past two years. With limited to no interest from trollers, the question went from *how* would we would secure the necessary brood stock to *how quickly* could this be accomplished. With a single week closure at Deep Inlet from August 19-25, over 60,000 chums were captured and held/transported to Medvejie where they were utilized for egg takes. Between market conditions, fishery closures, and the second weakest return of four-year-olds on record, we saw nothing close to the harvest effort that took place one year ago in Sitka Sound. By the end of the run, Deep Inlet was open to all gear 7 days a week to encourage harvesters to keep up and reduce the need for cleanup and disposal of unwanted chum.

At Crawfish, the run came in strong and ultimately met cost recovery goals and exceeded forecast. By the peak weeks of the Crawfish return, harvest effort was limited by the processors' daily output and keeping up with the run was an arduous task. Troll effort subsided early and regular openings in West Crawfish occurred with the Crawfish THA opening 7 days a week near the end of cost recovery.

The last two weeks of the season saw further loss of interest in both terminal chum fisheries and ultimately harvesters were contracted to catch and donate the remaining 600,000 + lbs at a net loss to the organization and fishermen.

Total harvest numbers for most chum sites were average historically but value was exceedingly low. Further details on each project are outlined in the pages below, as well as the 2024 forecast, which is one of the largest in our history. As per the new normal, forecast methodology is continuing to evolve. This coupled with what appears to be a return to more normal age distributions and survivals should allow for greater confidence moving into the 2024 season and beyond. NSRAA is in a strong position to utilize its diverse and comprehensive chum programs moving forward as long as market conditions improve.

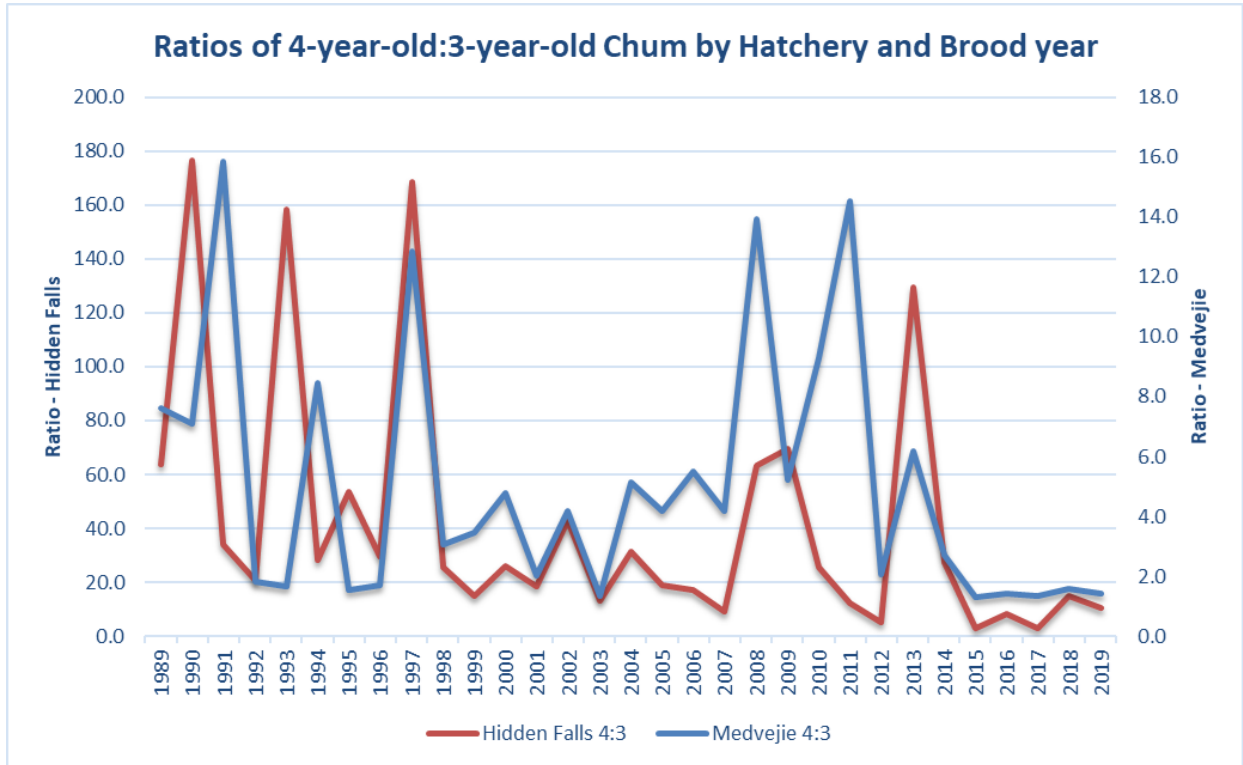
Project	2023	2023 Forecast	Pcnt of Fcast	2023 as Pcnt of	
				2022	2022
Hidden Falls	1,194,761	806,000	148%	486,853	245%
Deep Inlet	1,390,342	951,000	146%	2,358,922	59%
Crawfish Inlet	1,687,317	867,000	195%	711,337	237%
Southeast Cove	381,655	570,000	67%	216,615	176%
Gunnuk Creek	38,662	26,000	149%	30,478	127%
Thomas Bay	139,754	97,000	144%	95,053	147%
	4,832,492	3,317,000	146%	3,899,258	124%

Data: 2023 est salmon Harvest by area 10.16.23

Fish Size and Age at Return

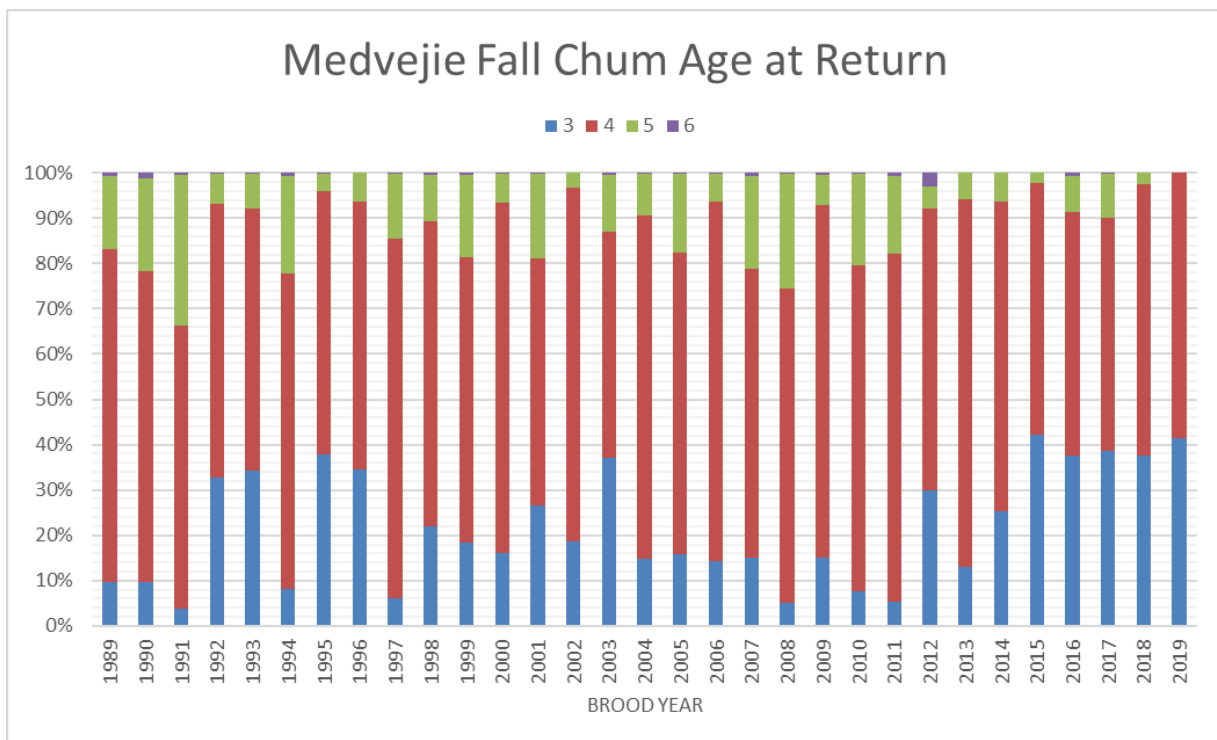
While we have seen fluctuations in our age at return ratios throughout our history, for both Hidden Falls and Medvejie chum, the past ten years have shown a shift to fewer older and more younger fish. Six-year-old chums have become essentially non-existent and ratios of 4-:3-year-old chum have decreased and remained low for both Medvejie and Hidden Falls chum.

Ratios of 4:3 year-old chum by Brood Year and Hatchery Stock shown below



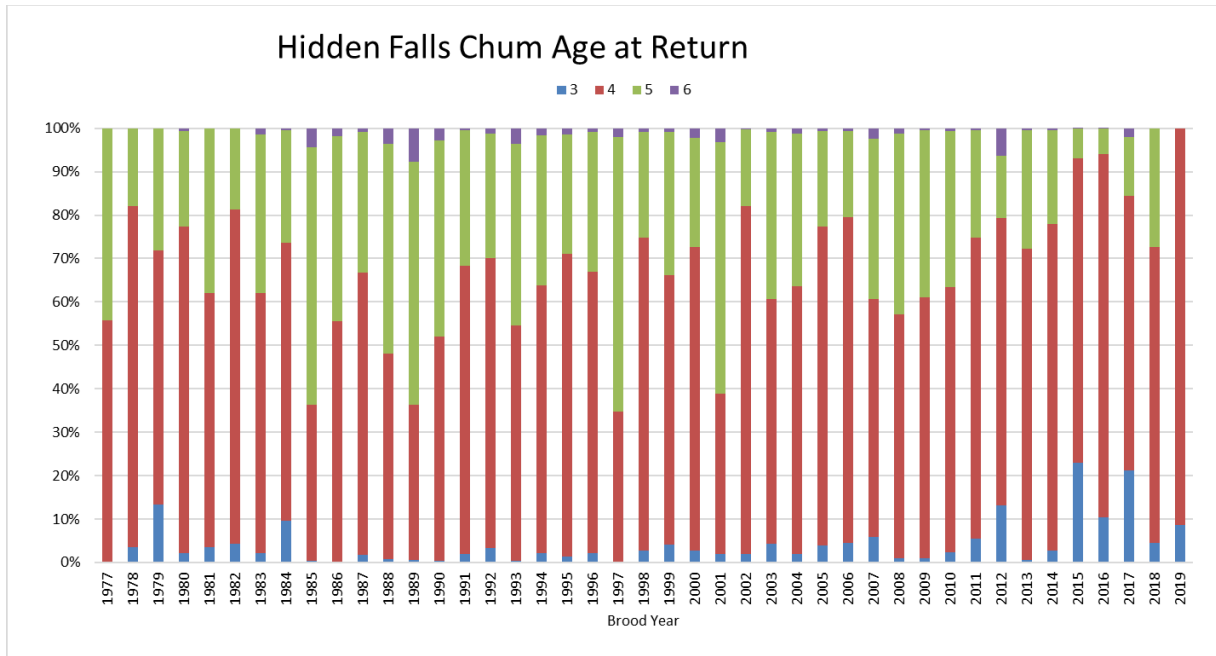
Data: 2024 BC & DI Forecasts – multiple models.xlsx

Percent Age at Return by Brood Year at Medvejie shown below.



Data: 2024 BC & DI Forecasts – multiple models.xlsx

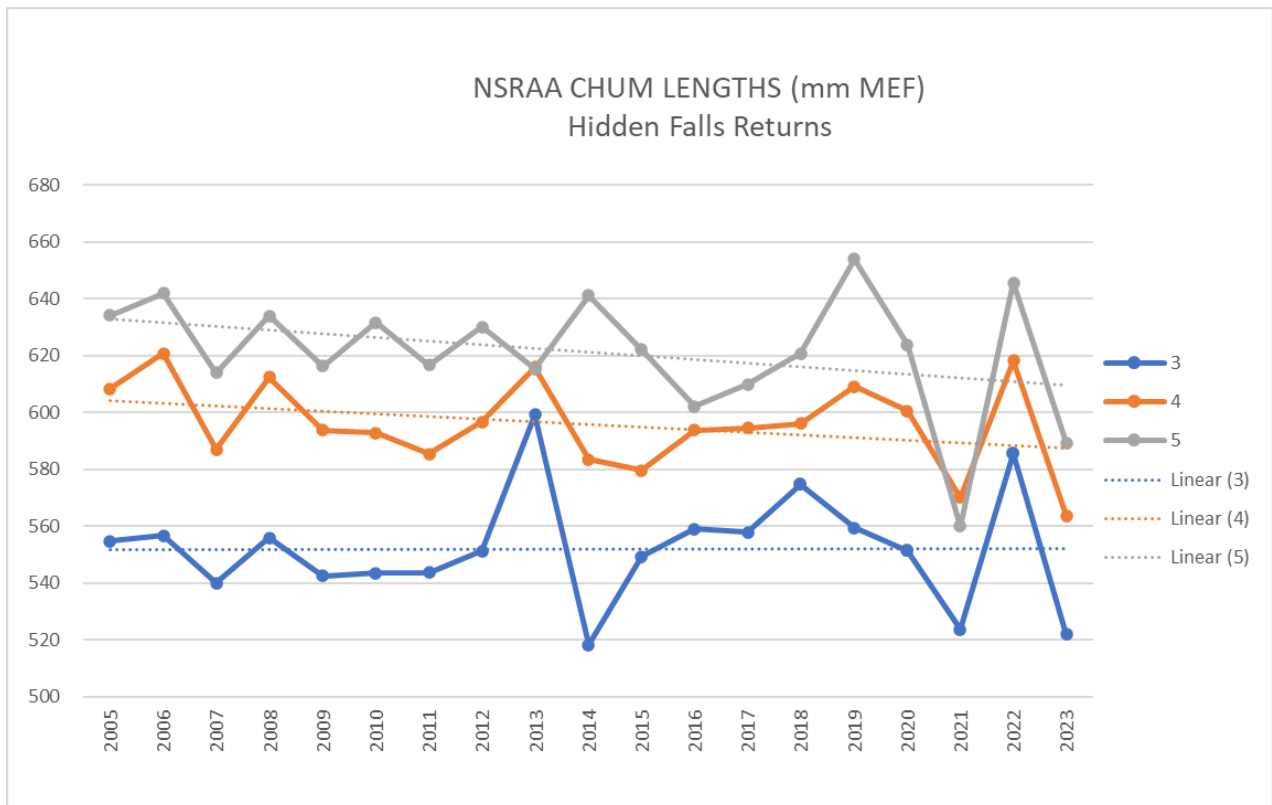
Percent Age at Return by Brood Year at Hidden Falls shown below.



Data: 2024 HF Chum Projects Forecasts – multiple models.xlsx

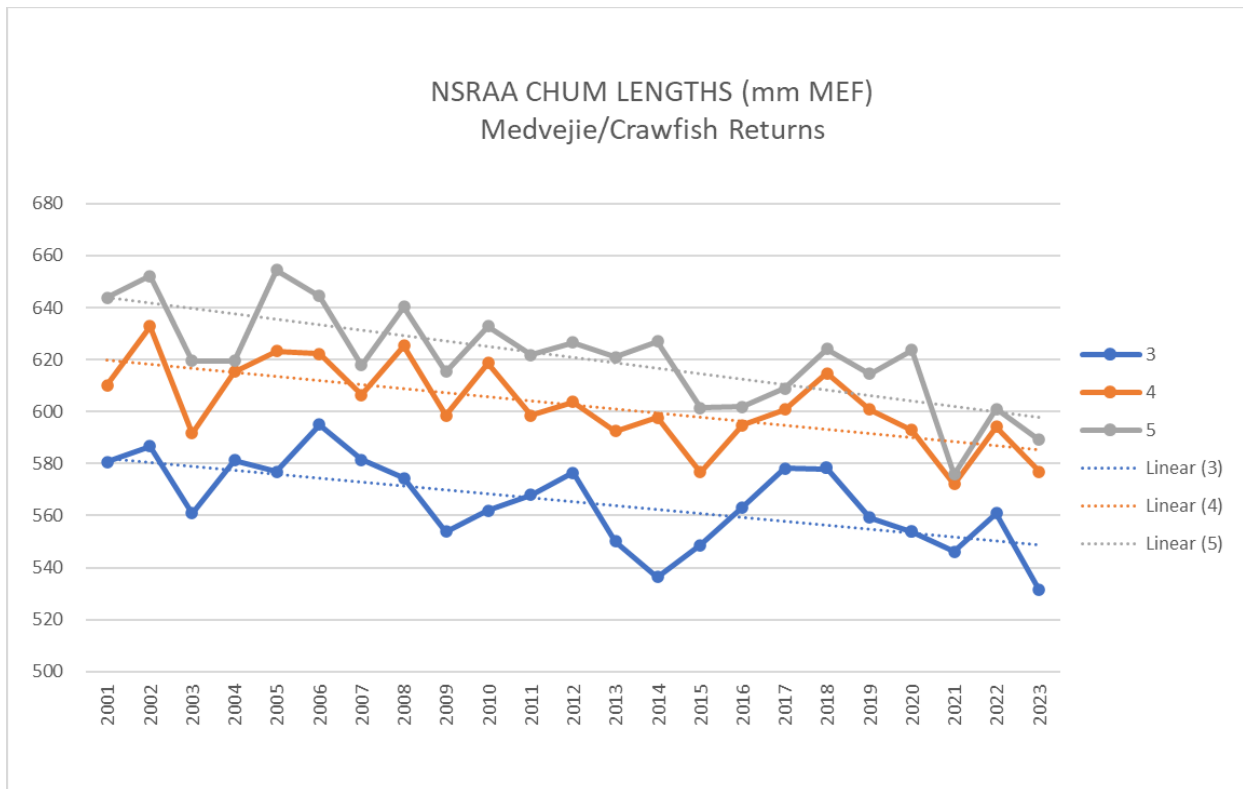
Fish have also been getting smaller, not simply from the higher prevalence of younger fish, but within most age/sex cohorts. The Hidden Falls chum seem more susceptible to shifts in length at return.

Average of Length (mm mid-eye to tail fork) by return year and age for Hidden Falls projects shown below. Interestingly, the fish returning in 2023 were smaller than their siblings from the same brood years that returned in 2022.

