



2024 Adult Returns - Overview

2024 Salmon Return Overview

The 2024 salmon season will be remembered by NSRAA as an amalgamation of triumph, failure, and frustration. In the span of the two previous years, we saw our chum programs rebound to near record high value, only to be eviscerated by the biggest salmon market crash of all time. The roller coaster of 2022-23 had put us behind on our forward funding and brought up many questions about the future of our fisheries. With prices stabilizing in early 2024, and a forecast of over 6 million chums, NSRAA had to weigh its options moving forward.

Chum survival has been increasing in recent years, but the decade-long crash at Hidden Falls is not yet a distant memory. Survivals at Crawfish have dazzled and amazed but how long will that trend continue? More chums were projected to return to NSRAA's hatcheries in 2024 than ever before, but would any processors take them? Or would staff be overwhelmed with the task of their disposal? A plan was made to mitigate these concerns as much as possible, but much would remain out of our control.

With the inability to properly leverage tax assessments in 2024, revenue depended entirely on traditional cost recovery. Despite some curtailing, NSRAA was still looking at the largest cost recovery goal on record. Prices for cost recovery were not expected to be good, and while they could have been worse, (they) were still the lowest since 2007. This left but one viable option: a complex cost recovery plan that would require half of the forecasted chum return, include multiple processors, and take place at all but one of NSRAA's return sites. The crux of this plan is that NSRAA returns would have to come in as expected and processor effort must be strong and persistent to maximize daily volume during crucial periods. Neither of these key elements would completely play out in our favor. In a cruel twist of irony, NSRAA would struggle to achieve cost recovery and enact multiple closures while achieving the 3rd highest chum return of all time. How can this happen? A multitude of issues are responsible.

Chum returns, while exceeding the total forecast, fell critically short at two cost recovery locations: Crawfish Inlet and Gunnuk Creek. Both return sites saw unprecedented crashes in survival for returning three-year-olds, the hardest age class to predict. Additionally, cost recovery progress was often slow and arduous, with minimal fleet involvement. Progress was made even more difficult near Sitka when a warm/dry weather period hindered fish movement into Deep Inlet during the peak weeks of the fall return. Traditional seine fisheries were also more prevalent in Sitka Sound this year than normal. These variables created a perfect storm of chum interception outside of the THA. In the end, cost recovery would fall substantially short of our goal, Medvejie would struggle to get brood stock, and Deep Inlet would never fully open, with the gillnet fishery seeing its 3rd lowest harvest share of all time. In the past, poor chum cost recovery has been partially offset by carcass sales or coho surplus but neither would come to fruition in 2024. It is important to note that things could have been worse! Had cost recovery and rotational fisheries proceeded in Deep Inlet throughout the season, or had the Medvejie fall run not come in at 200% of forecast, a closure would still have been necessary for brood stock preservation.

Ancillary to chum salmon in volume but close to the hearts of many trollers are the NSRAA Chinook and Coho programs. There were concerns pre-season about interception of the Chinook return to Medvejie. The summer stock forecast for Bear Cove chums was massive, requiring the need for cost recovery intervention, and Chinook broodstock seemed like it would be in jeopardy with both runs overlapping and a poor Chinook forecast. Fortunately, these returns were stronger than expected and the surplus summer chum at the hatchery was more easily managed than anticipated. Unfortunately, survival was down on nearly all NSRAA coho projects, resulting in the lowest troll contribution since 1989 at 8% of all Southeast Alaska (SEAK) hatcheries. NSRAA 2024 Chinook troll contributions improved from last year, but were still historically low, at 2.5% of the season's troll catch.

There was also much to celebrate in 2024. Records were shattered across multiple projects with high survival and large returns. Thomas Bay saw its largest chum return to date by a massive margin at nearly 500,000, over 10x the survival of any other brood year to date for this project. NSRAA was all abuzz in 2023 when the 3-year-old chum return to Hidden Falls showed the highest survival in 30 years. In 2024 this doubled. With over 250,000 Hidden Falls 3-year-olds returning at rates not seen since 1979. The forecast for this site will be of much interest going into 2025 with some (unrealistic) projections translating to over 13-million fish. The true forecast will be much smaller of course but it begs the question again, how high will it be?