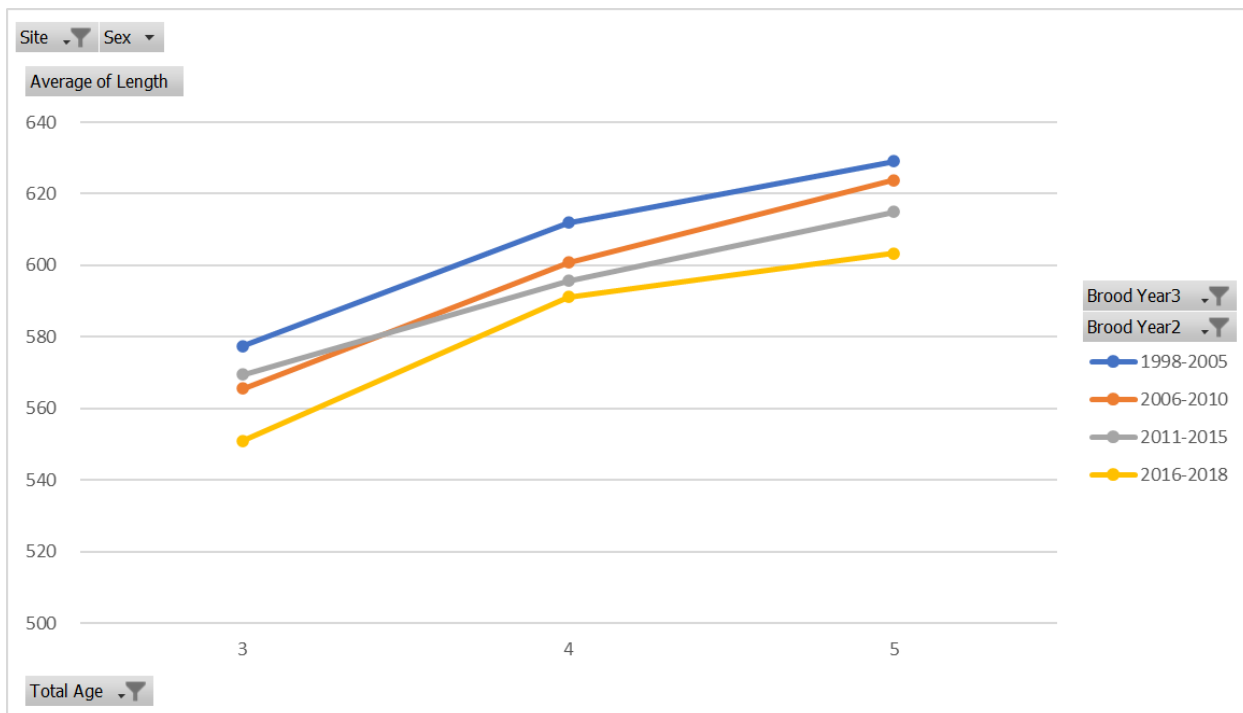


Data: Multi-year size summary.xlsx

Average of Length (mm mid-eye to tail fork) by return year and age for Medveje projects shown below.



Average of Length (mm mid-eye to tail fork) by (Aggregated) Brood Year and Age

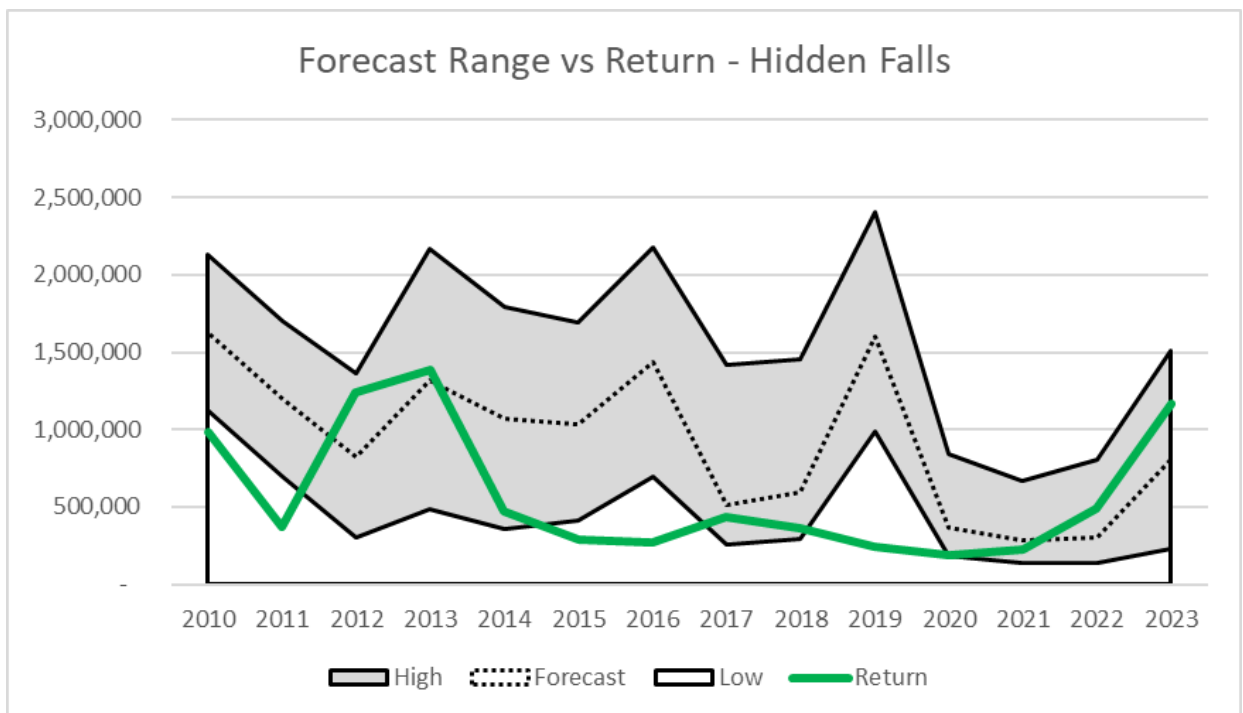
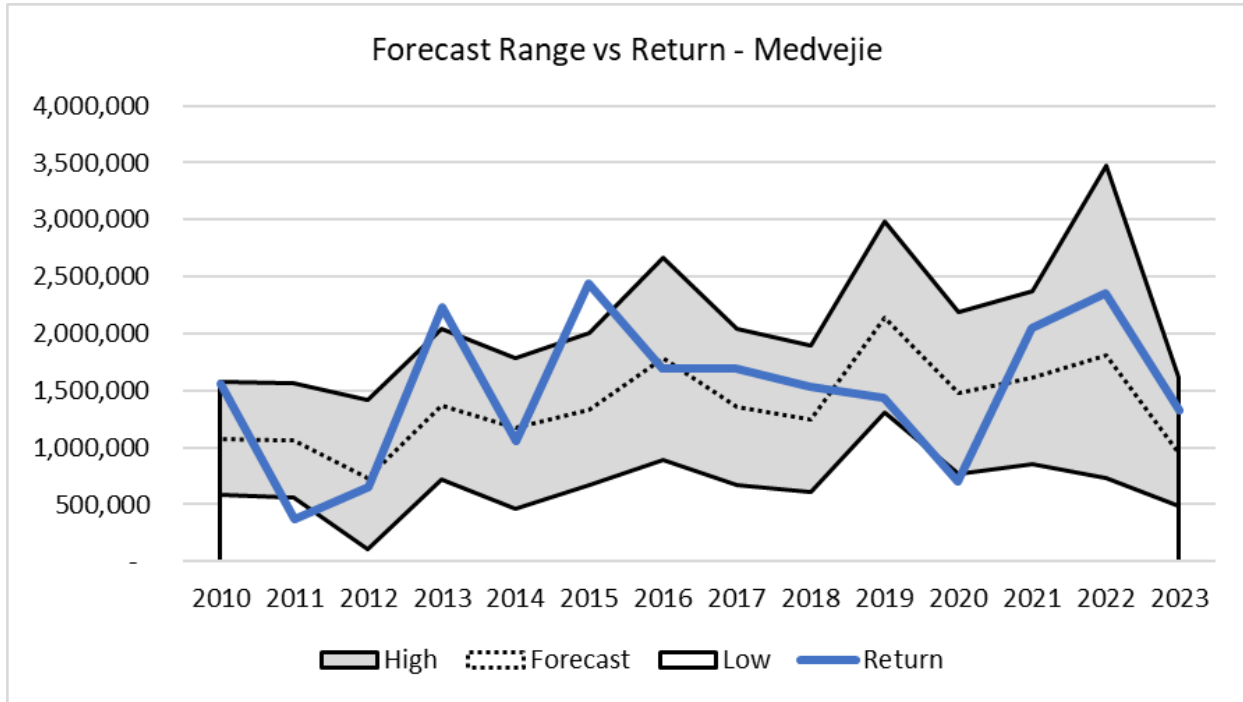


Data: Multi-year size summary.xlsx

Despite some annual fluctuations in length, the graph above illustrates the change over time for all ages when we aggregate return years.

Forecasting has been a challenge, especially at Hidden Falls, but adjustments to forecasting methods have resulted in point estimates that more consistently track actual return numbers that fall within the forecast range.

Forecast ranges to actual returns are shown below for Medveje and Hidden Falls chum.



Data: Forecast to actual summary.xlsx

Hidden Falls Chum Return

Hidden Falls saw a reoccurrence to more normal chum returns in 2023 and experienced several record-breaking run attributes, including:

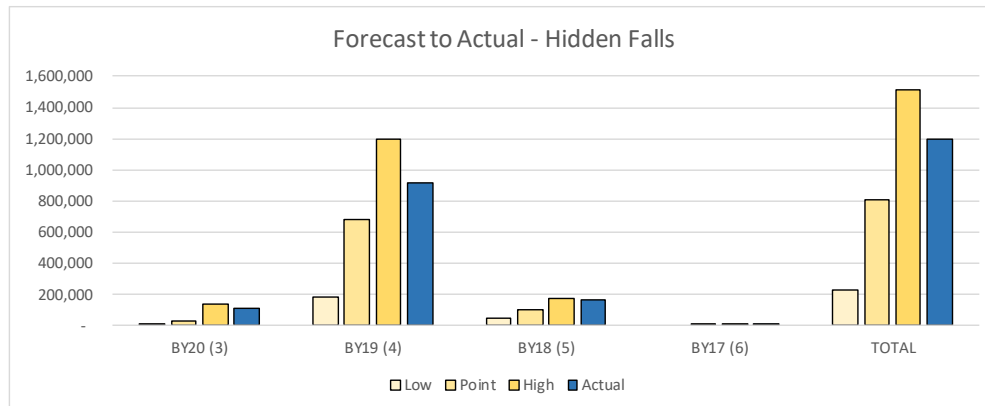
- Largest egg take and rack return ever – over 320,000 fish and 230 million eggs.
- Largest seine harvest since 2013 – over 860,000.
- Defaulted to open at the beginning of the season for first time since 2018.
- Highest 3-year-old survival since 1979 with over 112,000 returning 3's.
- Continued success from tendered release program - adding an estimated of 370,000+ fish to date.

Managing the seine fishery and large egg take felt like the “old days” before the decade of all time low survival. NSRAA used caution when managing the lines for the openings but never needed to close the area to fishing. Once necessary brood stock was secured at the hatchery, the THA remained open except for a small buffer zone in front of the barrier net.

Below is the 2023 weekly schedule and return vs forecast for Hidden Falls in 2023:

Hidden Falls	Sun	Mon	Tue	Wed	Thu	Fri	Sat
	Seine					Seine	

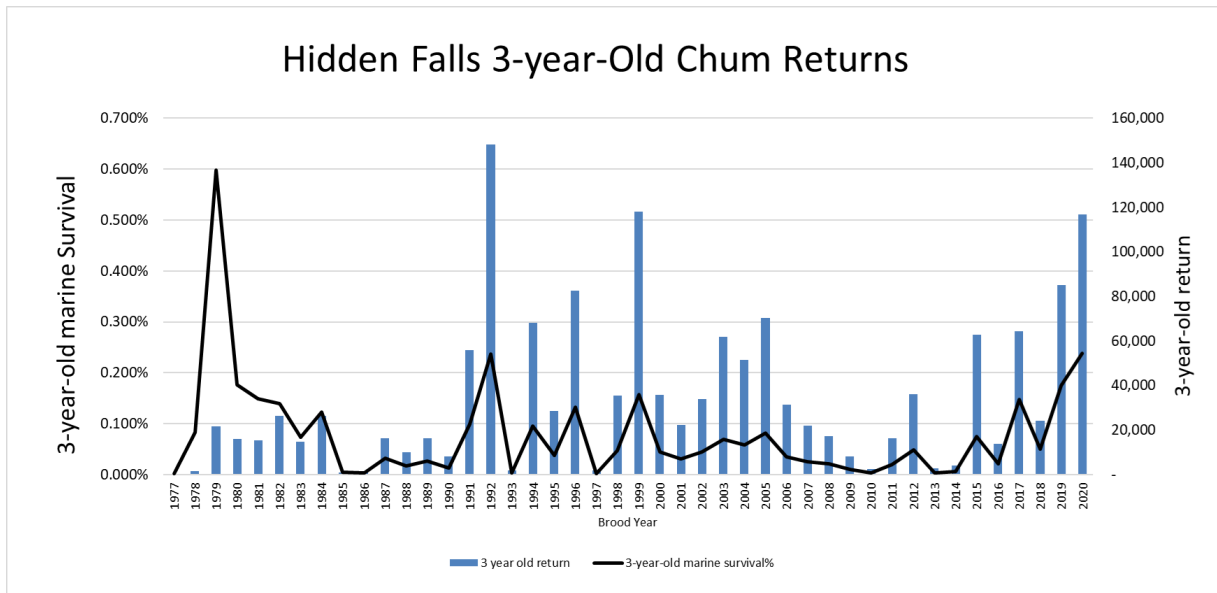
	BY20 (3)	BY19 (4)	BY18 (5)	BY17 (6)	TOTAL	
Low	4,600	184,000	41,400	-	230,000	
Point	31,450	676,600	96,900	850	805,800	
High	138,750	1,194,000	171,000	8,250	1,512,000	
Actual	112,632	914,730	161,350	6,050	1,194,761	148% of forecast



DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

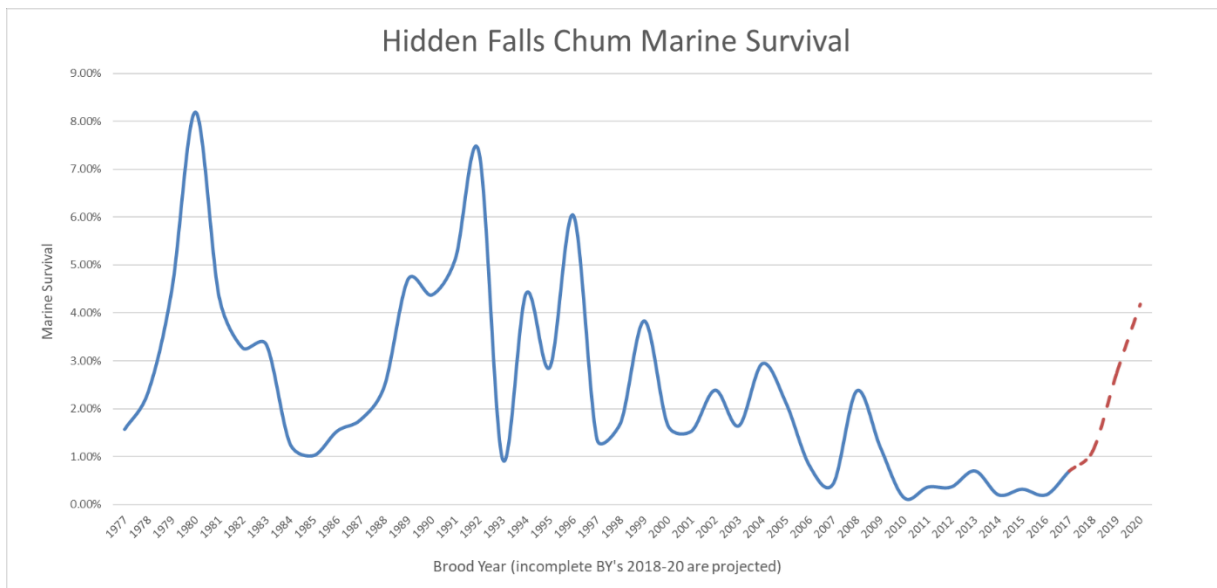
Hidden Falls came in well over the point forecast for all age cohorts and fell just shy of the high end of forecast. The brood year 2020 three-year-old survival is the highest in the program’s history. Given that fewer chum are released at Hidden Falls these days, having shifted some production to other (new) NSRAA release sites, this was not the largest ever return of three’s to Hidden Falls. However, with survivals now on the rise, it suggests a very large return could take place in 2024. We might wonder whether this is another age shift, but even the most conservative estimates put us at a historically decent marine survival for this brood year 2020.

Marine survival on three-year-old chum returns to Hidden Falls are detailed in the below table.



DATA: Hidden Falls Chum Forecast 2024.xlsx

Cumulative marine survival for complete brood years are shown below with estimated complete brood year survival for BY2018-2020.



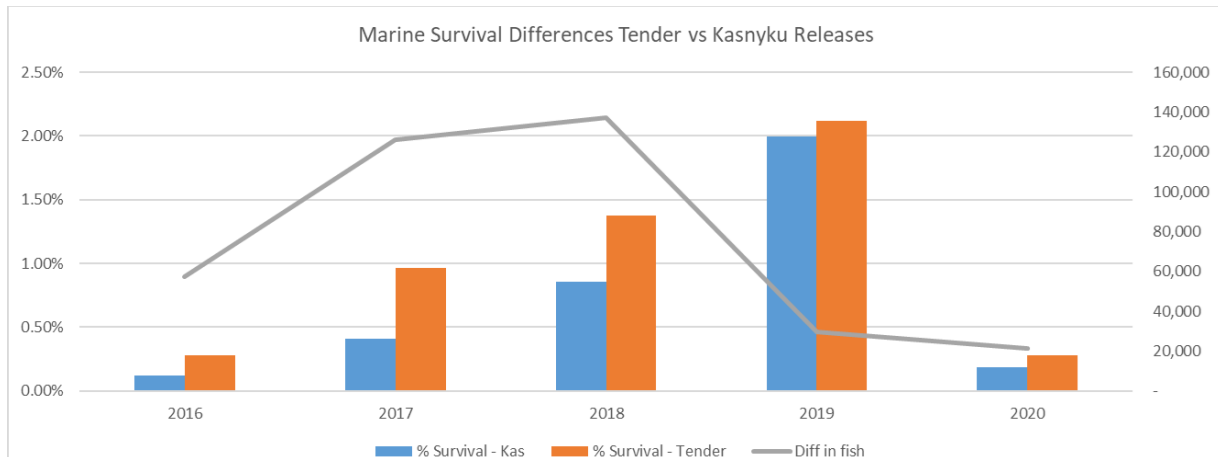
DATA: Hidden Falls Chum Projects Forecast 2024.xlsx

The tendered release strategy appears to still be working, with continued but reduced survival benefit to tendered releases for brood years 2019 and 2020. Tendered releases were initiated as a method to evade predation near the hatchery and took place in Eastern Chatham with brood years 2016 – 2021 and have thus far produced an estimated 370,000 additional adults.