Despite poor prices, NSRAA saw it's 9th highest total value out of 40 years. NSRAA staff have done their job and more chums are returning than have for 25 years, with the 3rd largest NSRAA-wide chum return of all time at 6.7 million in 2024. Looking ahead, we have a preliminary pre-season projection of 6.8 million chums returning in 2025 which would effectively tie the largest return of all time. Financially, NSRAA is still afloat and viable and we can echo the same statement as we did in 2023, which is "with a record forecast, the setbacks we experienced this year can be made up even with modest prices in 2025".

Our Research/Evaluation team can assure you that we are striving to provide the best possible information for making the most informed decisions. The following pages in this tab are a more in depth look at the 2024 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

2024 Chinook Return Overview

The following excerpts are from an ADF&G news release on March 28th, 2024 – regarding the annual Chinook salmon allocation for Southeast Alaska (SEAK) troll fisheries.

*“The Alaska Department of Fish and Game announced today that under Chinook salmon management provisions of the 2019–2028 Pacific Salmon Treaty Agreement (treaty), the annual all-gear allowable catch limit for Southeast Alaska/Yakutat (SEAK) is 207,150 treaty Chinook salmon (non-Alaska hatchery-produced Chinook salmon). This year’s all-gear catch limit includes a 2% reduction that will serve as a buffer to avoid exceeding the all-gear limit and payback provisions within the treaty. The resulting preseason troll treaty harvest allocation for 2024 is **153,000 Chinook salmon**, which is 3,900 fish above the preseason limit available in 2023.*

Annual catch limits for the SEAK Chinook salmon fishery are now based on measures of Chinook abundance using the abundance index output from the Pacific Salmon Commission Chinook model. Use of this model for setting the SEAK catch limit is required per decisions made by the Pacific Salmon Commission in January 2024 in accordance with Chapter 3 of the treaty.

The summer troll fishery harvest allocation is calculated by subtracting the sum of the treaty Chinook salmon harvested in winter and spring troll fisheries from the annual troll treaty allocation. The winter fishery is managed to a guideline harvest level (GHL) of 45,000 treaty Chinook salmon for the season and will close March 31 unless the GHL is reached prior to that date.”

The season began with a Winter Troll harvest of 48,000 fish, which was 137% of the catch in 2023.

The Spring Troll fishery again saw widespread time and area restrictions due to wild stock escapement concerns and an estimated 14,000 fish (17,000 fish in 2023) were harvested in the Spring Troll fisheries, with additional harvest in terminal fisheries.

An estimated 86,000 Chinook were harvested in the 2024 Summer Troll fishery. This year, the fishery opened July 1st and the first period closed on July 8th with a harvest of 82,000 Chinook. In this time, the objective of 70% of summer troll allocation was met, leaving an estimated 15,000 Chinook salmon on the annual treaty troll allocation. However, just as it was in 2023, the sport fishery was anticipated to exceed the 2024 preseason allocation. Therefore, the second summer commercial troll fishery Chinook salmon retention period allocation was reduced to a harvest target of 4,000 Chinook salmon. The “opening” took place from September 1st – 30th, wherein each permit holder was allowed to sell up to 12 Chinook.

Overall, the 2024 SEAK Chinook troll harvest was 151,000 fish (treaty and non-treaty), compared to the 2023 harvest of 143,000. Troll price per pound was down overall from the previous season with winter troll averaging \$8.11, spring troll averaging \$7.52, and summer troll averaging \$6.10. Total estimated Chinook value for all fisheries was \$10.82 million (\$12.78 million in 2023), or 14.5% of the total SEAK commercial salmon value (\$74.61 million) in 2024. (Values exclude Yakutat and Districts 181-191).

Noteworthy attributes for the 2024 NSRAA Chinook returns are shown below:

- NSRAA’s Chinook returns came in above forecast except for Crescent Bay and Gunnuk Creek returns.
- Medvejie was once again the largest contributor to Spring Troll fisheries.
- NSRAA saw improvements in contribution from last year in all troll fisheries, with an estimated 4,949 fish, comprising 3.3% of the total 2024 Chinook troll harvest.
- Pre-season concerns for Chinook broodstock at Medvejie warranted sport fishery closures. Fortunately, these returns were stronger than expected with minimal impact from chum cost recovery operations. Although historically adequate brood numbers were secured, a higher-than-normal proportion of subadult (2-ocean) fish in the rack led to elevated male ratios. Medvejie egg-takes were therefore curtailed due to female/egg shortages.
- Hidden Falls (Andrew Creek) production has been moved to Southeast Cove in anticipation of future Keta River stock releases at Hidden Falls. This was the final return of adult (3-ocean) Andrew Creek returns to Hidden Falls. Due to poor survival and age shifts, no 4-ocean adults are expected in 2025.