Brood Year	% Survival - Kas	% Survival - Tender	% Survival diff - Tender	Diff in fish
2016	0.12%	0.28%	0.16%	57,281
2017	0.41%	0.97%	0.56%	125,906
2018	0.86%	1.37%	0.51%	137,075
2019	2.00%	2.12%	0.12%	29,472
2020	0.19%	0.28%	0.09%	21,110
TOTAL	0.69%	0.95%	0.26%	370,844

DATA: 2023 BP ALL YEARS viewing file.xlsx

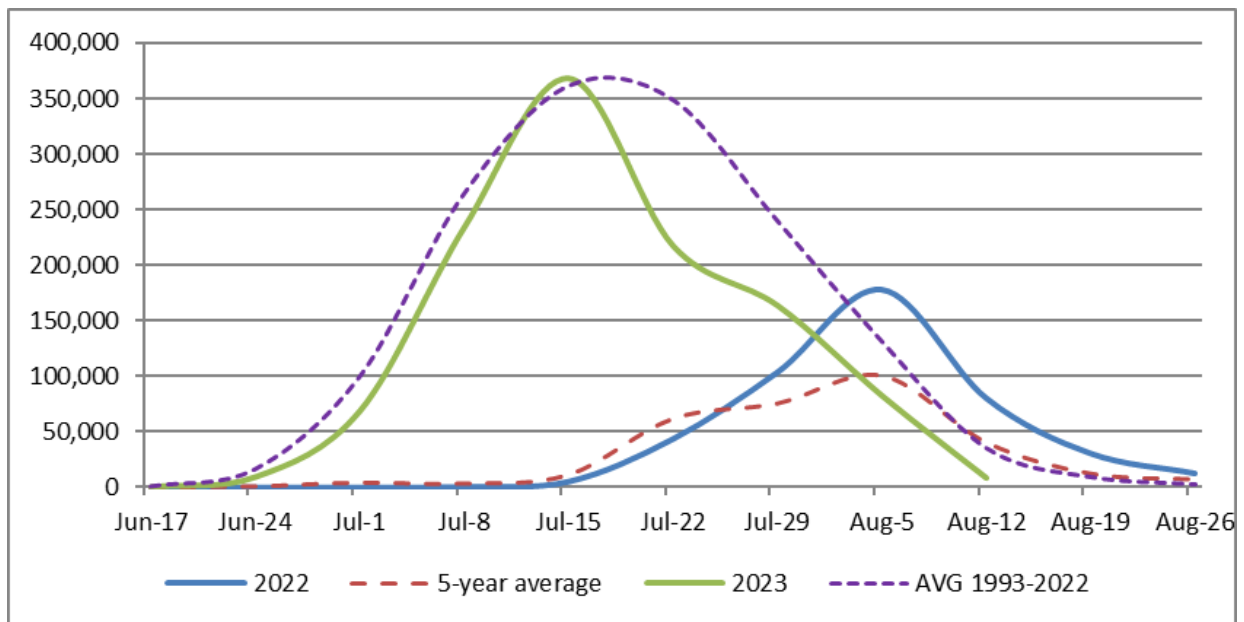
Tendered releases ceased in brood year 2022 due to the original permit lapse and (at the time) what appeared to be little survival benefit, with survivals not showing a drastic change until the brood year 2017 4's and 2018 3's arrived in 2021.



DATA: 2023 BP ALL YEARS viewing file.xlsx

This is a prime example of the challenges associated with conducting experimental release strategies on chum salmon, when complete survival data is not available for up to 4 years after the initial release. Going into release in spring of 2024, NSRAA will be implementing a tendered release North of Kasnyku Bay on the Baranof shoreline, as recent analysis and stream survey data suggest that there may be some impact on homing when released in eastern Chatham.

Weekly return volume to Hidden Falls is shown below relative to 2022 and historical averages.

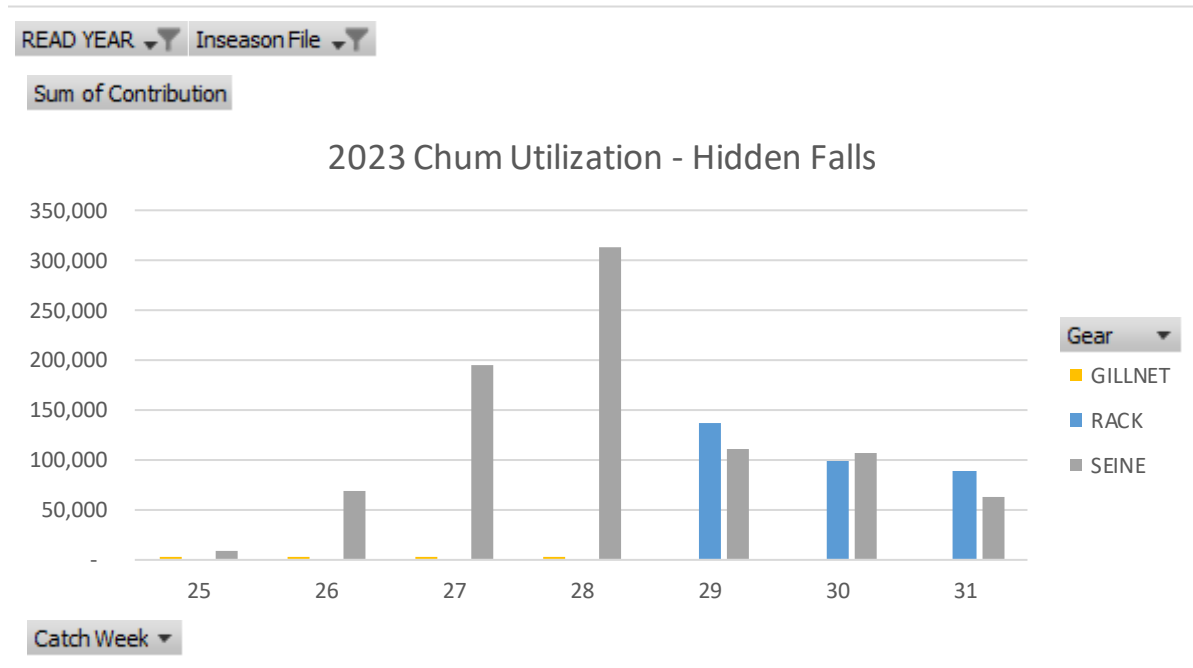


DATA: 2023 Inseason HF Chum

The 2023 run utilization for Hidden Falls is shown below. Note that this may include harvest in other areas based on otolith sampling.

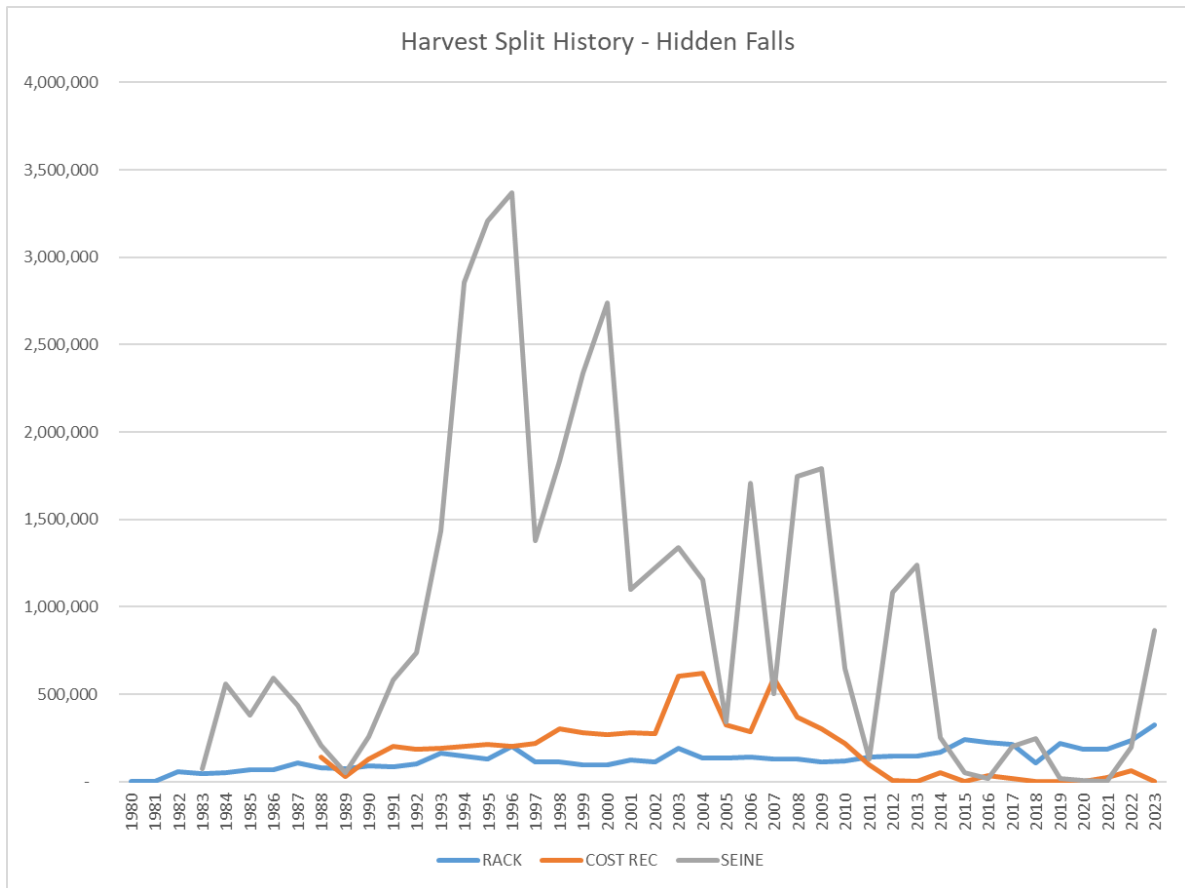
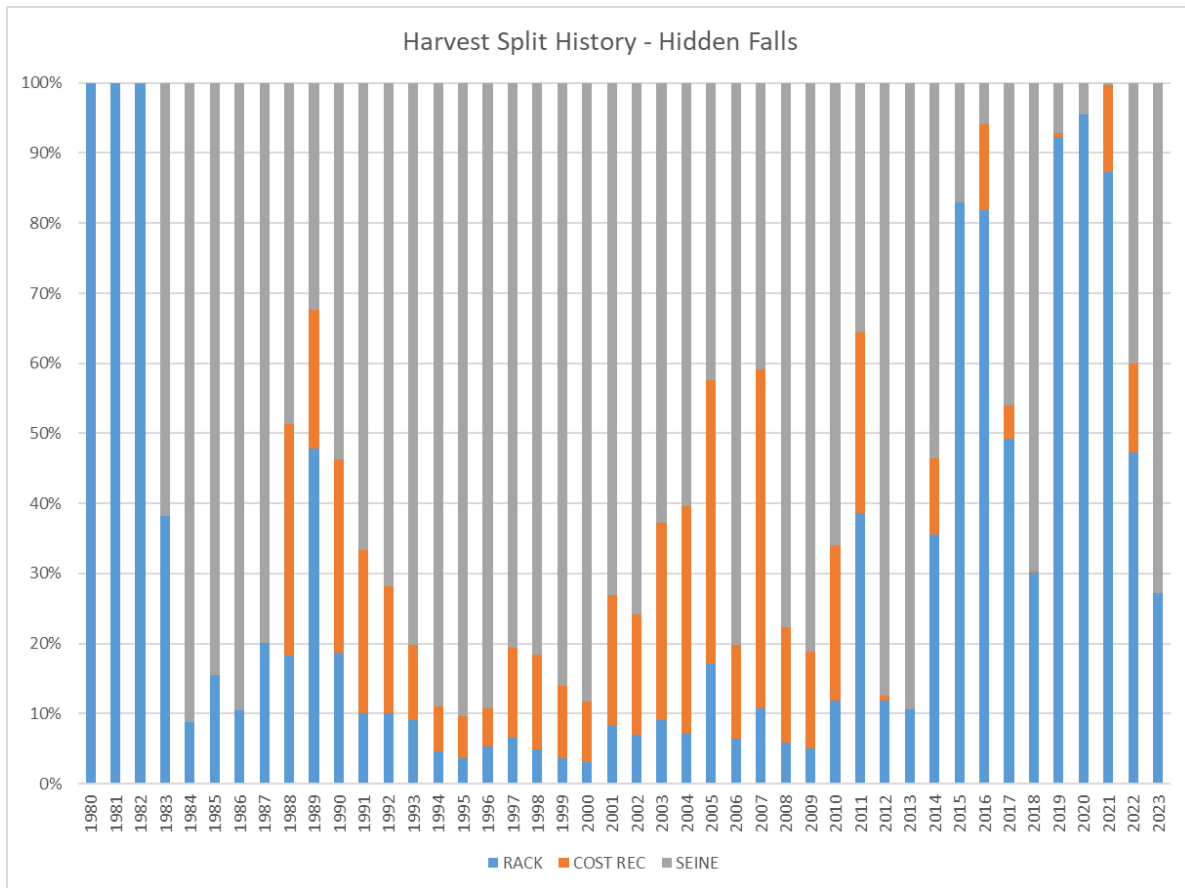
READ YEAR	2023	<input type="button" value="v"/>
Inseason File	HIDDEN FALLS	<input type="button" value="v"/>

Sum of Contribution	Column Labels			
Row Label	GILLNET	RACK	SEINE	Grand Total
25	177		8,985	9,162
26	986		68,471	69,457
27	384		193,887	194,271
28	394		314,139	314,533
29		137,208	111,264	248,472
30		97,681	106,796	204,477
31		89,195	62,059	151,253
Grand Total	1,941	324,084	865,601	1,191,626



DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

Historical run utilization for Hidden Falls is shown below



Medvejie/Deep Inlet Return

Medvejie returns came in mostly as expected, except for the three-year-olds coming in at 3x the high end of forecast. Fours were scarce as expected, resulting in fisheries closures to ensure appropriate brood stock preservation. Noteworthy run attributes for Medvejie are listed below. Keep in mind that accurately discerning the two stocks returning to Medvejie has only been possible with the adjunct of the otolith sampling program starting in 2013. Run timing based on scale data was used prior to this to discern rough stock splits and was far less accurate.

- Largest known summer return of three-year-olds (over 410,000) and largest known summer return in general (over 530,000) despite the absence of BY2018 5-year-olds.
- Highest known three-year-old (summer stock) survival with 1.1% for Bear Cove and 1.2% for Deep Inlet. Second highest three-year-old fall stock survival.
- Second worst 4-year-old return relative to release since the program's inception in 1981.
- Weeklong fishery closure August 19-25 for capture and transport of over 60,000 adult chums from Deep Inlet.
- End of season cleanup events took place with NSRAA contracted vessels harvesting remaining unwanted chum at the head of the inlet and selling at a net loss to the processors.
- Deep Inlet THA was open to all gear groups 24hrs a day during the final weeks of the season.

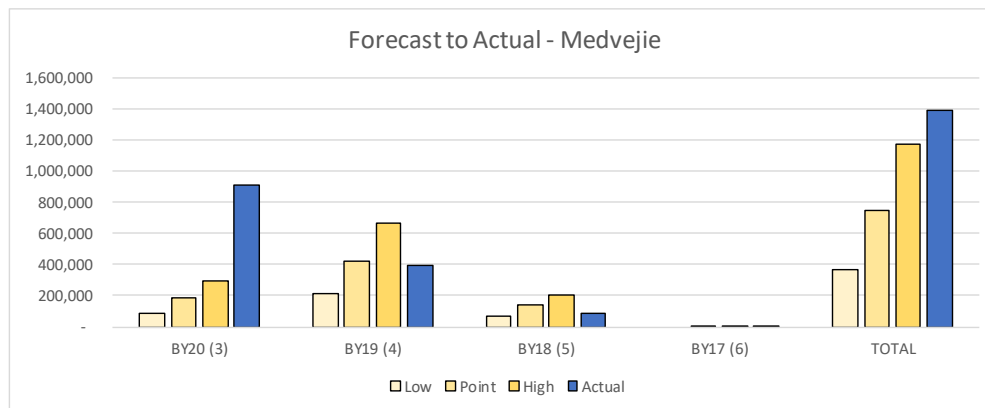
Managing broodstock at Medvejie was a challenge this year with the large summer return having considerable overlap with Chinook and fall chum runs as well as the severe lack of adult 4-year-old fall chum at the hatchery. Additionally, flood events destroyed the weirs that kept fish from escaping up Medvejie Creek in the late stages of the fall run. Fortunately, these escapees were relatively accessible during the final stages of the egg take and (besides structural and financial issues) did not lead to a disastrous fish run at the hatchery.

Below is the 2023 weekly schedule and return vs forecast for Medvejie/Deep Inlet in 2023:

Deep Inlet	Sun	Mon	Tue	Wed	Thu	Fri	Sat
	Seine	Gillnet	Gillnet	Gillnet	Seine	Seine	Troll

	BY20 (3)	BY19 (4)	BY18 (5)	BY17 (6)	TOTAL
Low	85,700	210,503	69,625	-	365,828
Point	187,439	421,006	139,250	4,239	751,935
High	292,895	668,339	208,875	6,817	1,176,926
Actual	907,884	391,176	87,968	3,315	1,390,342

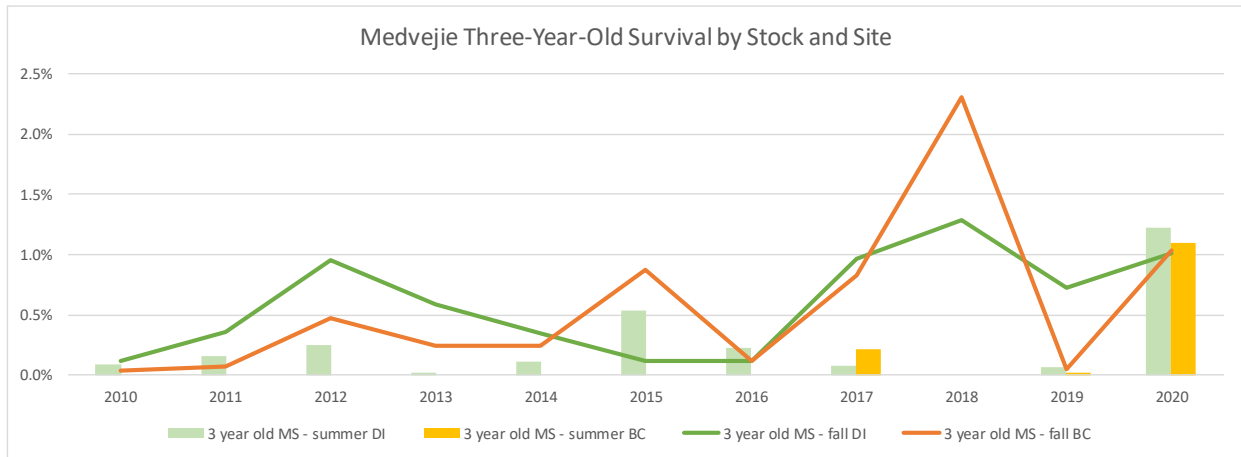
185% of forecast



DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

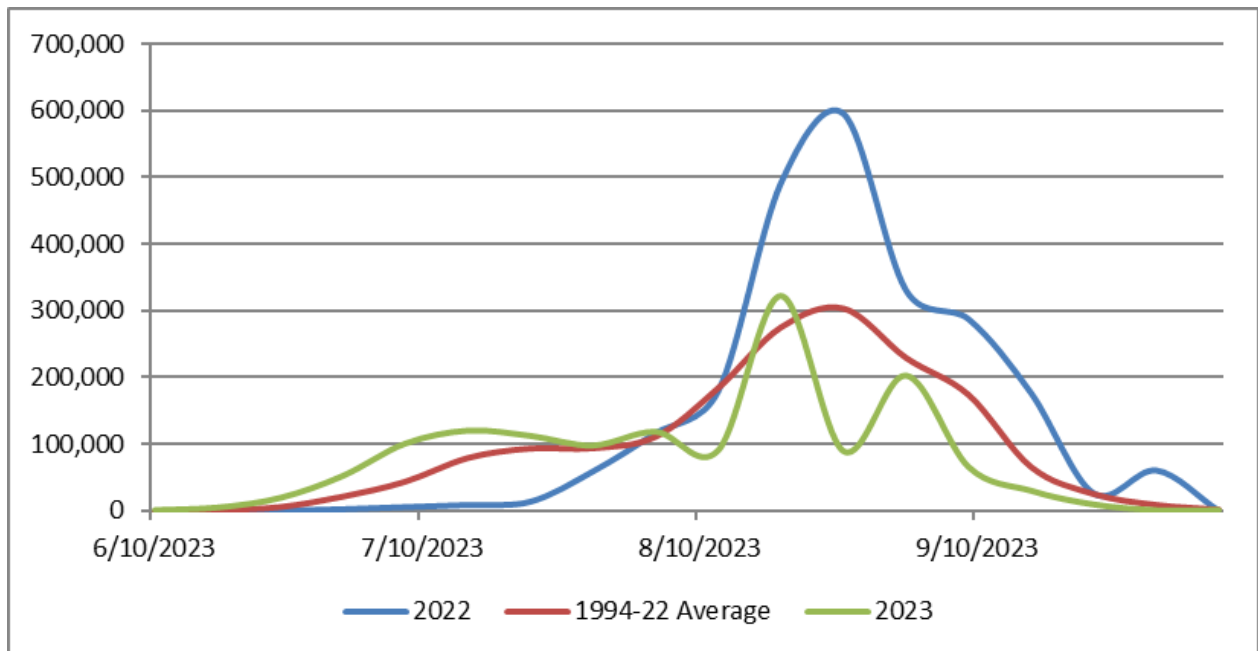
The three-year-old Medveje returns are a very good sign that the terrible survival from the brood year 2019 chum released at Medveje was an anomalous event, likely due to juvenile black cod predation. Survival of three-year-old Medveje chum is outlined below with brood year 2020 coming in above average. So long as we do not see black cod present at the release site, it seems fair to assume that there will be continued good survival in the near future.