The following pages provide additional information for each project. Hatchery and terminal area estimates have not been finalized and these numbers may increase slightly.

Below is a summary of all NSRAA projects returns, utilizations, and percentage of forecast:

NSRAA CHINOOK CONTRIBUTIONS TO DATE - 2024										
Oct 2023 - Sept 2024: Updated 10/24										
		MEDVEJIE				HIDDEN FALLS				NSRAA TOTAL
		BEAR COVE	CRESCENT BAY	CRAWFISH	Total	KASNYKU BAY	SOUTHEAST COVE	GUNNUK CREEK	Total	
TROLL	Winter	111	84	94	289	26		176	202	491
	Spring	1,446	307	69	1,822					1,822
	Terminal	455	116	101	672					672
	Troll Term Add-on	54	29	1,012	1,094	22			22	1,116
	Summer	509	41	244	795	44		9	53	848
	MSF				-					-
	Total	2,575	577	1,520	4,672	92	-	185	277	4,949
SEINE	Terminal			59	59	766	44	7	817	876
	SeineTerm Add-on				-	493	28		521	521
	Traditional				-				-	-
	Total	-	-	59	59	1,259	72	7	1,338	1,396
GILLNET	Terminal	2,975			2,975				-	2,975
	Gillnet Term Add-on				-		68		68	68
	Traditional	45		21	66			47	47	113
	Total	3,020	-	21	3,041	-	68	47	115	3,156
Commercial Subtotal		5,595	577	1,600	7,772	1,351	140	238	1,730	9,501
SPORT	CWT	1,522	102	414	2,039			113	113	2,152
	Terminal Estimate	-	375	50	425	20		100	120	545
	Total	1,522	477	464	2,464	20	-	213	233	2,697
Common Property Subtotal		7,117	1,054	2,065	10,235	1,371	140	451	1,963	12,198
	Cost Recovery	1,400			1,400				-	1,400
	Staff Use/Donation			15	15				-	15
	Brood (Rack)	4,798			4,798	272		270	542	5,340
	Lagoon/Channel morts/Esc.	300	100	50	450	65		100	165	615
	CWT recoveries at other sites				-				-	-
	Non-NSRAA fish in CR				-				-	-
	Non-NSRAA fish in Rack				-				-	-
Hatchery Subtotal		6,498	100	65	6,663	337	-	370	707	7,370
TOTAL ADULT CHINOOK		13,615	1,154	2,130	16,898	1,708	140	821	2,670	19,568
	Forecast	10,300	1,800	500	12,600	900		900	1,800	14,400
	% of Forecast	132%	64%	426%	134%	190%		91%	148%	136%

DATA: 2024 NSRAA CHINOOK.xlsm

Below is a summary of SEAK troll fisheries harvest and value in 2024:

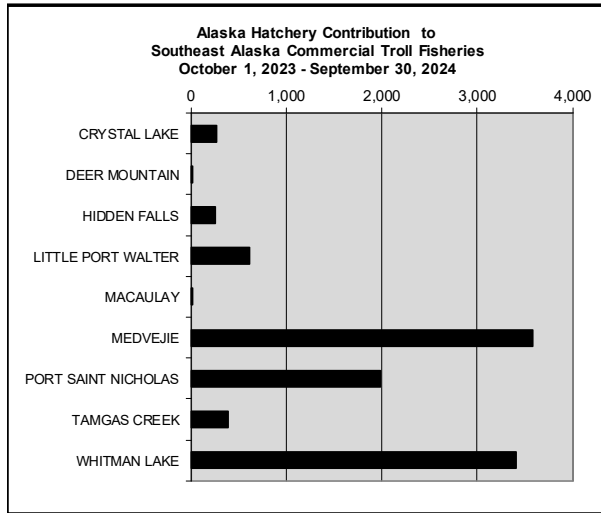
SE AK Commercial Troll 2023-24

TROLL	AVG Wt	Avg Price	Value
Winter Troll	48,117	10.00	\$ 3,902,289
Spring	14,177	10.80	\$ 1,511,399
TERM	2,195	11.50	\$ 180,989
Summer	86,312	10.60	\$ 5,580,934
-			
TOTAL	150,801		\$ 10,815,611