Brood Year	3 year old MS - summer BC	3 year old MS - summer DI	3 year old MS - fall BC	3 year old MS - fall DI
2010		0.1%	0.04%	0.1%
2011		0.2%	0.1%	0.4%
2012		0.2%	0.5%	1.0%
2013		0.0%	0.2%	0.6%
2014		0.1%	0.2%	0.3%
2015		0.5%	0.9%	0.1%
2016		0.2%	0.1%	0.1%
2017	0.2%	0.1%	0.8%	1.0%
2018			2.3%	1.3%
2019	0.02%	0.1%	0.0%	0.7%
2020	1.1%	1.2%	1.0%	1.0%



DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

Weekly return volume to Medveje/Deep Inlet is shown below relative to historical averages.

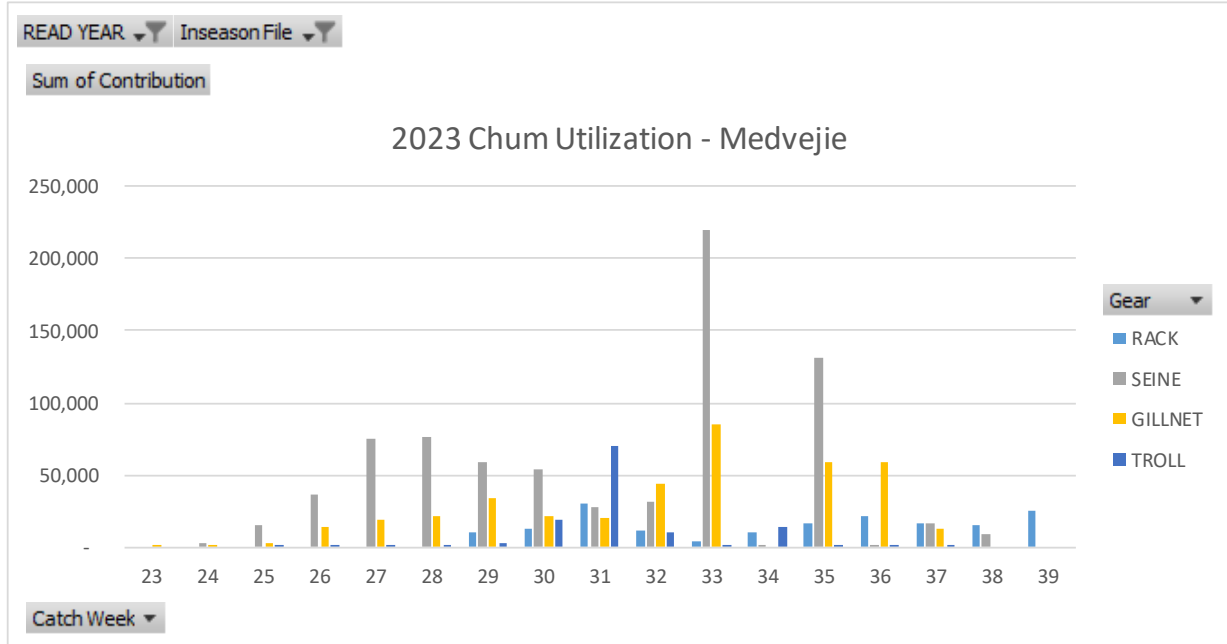


DATA: 2023 Inseason DI Chum

The 2023 run utilization for Medvejie/Deep Inlet is shown below. Note that this may include harvest in other areas based on otolith sampling.

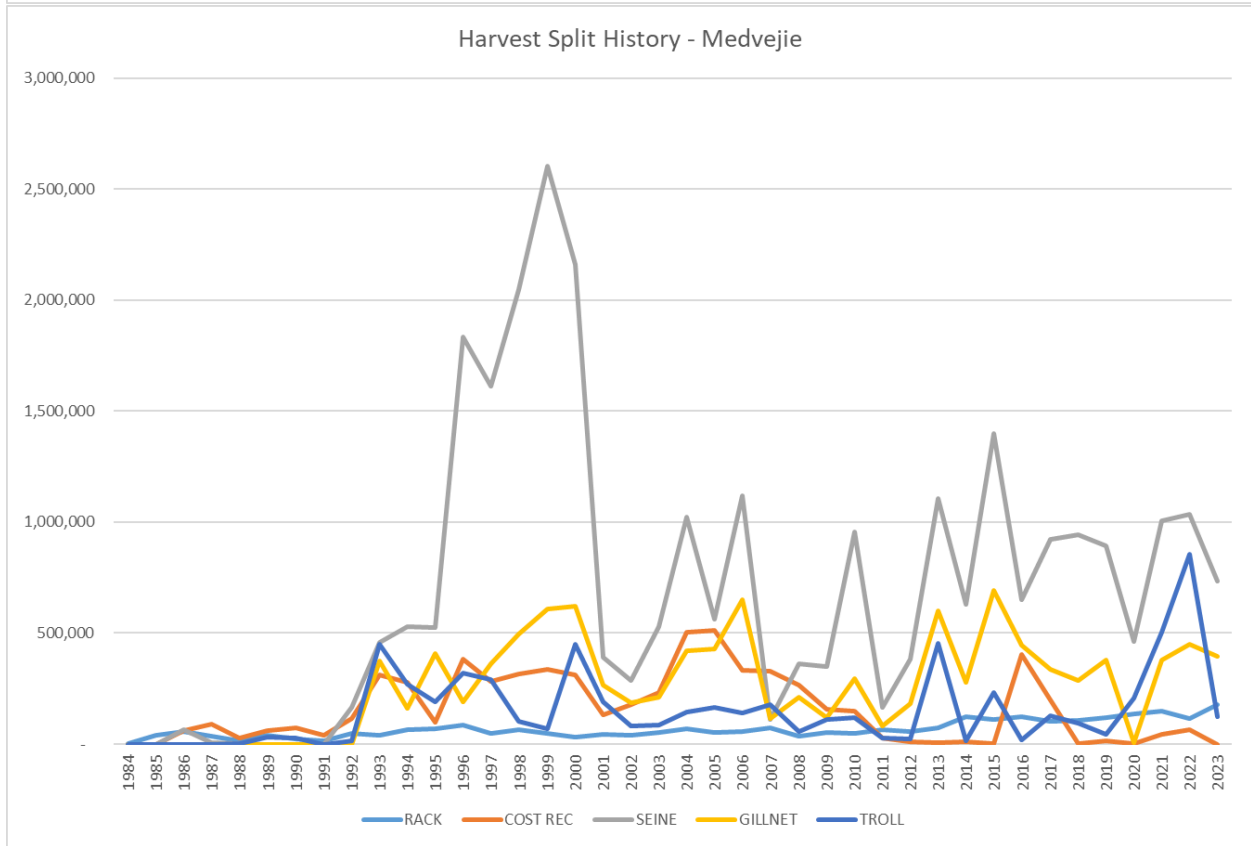
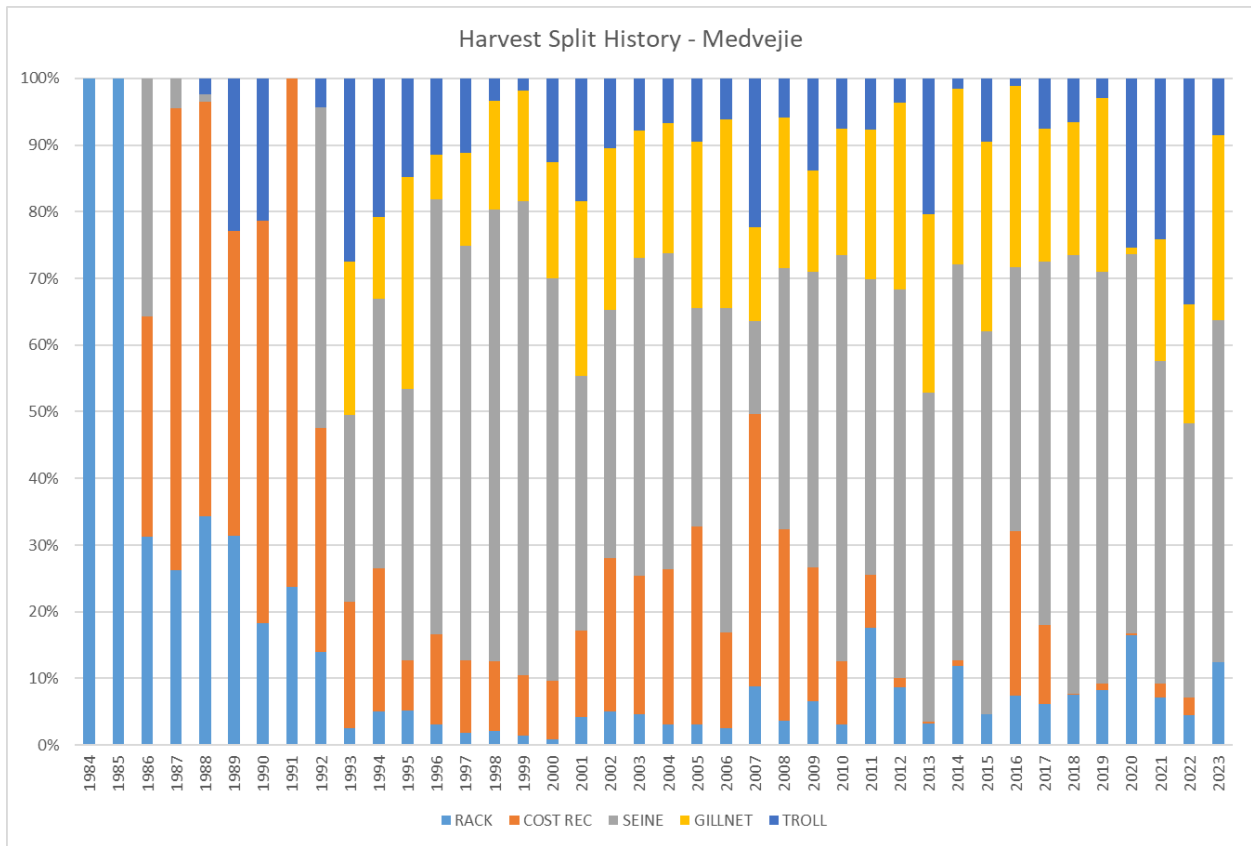
READ YEAR	2023	<input type="button" value="v"/>
Inseason File	DEEP INLET	<input type="button" value="v"/>

Sum of Contribution	Column Labels	RACK	SEINE	GILLNET	TROLL	Grand Total
23				65		65
24			2,910	1,016		3,926
25			14,833	3,485	88	18,406
26			36,091	13,735	68	49,894
27			75,376	18,827	1,375	95,578
28			76,823	21,289	1,289	99,401
29		10,041	58,985	34,475	2,940	106,442
30		13,372	54,029	21,315	19,168	107,884
31		30,412	27,683	20,382	69,764	148,241
32		12,173	31,593	44,139	10,248	98,153
33		4,307	219,472	85,223	2,019	311,021
34		10,362	127		13,554	24,043
35		16,539	130,991	58,712	1,009	207,251
36		21,857	2,238	59,623	26	83,744
37		16,442	16,701	12,542	2	45,687
38		15,311	9,654			24,965
39		25,604				25,604
Grand Total		176,420	757,508	394,828	121,550	1,450,305



DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

Historical run utilization for Medveje/Deep Inlet is shown below.



DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

Southeast Cove Return

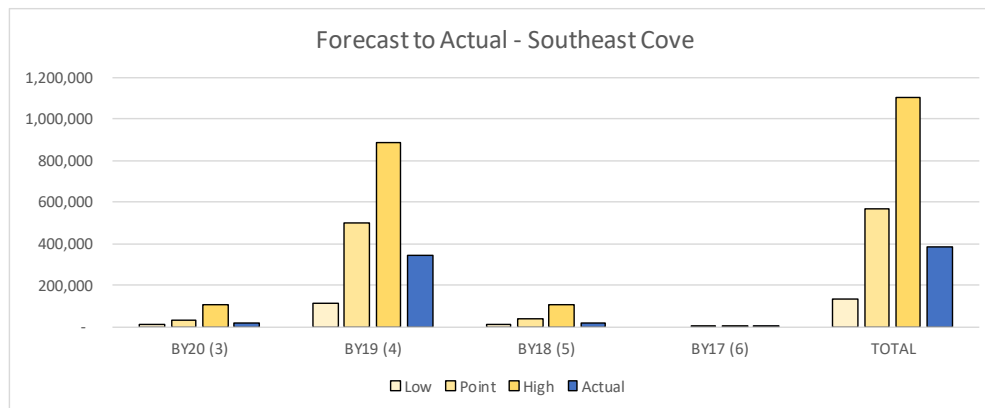
Southeast Cove returns came in under forecast for all age cohorts, with an estimated total return of 381,655, which was just 67% of the total forecast. Before the season began, 50% of the 2023 chum cost recovery was allocated to Southeast Cove, in an effort to spread this effort out across both summer and fall returns to hopefully ensure cost recovery goals would be met.

Despite all other summer stock projects coming in over forecast, with survivals trending steadily upwards over the past three years, it seems as though Southeast Cove is still in a period of volatility and survivals were poorer than expected. Additionally, the fish returning to this site were exceptionally small, averaging just 5.0 lbs for the season.

Below is the 2023 weekly schedule and return vs forecast for Southeast Cove in 2023:

Southeast Cove	Sun	Mon	Tue	Wed	Thu	Fri	Sat
	Seine	Troll	Gillnet	Gillnet	Seine	Troll	Troll

	BY20 (3)	BY19 (4)	BY18 (5)	BY17 (6)	TOTAL	
Low	8,050	109,250	13,800	-	131,100	
Point	30,600	502,350	36,550	250	569,750	
High	105,000	889,875	107,250	750	1,102,875	
Actual	19,180	343,624	18,813	38	381,655	67% of forecast

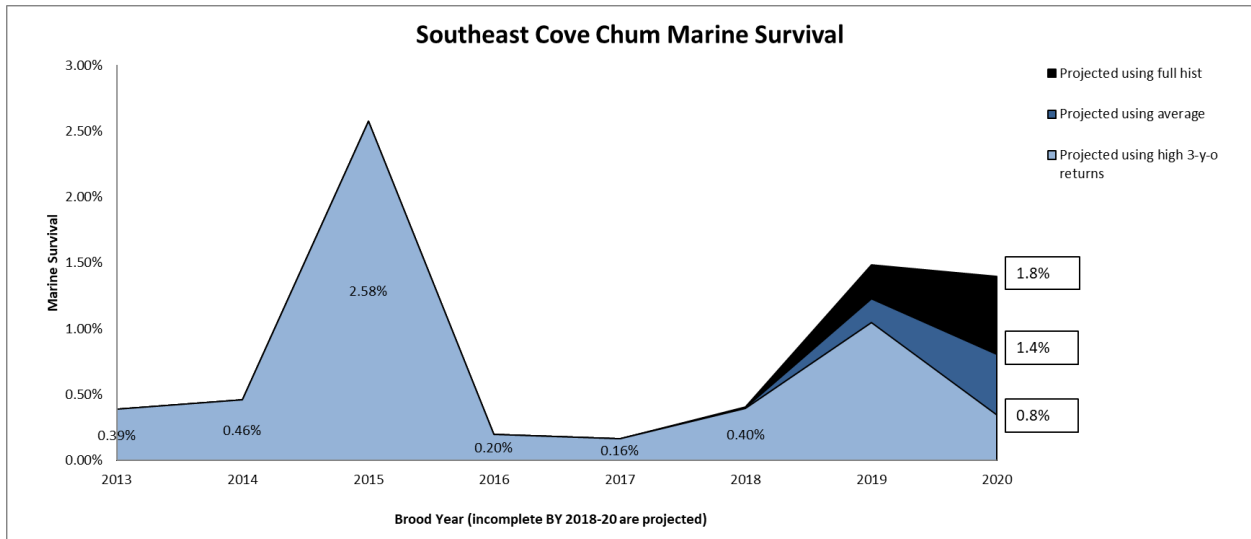


Despite a relatively short history of the Hidden Falls stock chum released at Southeast Cove, the 2022 return of over 64,000 three-year-olds looked to have the potential for a good return of fours in 2023. Considering the average ratio of 4-:3-year olds through 2022 was 17.9, with only two of 7 brood years coming in under 10.0, NSRAA had confidence that there would be a return that could accommodate taking 4 million lbs of cost recovery. Unfortunately, the ratio of 4-:3-year-olds for brood year 2020 (four-year-olds returning in 2023) was the second smallest on record at just 5.4. Three-year-old survival was also below average at 0.05%.

Brood Year	Fry Released	Age 3	4	5	6	Brood Year Total	Brood Year Survival	vg survival	ratio 4:3	ratio 5:4
2012	8,712,136	14,273	150,915	25,876	454	191,518	2.20%	1.25%	10.57	0.17
2013	9,142,373	1,051	23,357	10,990	395	35,794	0.39%	0.86%	22.22	0.47
2014	17,478,583	4,537	60,048	15,340	522	80,447	0.46%	0.71%	13.24	0.26
2015	42,758,270	119,034	913,987	68,484	490	1,101,995	2.58%	1.20%	7.68	0.07
2016	46,749,525	18,697	64,724	8,315	74	91,812	0.20%	1.16%	3.46	0.13
2017	43,109,082	698	37,453	33,941	38	72,129	0.17%	0.76%	53.65	0.91
2018	36,644,291	8,362	122,479	18,813		149,654	0.41%		14.65	0.15
2019	40,951,776	64,073	343,624			407,697	1.00%		5.36	
2020	35,357,207	19,180				19,180	0.05%			

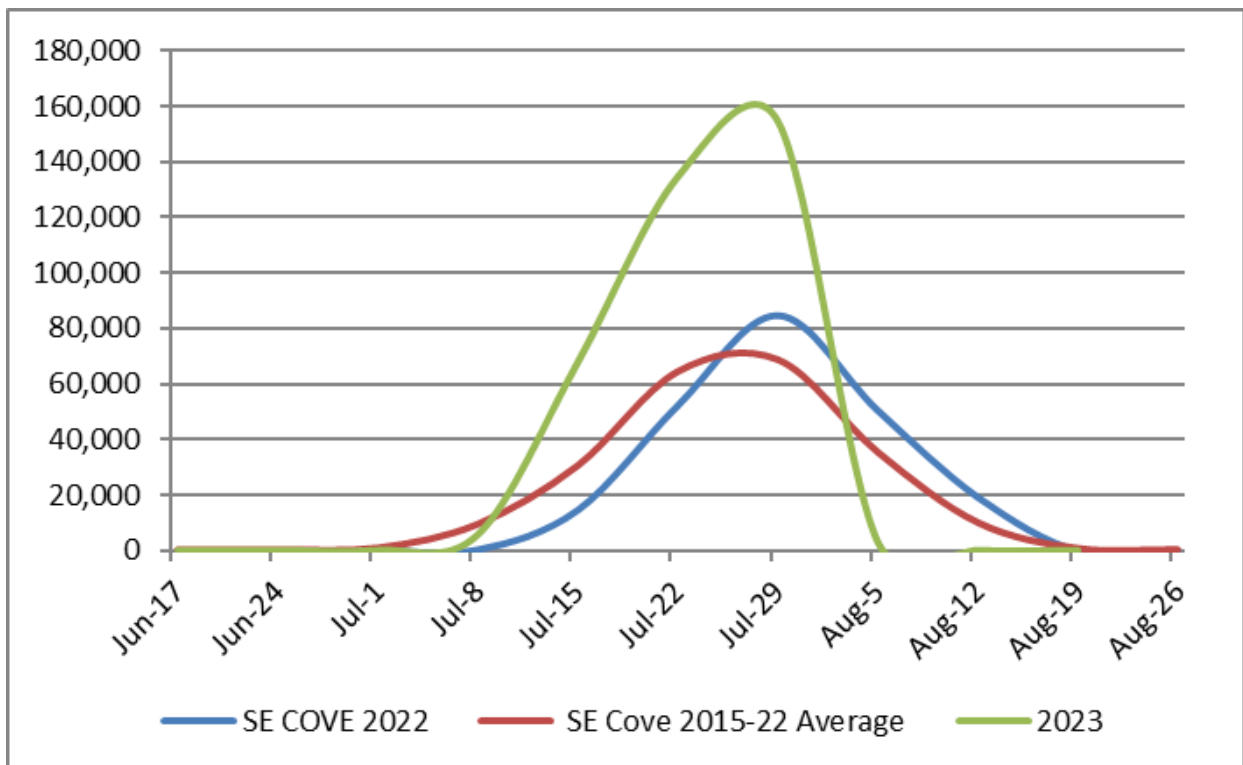
DATA: Hidden Falls Chum Projects Forecast 2024.xlsx

Current estimates for the remaining survival for brood year 2019 and 2020 are shown below. With the relatively weak return of three-year-olds in 2023, other options should be explored for cost recovery in 2024.



DATA: Hidden Falls Chum Projects Forecast 2024.xlsx

Weekly return volume to Southeast Cove is shown below relative to historical averages.

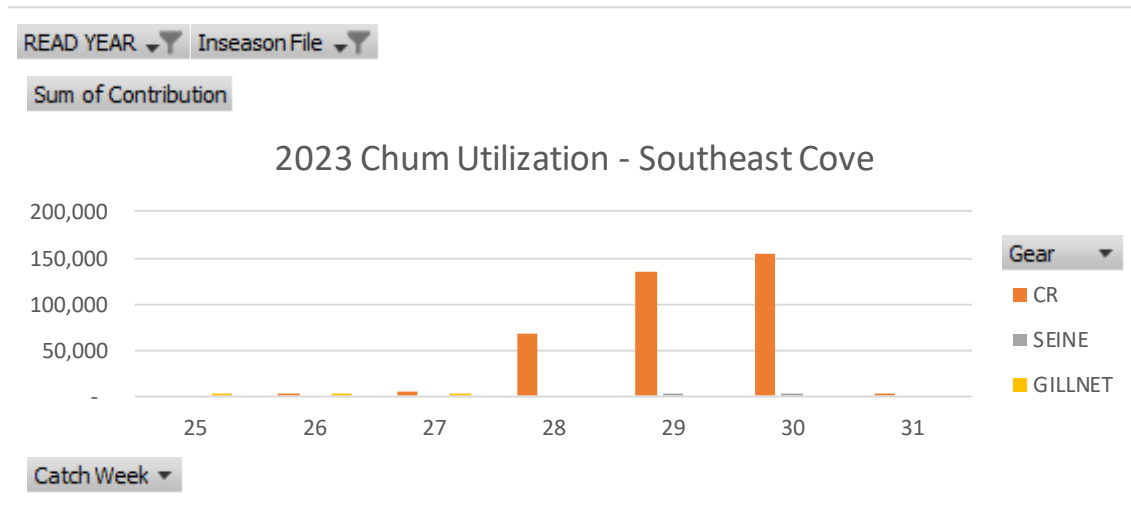


DATA: 2023 Inseason SEC Chum

The 2023 run utilization for Southeast Cove is shown below. Note that this may include harvest in other areas based on otolith sampling.

READ YEAR	2023	▼
Inseason File	SE COVE	▼

Sum of Contribution	Column Labels	▼			
Row Label	▼	CR	SEINE	GILLNET	Grand Total
25				59	59
26		25		153	178
27		5,648		128	5,776
28		67,918			67,918
29		134,737	418		135,155
30		154,720	261		154,981
31		2,815			2,815
Grand Total		365,863	679	340	366,882

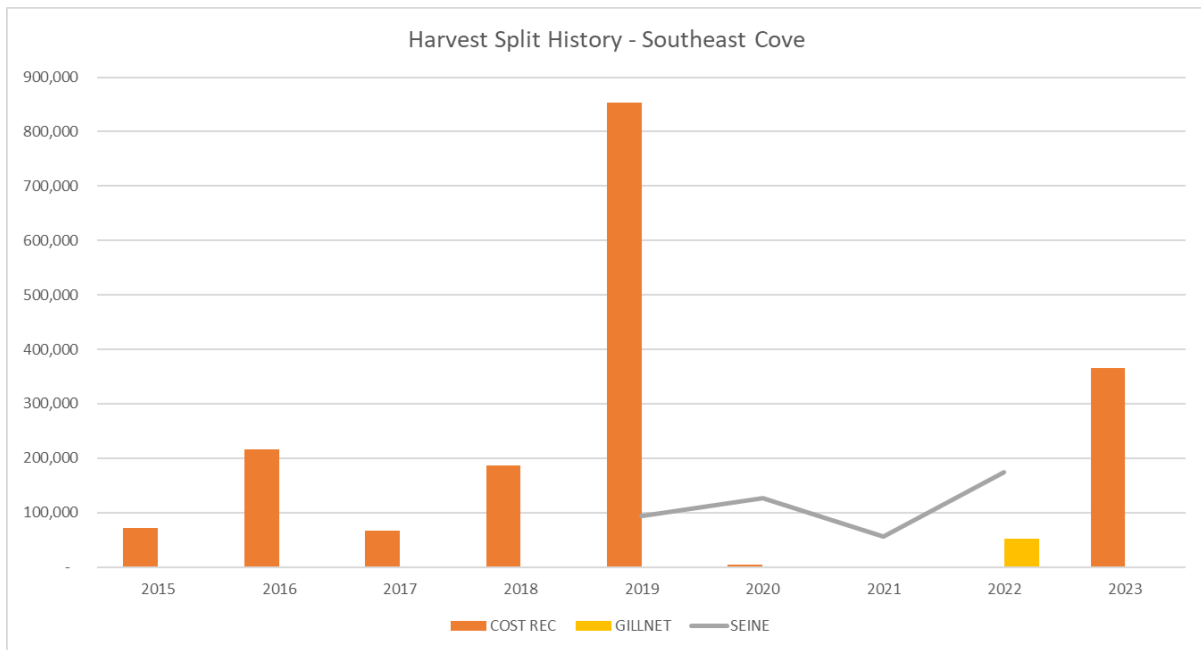
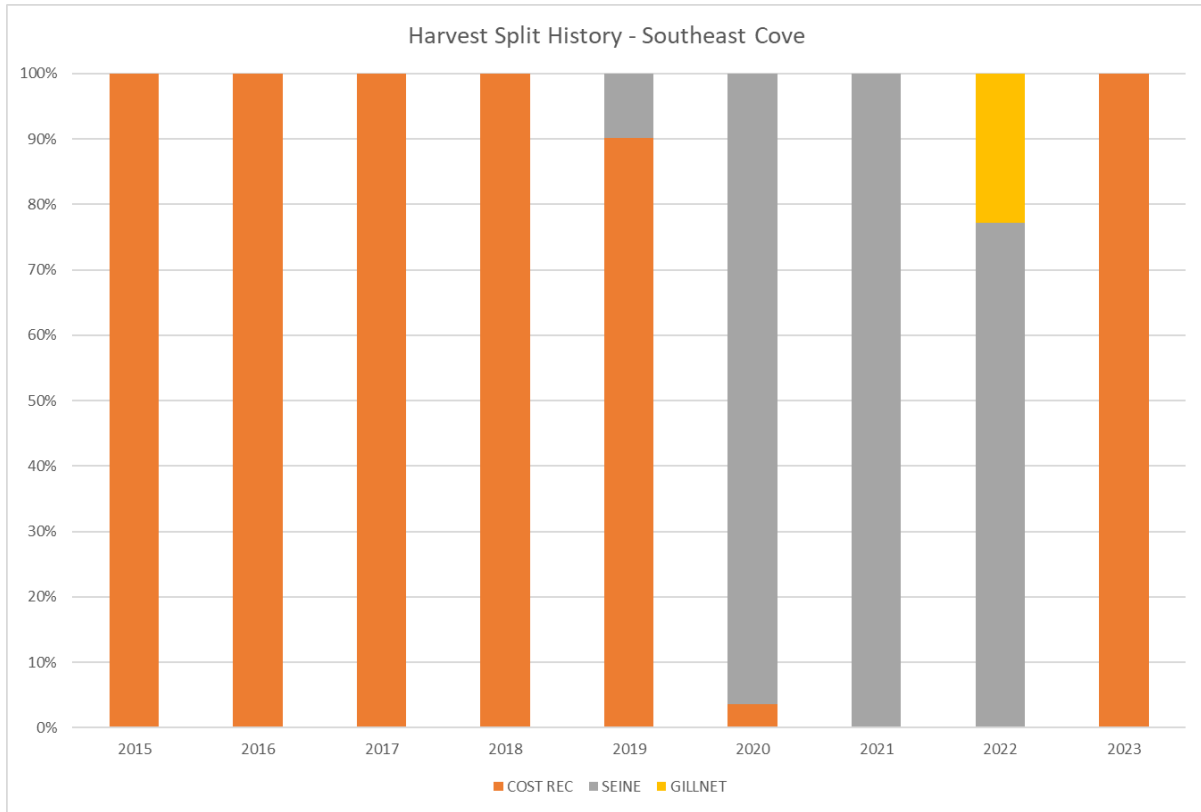


DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

Historical run utilization for Southeast Cove is shown below.

YEAR	COST REC	SEINE	GILLNET
2015	71,783		
2016	215,587		
2017	67,450		
2018	186,659		
2019	853,017	93,817	
2020	4,676	126,020	
2021		56,171	
2022		173,765	51,296
2023	365,863		

Historical run utilization for Southeast Cove continued...



DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

Crawfish Inlet Return

Crawfish Inlet returns came in over forecast, primarily due to the four-year-olds coming in exceptionally strong. At nearly 1.3 million, this age cohort exceeded high end of forecast by over 300,000 fish brought the cumulative survival for brood year 2019 to over 6%. Run timing and volume tracked right with the historical average for the project this year. Noteworthy run attributes for Crawfish Inlet are listed below.

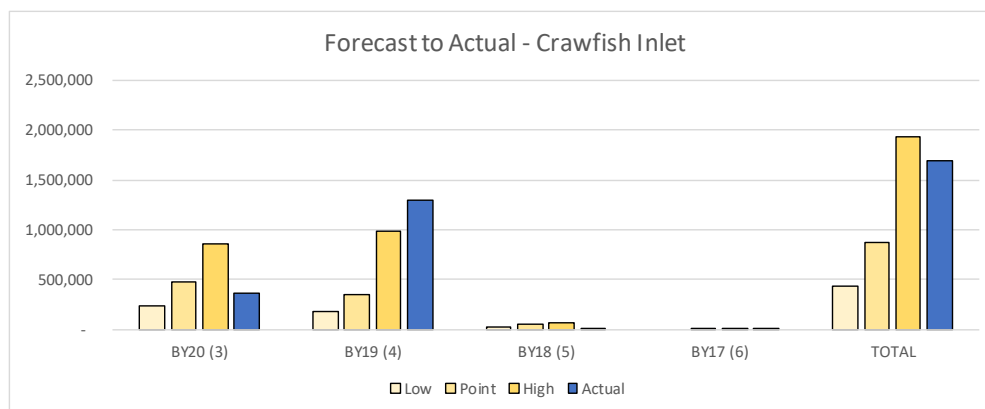
- Continued exceptional marine survival for this site.
- Met cost recovery goal with over 4 million lbs landed.
- Crawfish Inlet THA was open to seine 24hrs a day during the final weeks of the season to reduce unwanted terminal fish in the head of the inlet.
- Multiple West Crawfish Inlet openings took place with the area eventually opening to seine 4 days a week to try and intercept more terminal chum.
- In an effort to reduce buildup of unwanted terminal fish in the head of the inlet, over 1.3 million eggs were taken from viable females for Medvejie egg takes.
- End of season cleanup events took place with NSRAA contracted vessels harvesting remaining unwanted chum at the head of the inlet and selling at a net loss to the processors.

Managing cost recovery at Crawfish Inlet was a challenge this year with the market conditions leading to multiple processors limiting or refusing to buy terminal chum. Troll effort subsided quickly once prices crashed, and seiners were put on daily limits during common property openings. Cost recovery goals were eventually met and harvesting the remainder of the run required contracting and paying vessels to donate chum or use viable females for egg takes.

Below is the 2023 weekly schedule and return vs forecast for Crawfish Inlet in 2023:

Crawfish Inlet	Sun	Mon	Tue	Wed	Thu	Fri	Sat
	Seine				Seine		

	BY20 (3)	BY19 (4)	BY18 (5)	BY17 (6)	TOTAL	
Low	236,100	172,200	17,400	-	425,700	
Point	472,200	344,500	44,800	5,600	867,100	
High	855,500	991,000	71,400	8,400	1,926,300	
Actual	365,214	1,299,610	8,590	13,903	1,687,317	195% of forecast



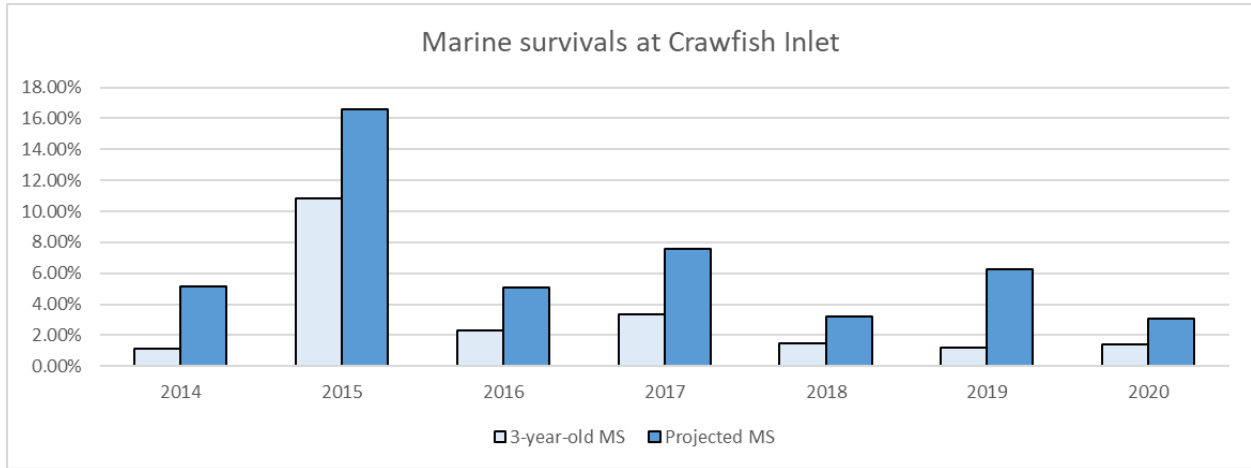
DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

Survival at this release site continues to be excellent. We had not expected such a large return of 4-year-olds in 2023 because ratios of 4-:3-year-old chum at Crawfish Inlet have never exceeded 3.6 and averaged just 1.5 within the first 5 years of four-year-old returns. Forecasts for this year's 4-year-old return were primarily based off these consistent age structures and it was a surprise when the actual return exceeded even the high point of forecast for this age cohort.

Marine survival for Crawfish Inlet chum is outlined below.

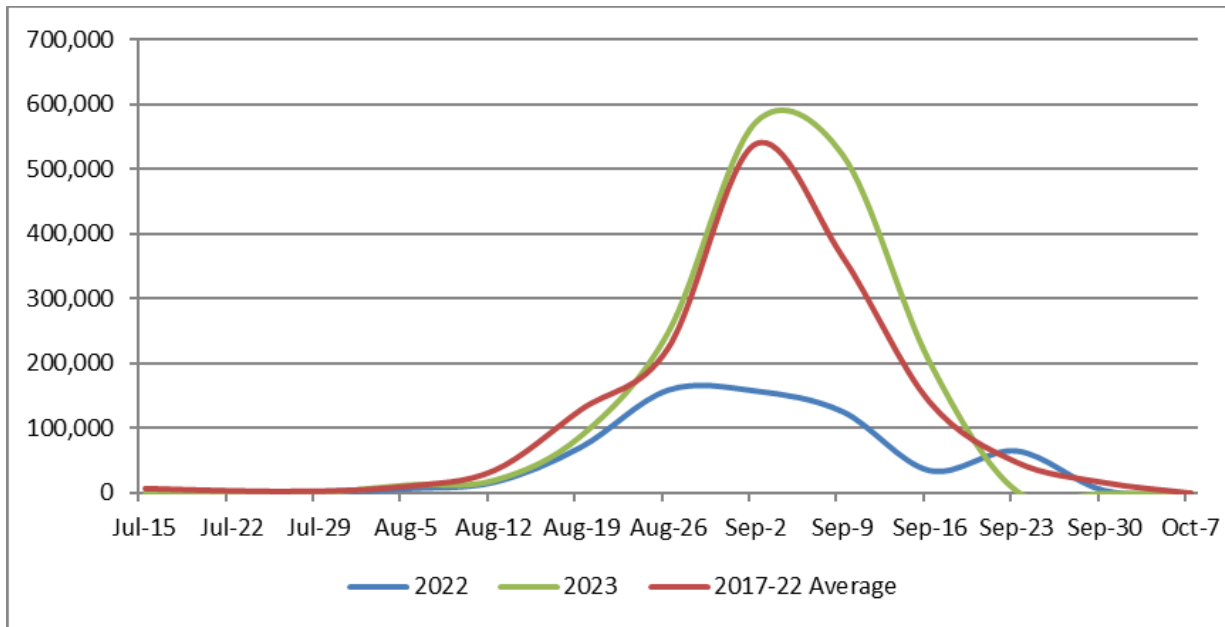
CRAWFISH TO DATE

Brood Year	3	4	5	6	Grand Total	Release	Ratio 4:3	Ratio 5:4	MS	Projected MS
2014	147,886	525,162	16,504		689,552	13,370,294	3.55	0.03	5.16%	5.2%
2015	3,006,918	1,560,517	38,700		4,606,135	27,794,243	0.52	0.02	16.57%	16.6%
2016	534,717	590,833	42,540	3,289	1,171,379	23,042,232	1.10	0.07	5.08%	5.1%
2017	913,759	993,876	144,456	13,903	2,065,994	27,319,517	1.09	0.15	7.56%	7.6%
2018	220,846	254,756	8,590		484,192	15,205,614	1.15	0.03	3.18%	3.19%
2019	308,836	1,299,610			1,608,446	26,506,045	4.21		6.07%	6.28%
2020	356,214				356,214	25,886,003			1.38%	3.10%



DATA: Crawfish Inlet Forecast - multiple models.xlsx

Weekly return volume to Crawfish Inlet is shown below relative to historical averages.

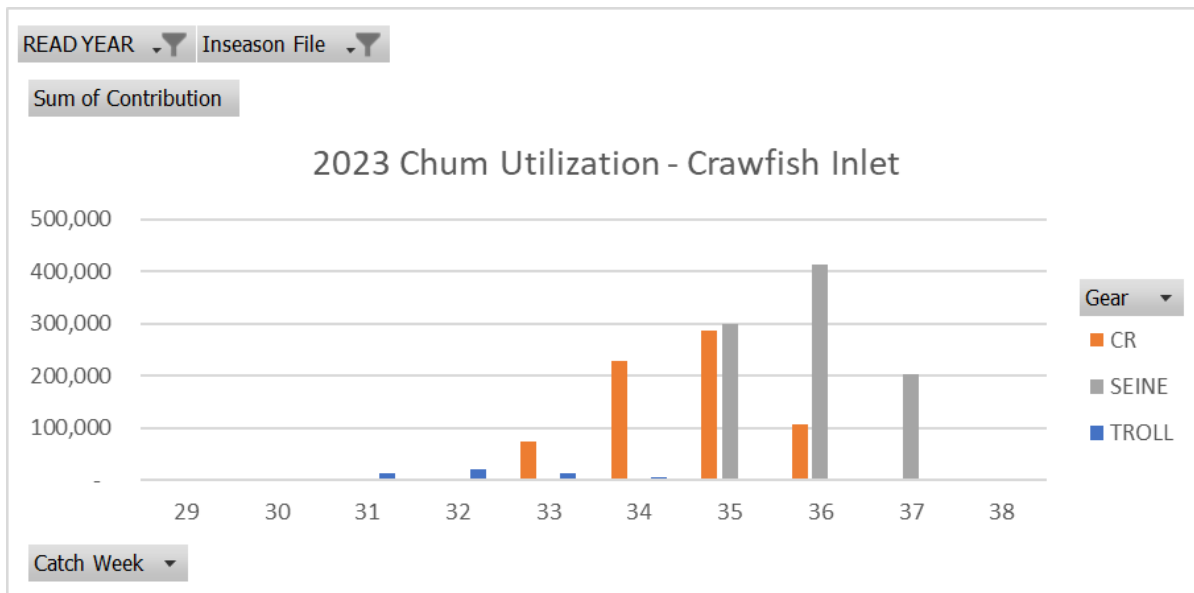


DATA: 2023 Inseason CI Chum

The 2023 run utilization for Crawfish Inlet is shown below. Note that this may include harvest in other areas based on otolith sampling.

READ YEAR	2023	<input type="button" value="v"/>
Inseason File	CRAWFISH INLET	<input type="button" value="v"/>

Sum of Contribution	Column Labels	CR	SEINE	TROLL	Grand Total
29			418	50	468
30			1,043	1,109	2,152
31			2,808	12,958	15,766
32			1,287	20,036	21,323
33		74,162	1,125	14,524	89,811
34		227,894	1,246	4,820	233,960
35		286,143	300,289		586,432
36		108,238	412,488		520,726
37			203,023		203,023
38			3,661		3,661
Grand Total		696,437	927,388	53,497	1,677,322



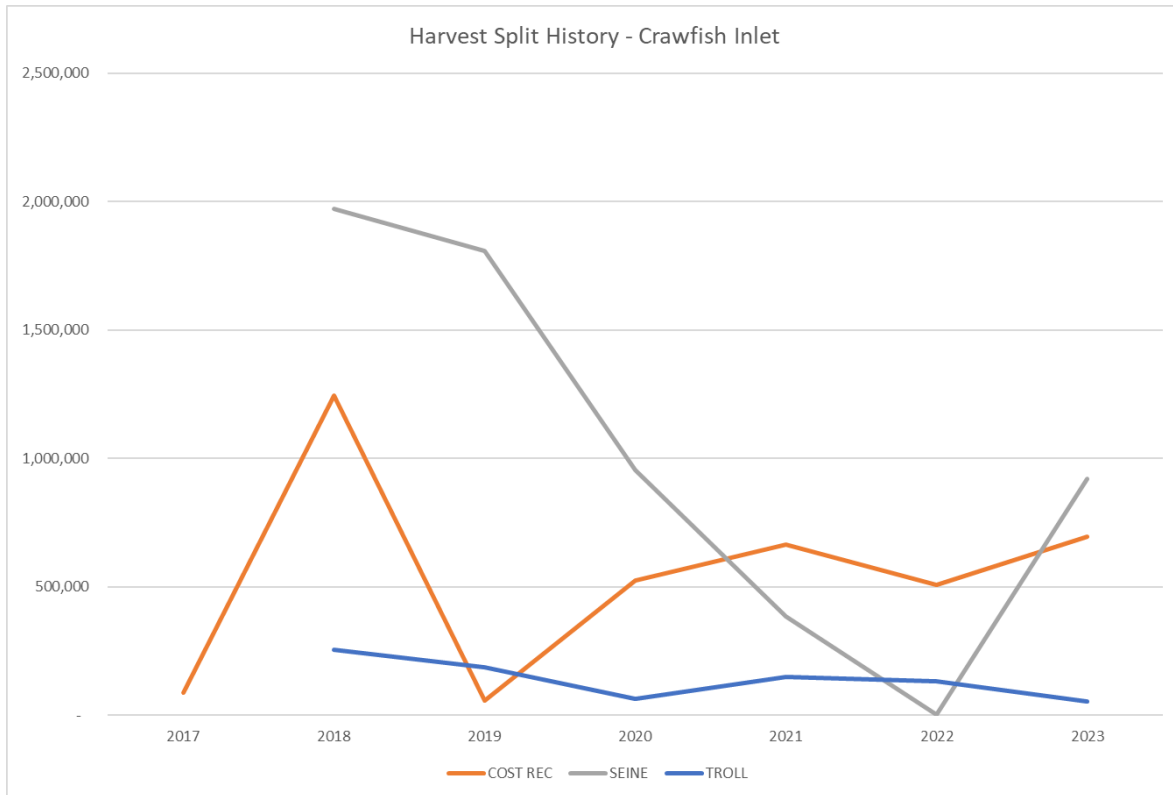
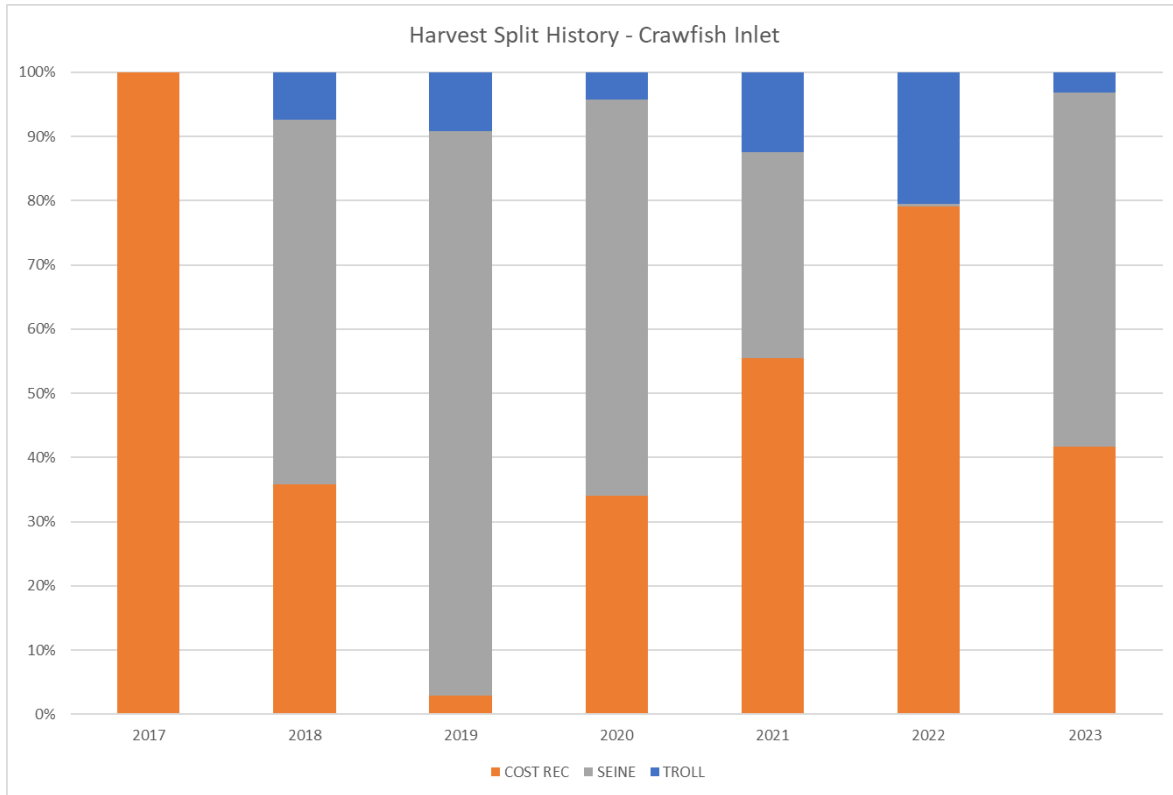
DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

Historical run utilization for Crawfish Inlet is shown below.

YEAR	COST REC	SEINE	TROLL
2017	89,100		
2018	1,244,900	1,970,941	255,951
2019	58,523	1,809,592	188,417
2020	525,153	953,405	64,865
2021	663,799	384,758	148,327
2022	507,025	2,467	131,678
2023	696,437	919,426	53,497

DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

Historical run utilization for Crawfish Inlet continued...



DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

Thomas Bay Return

Thomas Bay returns came in over forecast, primarily due to the three-year-olds coming in exceptionally strong relative to this project's history. At 52,000, this age cohort was nearly 9x the high end of forecast. The short history for this release site makes forecasting challenging and it appears that we have seen a radical uptick in survival at least for this brood year.

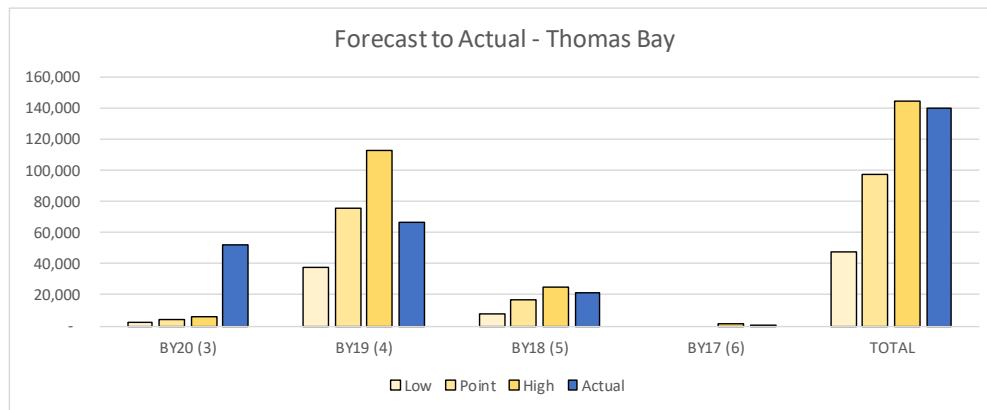
Seine harvest in Thomas Bay can be difficult to track with most landings taking place in Petersburg. It appears that harvest is sometimes misreported by vessels as well.

Below is the 2023 weekly schedule and return vs forecast for Thomas Bay in 2023:

Thomas Bay	Sun	Mon	Tue	Wed	Thu	Fri	Sat
	Seine					Seine	

	BY20 (3)	BY19 (4)	BY18 (5)	BY17 (6)	TOTAL
Low	2,000	38,000	8,000	-	48,000
Point	4,000	76,000	17,000	-	97,000
High	6,000	113,000	25,000	1,000	145,000
Actual	51,942	66,234	21,083	496	139,754

144% of forecast

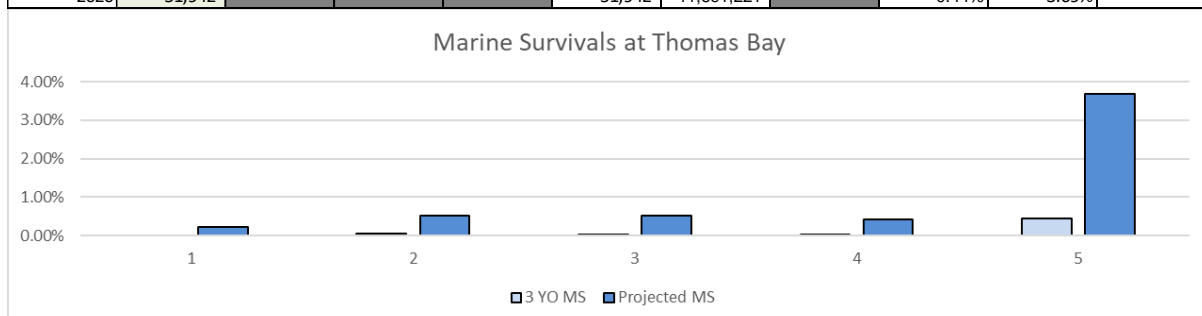


DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

The first four brood years released from Thomas Bay all saw poor survival, averaging just 0.4% through brood year 2019. The brood year 2020 three-year-olds have nearly matched this already. The ratio of 4-: 3-year-old chum would indicate that even if this were a massive age shift, we should expect 2024 to be the largest return to date for this release site by a wide margin.

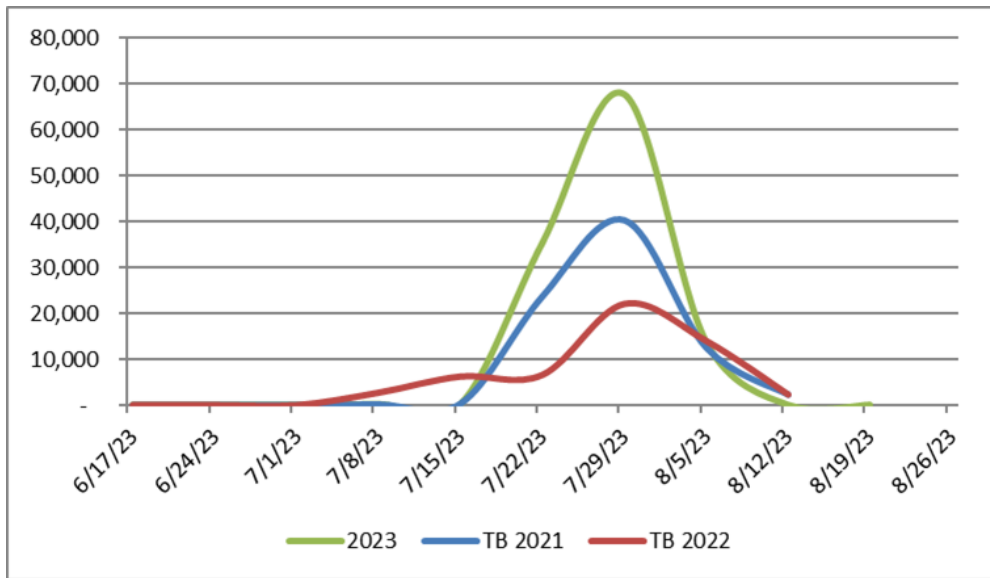
Marine survival for Thomas Bay is outlined below.

BY	3	4	5	6 Total	Rel	M.S.	3 YO MS	Projected MS Ratio 4:3		
2016		45,152	3,947	644	49,743	21,899,063	0.23%	0.00%	0.23%	NA
2017	9,064	74,972	32,198	496	116,729	22,255,897	0.52%	0.04%	0.52%	8.3
2018	2,257	56,924	21,083		80,263	15,350,544	0.52%	0.01%	0.52%	25.2
2019	5,742	66,234			71,976	21,398,311		0.03%	0.43%	11.5
2020	51,942				51,942	11,691,221		0.44%	3.69%	



DATA: 2024 HF Chum Projects Forecasts - multiple models.xlsx

Weekly return volume to Thomas Bay is shown below relative to historical averages.

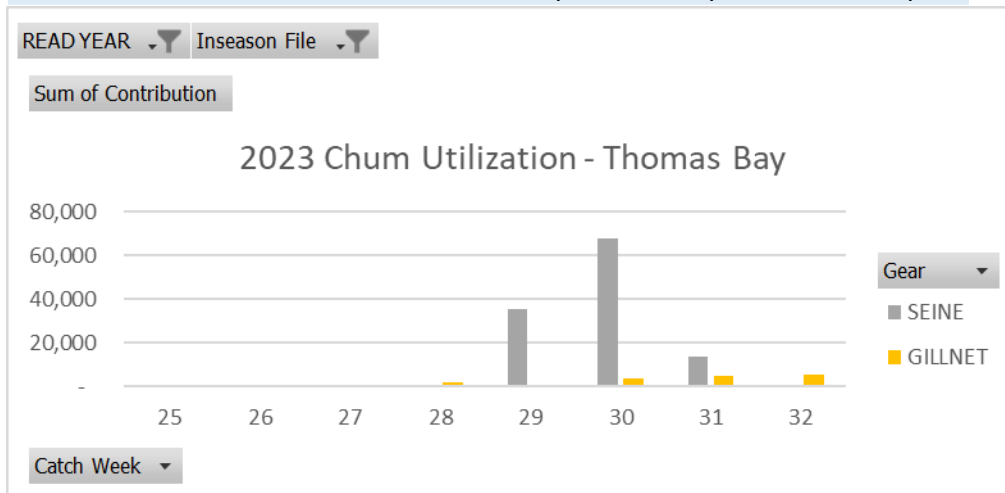


DATA: 2023 Inseason TB Chum

The 2023 run utilization for Thomas Bay is shown below. Note that this may include harvest in other areas based on otolith sampling.

READ YEAR 2023
 Inseason File THOMAS BAY

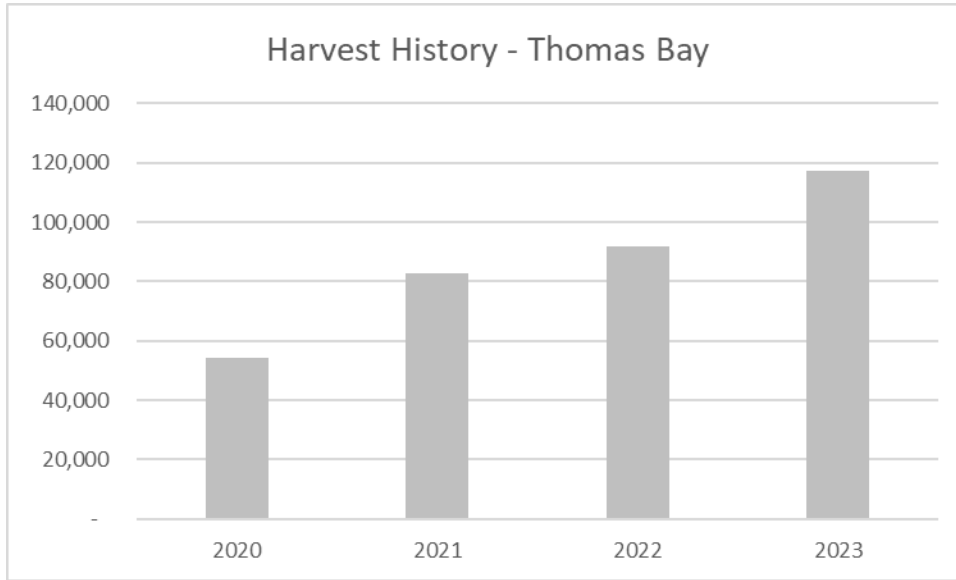
Sum of Contribution	Column Labels	SEINE	GILLNET	Grand Total
25			177	177
26			306	306
27		165	128	293
28		171	2,037	2,208
29		35,225	108	35,333
30		67,986	3,732	71,718
31		13,760	4,597	18,357
32			5,189	5,189
Grand Total		117,307	16,274	133,581



DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

Historical run utilization for Thomas Bay is shown below.

YEAR	SEINE
2020	54,220
2021	82,590
2022	91,798
2023	117,046



DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

Interception in test fisheries

NSRAA samples multiple test and interception fisheries in addition to terminal areas. NSRAA contribution expansions based on otolith composition for these fisheries are shown below.

NSRAA Rel Site	Fishery				Total
	Pt. Gardner	Hawk Inlet	Pt. Kingsmill	Pt. Augusta	
CRAWFISH INLET 113-33			2,567		2,567
DEEP INLET 113-41				279	279
GUNNUK CR 109-42	206			1,082	2,206
KASNYKU BAY 112-11	20,909	8,186		3,404	60,504
SE COVE 109-42	722	281		10,980	13,288
THOMAS BAY 110-12	412	1,613		1,130	7,345
Grand Total	22,250	12,646	16,875	34,418	86,189

DATA: BIG Picture all years 10.11.23 – BD meeting.xlsx

2024 Forecast

Oct 2023

NSRAA 2024 Return Projections					
Site	Projected Return	Range		2023 Return	2023 Forecast
		Low	High		
Chum					
Hidden Falls	1,996,000	559,000	2,905,000	1,194,761	806,000
Medvejie/Deep Inlet*	2,454,000	1,550,000	3,597,000	1,390,342	951,000
Crawfish Inlet	1,246,000	746,000	1,866,000	1,687,317	867,000
Southeast Cove	259,000	118,000	383,000	381,655	570,000
Gunnuk Creek	211,000	111,000	273,000	38,662	26,000
Thomas Bay	381,000	135,000	514,000	139,754	97,000
	6,547,000	3,219,000	9,538,000	4,832,491	3,317,000
Chinook					
Hidden Falls	900	350	2,200	1,661	400
Gunnuk Creek	900	350	2,200	1,185	400
Medvejie	15,000	1,500	22,500	5,193	13,000
Crawfish Inlet	500	250	1,000	872	250
Crescent Bay	1,100	600	1,700	1,150	1,800
	18,400	3,050	29,600	10,061	15,850
0-ck Chinook					
Medvejie	50	-	100	105	100
Crawfish Inlet	600	350	900	1,097	300
	650	350	1,000	1,202	400
Coho					
Hidden Falls	36,000	18,000	72,000	26,912	38,000
Deer Lake	82,000	41,000	165,000	44,600	44,000
Lake Stocking	-	-	-	-	-
Medvejie	11,000	6,000	22,000	10,396	12,000
Deep Inlet	17,000	8,000	33,000	11,648	26,000
	146,000	73,000	292,000	93,556	120,000
ALL SPECIES TOTALS:	6,712,050	3,295,400	9,860,600	4,937,310	3,453,250

* Cooperative Project with SJH: Projections for Medvejie/Deep Inlet are for total returns (NSRAA + SJH fish)

Fish numbers needed for cost recovery in 2024 are estimates based off of average weight and price

-NO COST RECOVERY IS SCHEDULED WITHIN THE DEEP INLET THA but is expected to occur in Silver Bay

Return splits for Medvejie/Deep Inlet:					Release Site		
Stock	Forecast	Low	High	Percent	Bear Cove	Deep Inlet	Total
					Hidden Falls stock (early run)	1,428,000	687,000
Medvejie stock (late run)	1,026,000	863,000	1,212,000	42%	351,000	675,000	1,026,000
	2,454,000	1,550,000	3,597,000		1,045,000	1,409,000	2,454,000
					43%	57%	100%

NSRAA Chum split by area				
	Forecast	Low	High	Percent
"WEST" = MEDVEJIE/ DEEP INLET/ CRAWFISH	3,700,000	2,296,000	5,463,000	57%
"EAST" = HIDDEN FALLS/ SE COVE/ THOMAS BAY/ GUNNUK	2,847,000	923,000	4,075,000	43%
	6,547,000	3,219,000	9,538,000	

NSRAA Value – 2023 Summary

Total ex-vessel value of NSRAA production for 2023 is shown below. Values are for all projects prior to any adjustments for the Hidden Falls tax assessment (none this year). The \$9.36 million estimate ranks 20th out of 40 years (26th when adjusted for inflation). Value was down considerably from \$24.24 million in 2022.

NSRAA VALUE - 2023

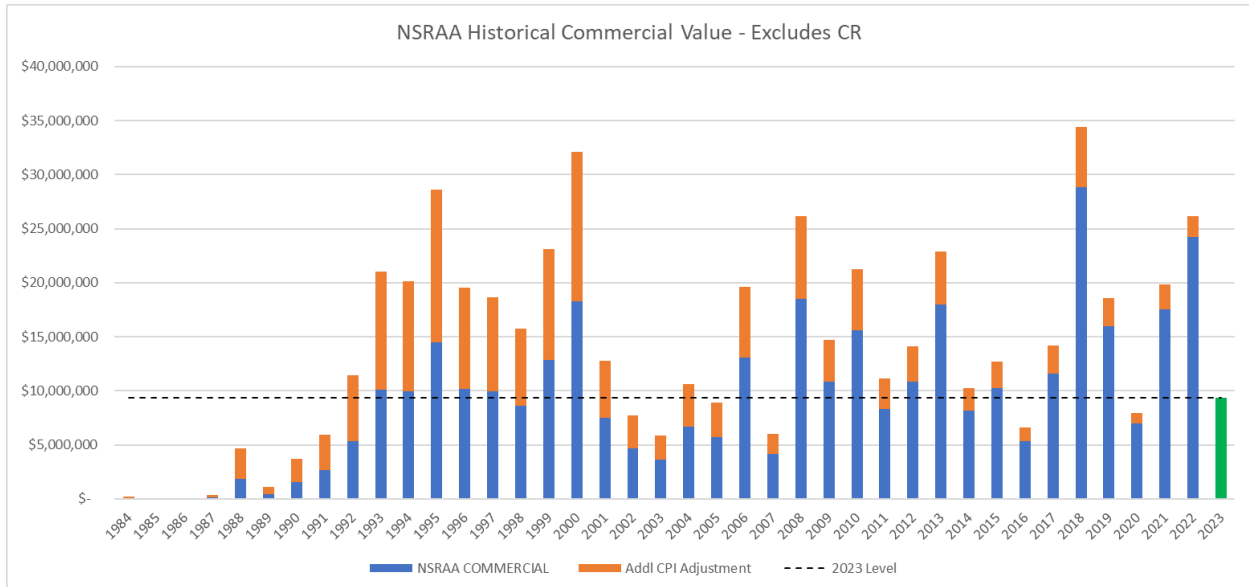
Includes cooperative programs

PRELIMINARY - Pending final aging (for SJ/NSRA chum splits), final pricing, final catch data.

AGENCY (All)

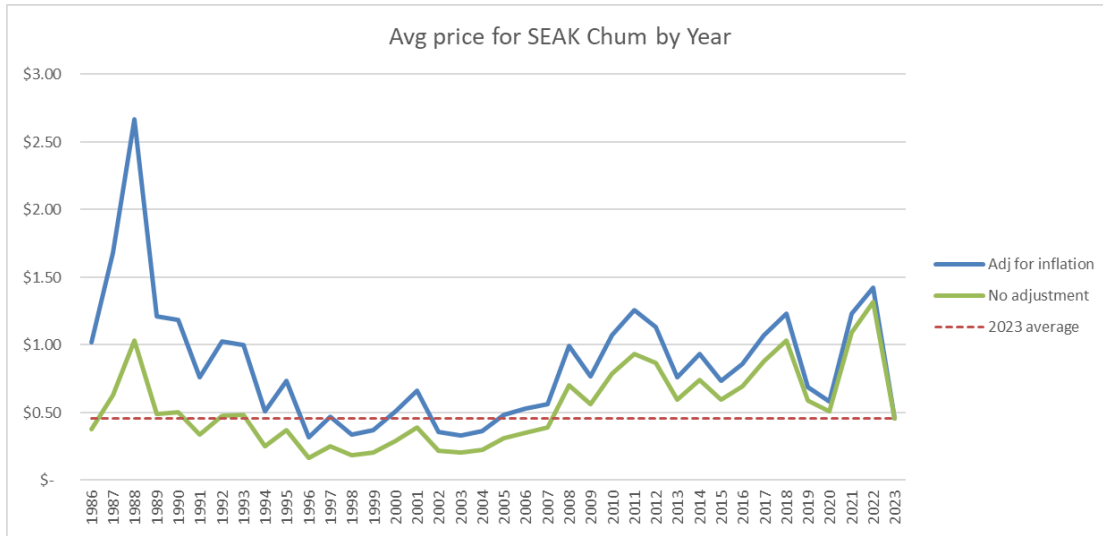
Project	Sum of Value		Coho	Grand Total
	Species	Chum		
HF Chum	Chum	\$2,239,054		\$2,239,054
SEC Chum	Chum	\$13,654		\$13,654
Gunnuk Chum	Chum	\$5,690		\$5,690
TB Chum	Chum	\$343,756		\$343,756
DI Chum (NSRA)	Chum	\$2,862,172		\$2,862,172
DI Chum (SJ)	Chum	\$474,106		\$474,106
Craw Chum	Chum	\$2,609,269		\$2,609,269
Haines Chum	Chum	\$0		\$0
Med Chin			\$422,917	\$422,917
HF Chin			\$108,488	\$108,488
Deer Coho			\$108,902	\$108,902
HF Coho			\$55,396	\$55,396
DI Coho			\$67,324	\$67,324
Med Coho			\$44,283	\$44,283
Banner/Blanchard Coho			\$0	\$0
Grand Total		\$8,547,701	\$531,405	\$9,355,010

DATA: 2023 est salmon Harvest by area 10.16.23.xlsx



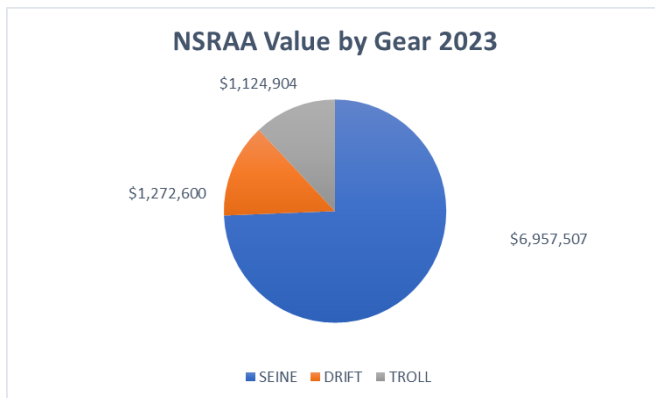
DATA: SEAK & NSRAA historical value by gear with CPI adj.xlsx

A large part of this was the fall in chum price to an average of \$.46/lb for the season, which ranks 22nd out of 38 years (32nd when adjusted for inflation).

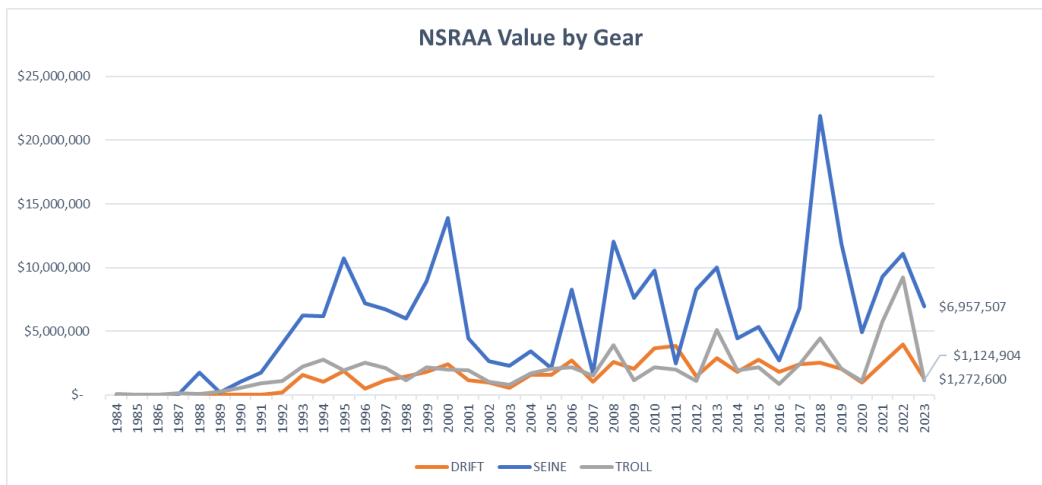


DATA: Chum price hist.xlsx

NSRAA value by gear is shown below.

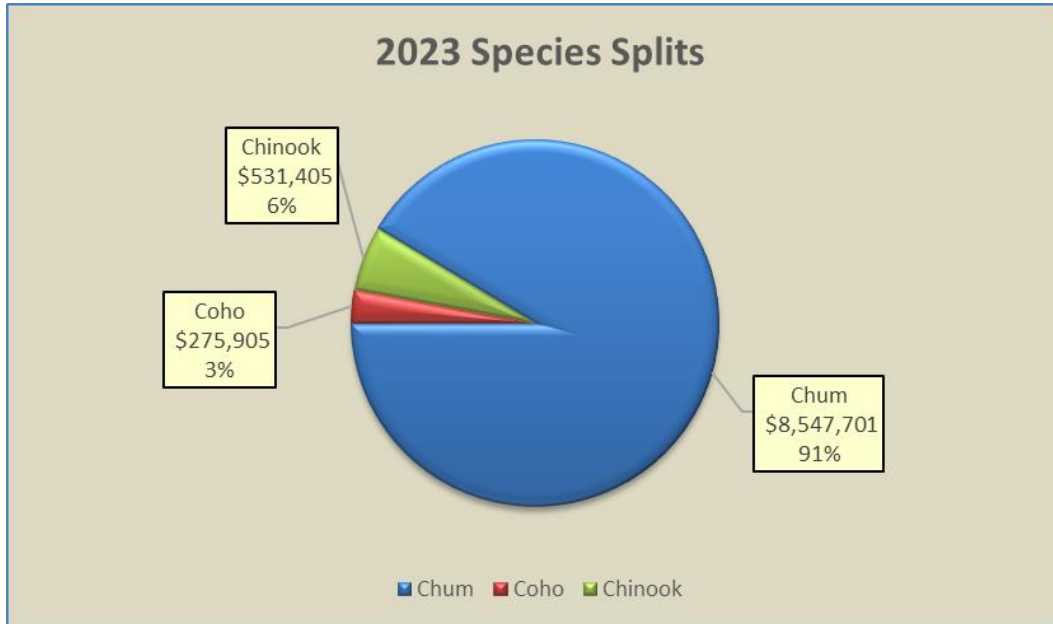


DATA: 2023 est salmon Harvest by area 10.16.23.xlsx



DATA: SEAK & NSRAA historical value by gear with CPI adj.xlsx

NSRAA value by species is shown below.



DATA: 2023 est salmon Harvest by area 10.16.23.xlsx

Table 1 shows current 2022 value estimates for NSRAA production at current pricing from ADF&G fish ticket data. Values include SJ chum production at Deep Inlet. (In years where there is an assessment tax, no adjustment has been made for the Hidden Falls assessment tax in this table.)

Table 1. NSRAA Value - includes cooperative projects. Current pricing.

Gear	Chum	Coho	Chinook	Total	Record	Year
Troll	\$ 631,627	\$ 261,349	\$ 231,927	\$ 1,124,904	\$ 9,234,535	2022
Seine	\$ 6,783,210	\$ 4,892	\$ 169,405	\$ 6,957,507	\$ 21,881,512	2018
Gillnet	\$ 1,132,863	\$ 9,664	\$ 130,073	\$ 1,272,600	\$ 3,949,647	2022
Total	\$ 8,547,701	\$ 275,905	\$ 531,405	\$ 9,355,010	\$ 28,819,414	2018

Data is prior to HF chum assessment adjustment.

DATA: 2023 est salmon Harvest by area 10.16.23.xlsx

Below are tables showing value and percent of value by gear, and splits by Agency, which splits out the portion of Deep Inlet chum on the SJH permit.

NSRAA VALUE - 2023

Includes cooperative programs

PRELIMINARY - Pending final aging (for SJ/NSRA chum splits), final pricing, final catch data.

GEAR GROUP SPLITS

AGENCY (All)
 Project (Multiple Items)

Sum of Value		Species <input type="button" value="v"/>			
Gear <input type="button" value="v"/>	Chum	Chinook	Coho	Grand Total	
Gillnet	\$1,132,863	\$130,073	\$9,664	\$1,272,600	14%
Seine	\$6,783,210	\$169,405	\$4,892	\$6,957,507	74%
Troll	\$631,627	\$231,927	\$261,349	\$1,124,904	12%
Grand Total	\$8,547,701	\$531,405	\$275,905	\$9,355,010	100%
	91%	6%	3%		

AGENCY NSRA
 Project (Multiple Items)

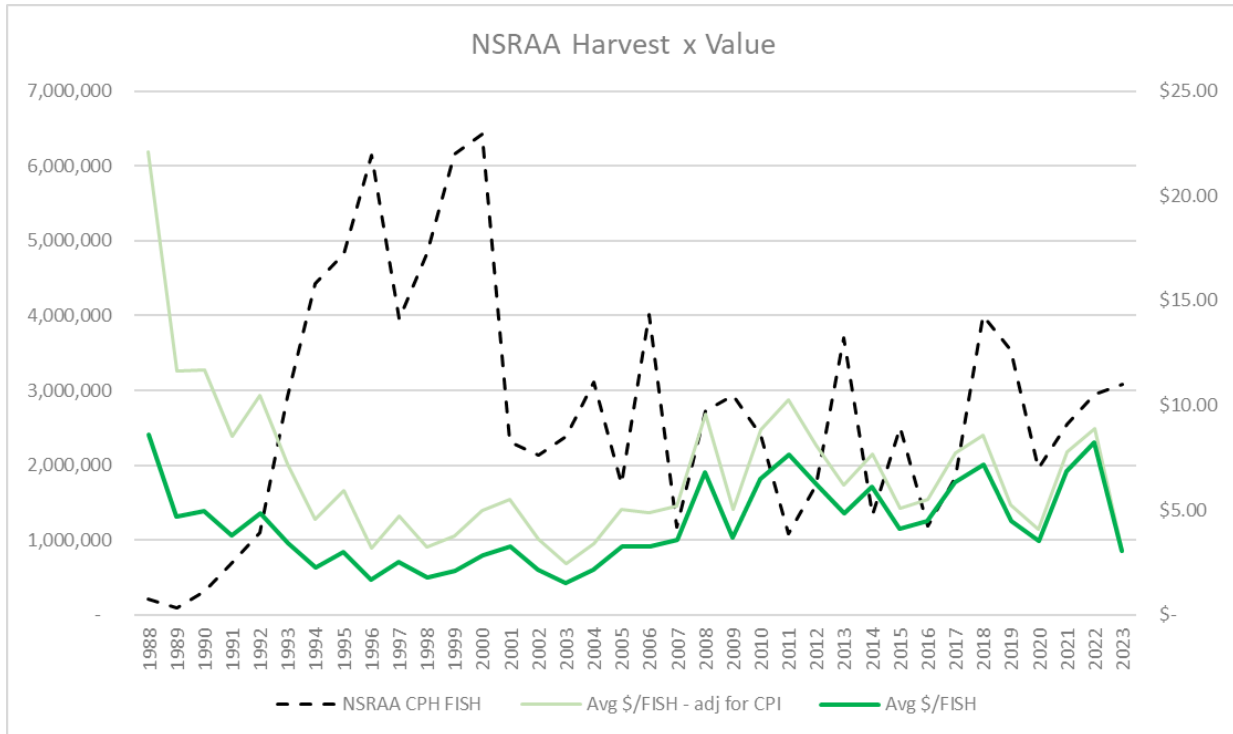
Sum of Value		Species <input type="button" value="v"/>			
Gear <input type="button" value="v"/>	Chum	Chinook	Coho	Grand Total	
Gillnet	\$976,741	\$130,073	\$9,664	\$1,116,478	13%
Seine	\$6,523,797	\$169,405	\$4,892	\$6,698,094	75%
Troll	\$573,056	\$231,927	\$261,349	\$1,066,333	12%
Grand Total	\$8,073,595	\$531,405	\$275,905	\$8,880,904	100%

AGENCY SJ
 Project DI Chum (SJ)

Sum of Value		Species <input type="button" value="v"/>		
Gear <input type="button" value="v"/>	Chum	Grand Total		
Gillnet	\$156,122	\$156,122	33%	
Seine	\$259,413	\$259,413	55%	
Troll	\$58,571	\$58,571	12%	
Grand Total	\$474,106	\$474,106	100%	

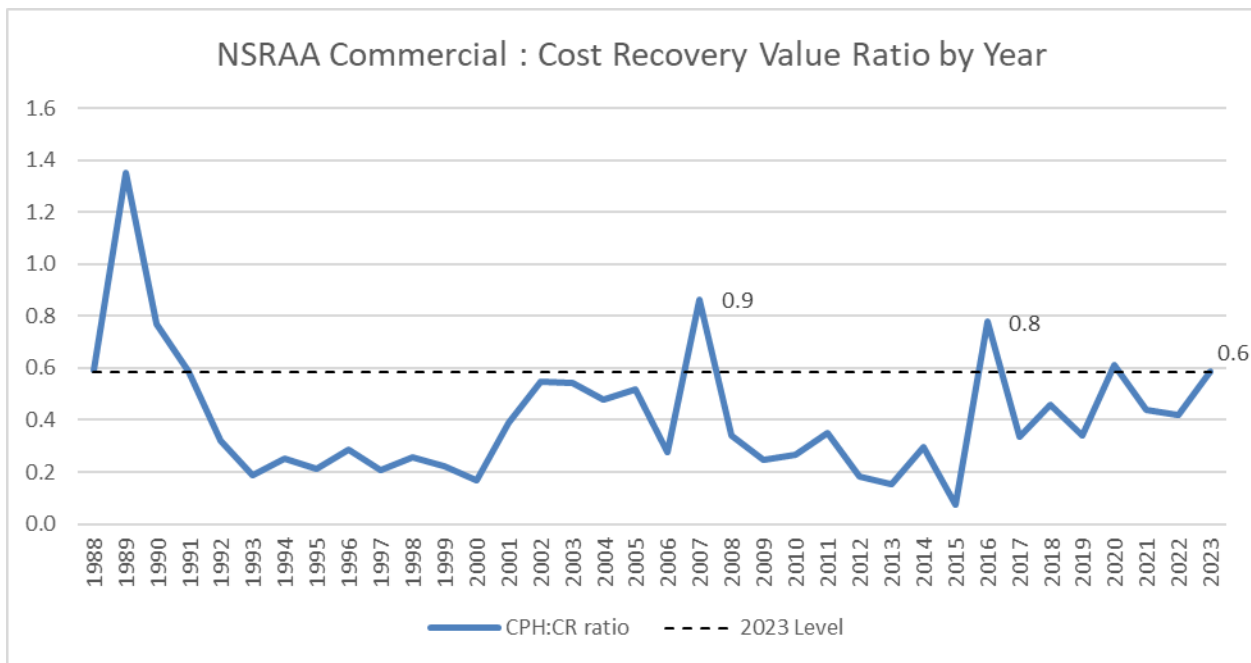
DATA: 2023 est salmon Harvest by area 10.16.23.xlsx

Below is the estimated value per commercially landed fish through NSRAA's history, calculated as [NSRAA commercial value / adult fish harvested] both with and without adjusting for inflation.



DATA: SEAK & NSRAA historical value by gear with CPI adj.xlsx

Below are ratios of the value of Common Property Harvest to Cost Recovery throughout NSRAA's history, calculated as [NSRAA value CR / NSRAA value CPH].



DATA: SEAK & NSRAA historical value by gear with CPI adj.xlsx

NSRAA Commercial Value – Hidden Falls Assessment Tax

Table 1.

HIDDEN FALLS ASSESSMENT TAX Revenue Distributed to NSRAA

Fishing Year	Allocation Adjustment Year	Funds Applied to Fiscal Year	Annual Tax	Cumulative Tax	Rate
2012	2012	2013	\$ 1,309,148	\$ 1,309,148	20%
2013	2013	2014	\$ 1,055,835	\$ 2,364,983	20%
2014	2014	2015	\$ 407,848	\$ 2,772,832	20%
2015	2015	2016	\$ 54,363	\$ 2,827,195	\$ 0.10
2016	2016	2017	\$ 13,103	\$ 2,840,298	\$ 0.10
2017	2017	2018	\$ -	\$ 2,840,298	\$ -
2018	2018	2019	\$ -	\$ 2,840,298	\$ -
2019	2019	2020	\$ -	\$ 2,840,298	\$ -
2020	2020	2021	\$ -	\$ 2,840,298	\$ -
2021	2021	2022	\$ -	\$ 2,840,298	\$ -
2022	2022	2023	\$ -	\$ 2,840,298	\$ -
2023	2023	2024	\$ -	\$ 2,840,298	\$ -

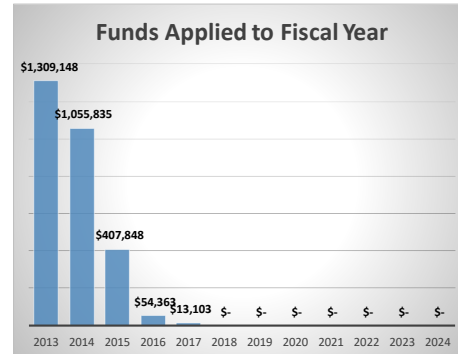


Table 2.

HIDDEN FALLS ASSESSMENT TAX Revenue and HIDDEN FALLS Cost Recovery Goals

Fishing Year	Allocation Adjustment Year	Funds Applied to Fiscal Year	Annual Tax	CR GOAL	+/- Goal	Cumulative
2012	2012	2013	\$ 1,309,148	\$ 102,000	\$ 1,207,148	\$ 1,207,148
2013	2013	2014	\$ 1,055,835	\$ 1,793,000	\$ (737,165)	\$ 469,983
2014	2014	2015	\$ 407,848	\$ 364,498	\$ 43,350	\$ 513,334
2015	2015	2016	\$ 54,363	\$ -	\$ 54,363	\$ 567,697
2016	2016	2017	\$ 13,103	\$ 1,267,874	\$ (1,254,771)	\$ (687,074)
2017	2017	2018	\$ -	\$ -	\$ -	\$ (687,074)
2018	2018	2019	\$ -	\$ -	\$ -	\$ (687,074)
2019	2019	2020	\$ -	\$ -	\$ -	\$ (687,074)
2020	2020	2021	\$ -	\$ -	\$ -	\$ (687,074)
2021	2021	2022	\$ -	\$ -	\$ -	\$ (687,074)
2022	2022	2023	\$ -	\$ -	\$ -	\$ (687,074)
2023	2023	2024	\$ -	\$ -	\$ -	\$ (687,074)
Total			\$ 2,840,298	\$ 3,527,372	\$ (687,074)	

Table 3.

HIDDEN FALLS ASSESSMENT TAX Revenue and HIDDEN FALLS Allocation

Fishing Year	Allocation Adjustment Year	Funds Applied to Fiscal Year	Annual Tax	Allocation Value Estimate Pre-Adj	Allocation Value Estimate Post-Adj.
2012	2012	2013	\$ 1,309,148	\$ 10,941,434	\$ 9,632,286
2013	2013	2014	\$ 1,055,835	\$ 10,438,747	\$ 9,382,912
2014	2014	2015	\$ 407,848	\$ 4,528,217	\$ 4,120,368
2015	2015	2016	\$ 54,363	\$ 200,109	\$ 145,746
2016	2016	2017	\$ 13,103	\$ 79,171	\$ 66,068
2017	2017	2018	\$ -	\$ -	\$ -
2018	2018	2019	\$ -	\$ -	\$ -
2019	2019	2020	\$ -	\$ -	\$ -
2020	2020	2021	\$ -	\$ -	\$ -
2021	2021	2022	\$ -	\$ -	\$ -
2022	2022	2023	\$ -	\$ -	\$ -
2023	2023	2024	\$ -	\$ -	\$ -
Total			\$ 2,840,298	\$ 26,187,679	\$ 23,347,380

DATA: HF ASSESSMENT TAX FUNDS RECD 2012-2023.xlsx

Hidden Falls Chum Assessment Contingency Account (HFCACA)

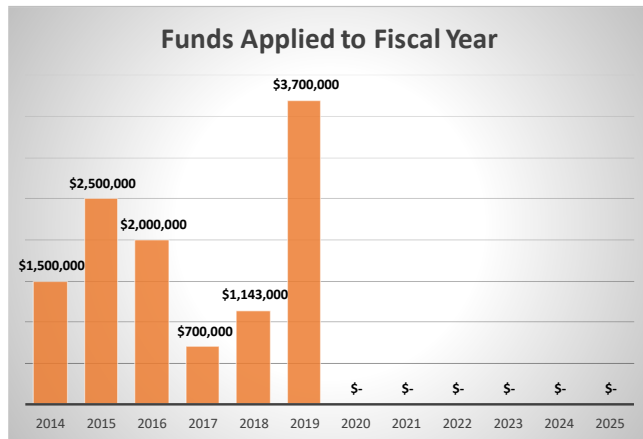
The above tables show the history of the Assessment Tax.

There was no 2023 tax implemented at Hidden Falls.

Northern Southeast Fund (DIPAC Monies)

DIPAC Revenue Distributed to NSRAA

Fishing Year	Funds Applied to Fiscal Year	Annual	Cumulative	Cumul. (Mil)
2012	2014	\$ 1,500,000	\$ 1,500,000	1.50
2013	2015	\$ 2,500,000	\$ 4,000,000	4.00
2014	2016	\$ 2,000,000	\$ 6,000,000	6.00
2015	2017	\$ 700,000	\$ 6,700,000	6.70
2016	2018	\$ 1,143,000	\$ 7,843,000	7.84
2017	2019	\$ 3,700,000	\$ 11,543,000	11.54
2018	2020	\$ -	\$ 11,543,000	11.54
2019	2021	\$ -	\$ 11,543,000	11.54
2020	2022	\$ -	\$ 11,543,000	11.54
2021	2023	\$ -	\$ 11,543,000	11.54
2022	2024	\$ -	\$ 11,543,000	11.54
2023	2025	\$ -	\$ 11,543,000	11.54



DIPAC Revenue Distributed to NSRAA

Estimated Additional Commercial Pounds and Fish to the Fleet

Fishing Year	Funds Applied to Fishing Season	Annual	IF Chum CR Price	Additional Commercial Pounds	Fish @ 7.5 pound average
2012	2013	\$ 1,500,000	\$ 1.00	1,500,000	200,000
2013	2014	\$ 2,500,000	\$ 1.00	2,500,000	333,333
2014	2015	\$ 2,000,000	\$ 1.00	2,000,000	266,667
2015	2016	\$ 700,000	\$ 1.00	700,000	93,333
2016	2017	\$ 1,143,000	\$ 1.00	1,143,000	152,400
2017	2018	\$ 3,700,000	\$ 1.00	3,700,000	493,333
2018	2019	\$ -			
2019	2020	\$ -			
2020	2021	\$ -			
2021	2022	\$ -			
2022	2023	\$ -			
2023	2024	\$ -			
Total		\$ 11,543,000		11,543,000	1,539,067

DIPAC has distributed \$11.54 million in surplus funds to NSRAA over six years. These funds have reduced NSRAA's cost recovery needs by the same amount, adding an estimated 11.5 million pounds to the commercial chum harvest.

DATA: DIPAC FUNDS RECD 2012-2023.xlsx

Hidden Falls Chum 2023 Allocation Calculation

There was no assessment tax in 2022 and therefore no allocation adjustment is needed.

NSRAA 2023 Cost Recovery Summary

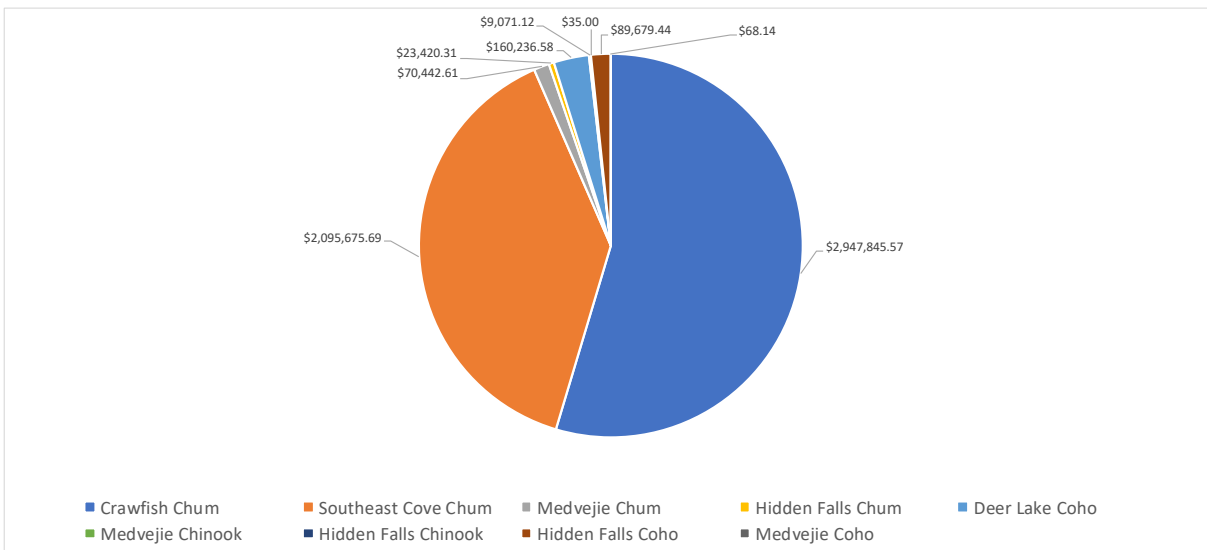
This year's Crawfish Inlet contract was split into two components mid-season in an effort to help processors reduce the effective price for 2023:

- lbs landed and paid for in 2023 (FY24) at \$3.01 million
- lbs landed in 2023 with a "prepayment" for 2024 (FY25) at \$1.1 million

Pounds landed and dollars paid to NSRAA remained the same overall, but the income that is booked to 2023 cost recovery has been reduced. The table below does not include the 2024 "prepayment".

2023 Cost Recovery

Project	CR-FISH	CR-INCID	CR-CARC	CR-EGG	Cost Rec Subtotal	Disposal Cost	Net income
Crawfish Chum	\$3,011,603.02	\$451.65			\$3,012,054.67	-\$64,209.10	\$2,947,845.57
Southeast Cove Chum	\$2,124,656.00	\$992.29			\$2,125,648.29	-\$29,972.60	\$2,095,675.69
Medvejie Chum	\$1,408.33		\$69,034.28		\$70,442.61		\$70,442.61
Hidden Falls Chum			\$23,420.31		\$23,420.31		\$23,420.31
Deer Lake Coho	\$159,414.78	\$821.80			\$160,236.58		\$160,236.58
Medvejie Chinook	\$35.26		\$9,035.86		\$9,071.12		\$9,071.12
Hidden Falls Chinook			\$35.00		\$35.00		\$35.00
Hidden Falls Coho	\$89,437.04	\$242.40			\$89,679.44		\$89,679.44
Medvejie Coho			\$68.14		\$68.14		\$68.14
Grand Total	\$5,386,554.43	\$2,508.14	\$101,593.59	\$0.00	\$5,490,656.16	-\$94,181.70	\$5,396,474.46



DATA: CR Summary 2023.xlsx

Additionally, the cost recovery goal at Southeast Cove was not met, falling short by 48%. Also, this year was the first time in decades that NSRAA paid contracted vessels to harvest undesirable surplus fish in the terminal areas. In total, \$94,182 went into cleanup efforts, leaving the net income for 2023 at \$5,396,474.