DATA: SE AK Chinook Troll Contrib 2023-24.xlsx

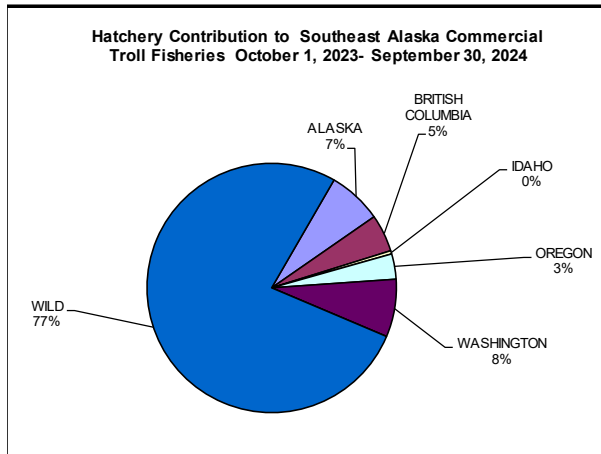
The table below breaks down the primary contributors to the troll fishery in 2024:

HATCHERY CHINOOK CONTRIBUTIONS TO COMMERCIAL TROLL FISHERIES



Alaskan Hatcheries	Contribution	Percent
CRYSTAL LAKE	267	3%
DEER MOUNTAIN	7	0%
HIDDEN FALLS	261	2%
LITTLE PORT WALTER	620	6%
MACAULAY	19	0%
MEDVEJIE	3,578	34%
PORT SAINT NICHOLAS	1,981	19%
TAMGAS CREEK	390	4%
WHITMAN LAKE	3,406	32%
TOTAL	10,529	100%

NSRAA SUBTOTAL 3,839 36%



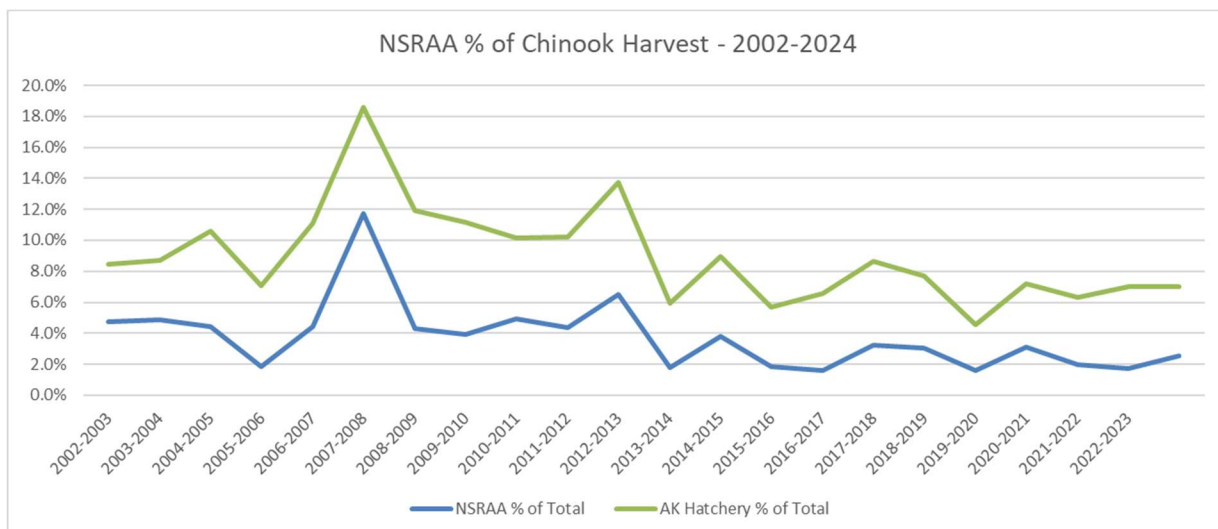
State / Province	Contribution	Percent
ALASKA	10,529	7%
BRITISH COLUMBIA	7,309	5%
IDAHO	649	0%
OREGON	4,942	3%
WASHINGTON	11,313	8%
WILD	116,060	77%
TOTAL	150,801	100%

NSRAA SUBTOTAL 3,839 2.5%

TOTAL TROLL 150,801
CWT 34,741
WILD 116,060

Data from ADF&G Commercial Fisheries Division, Mark Tag and Age Lab Preliminary Estimates, 10/2024.

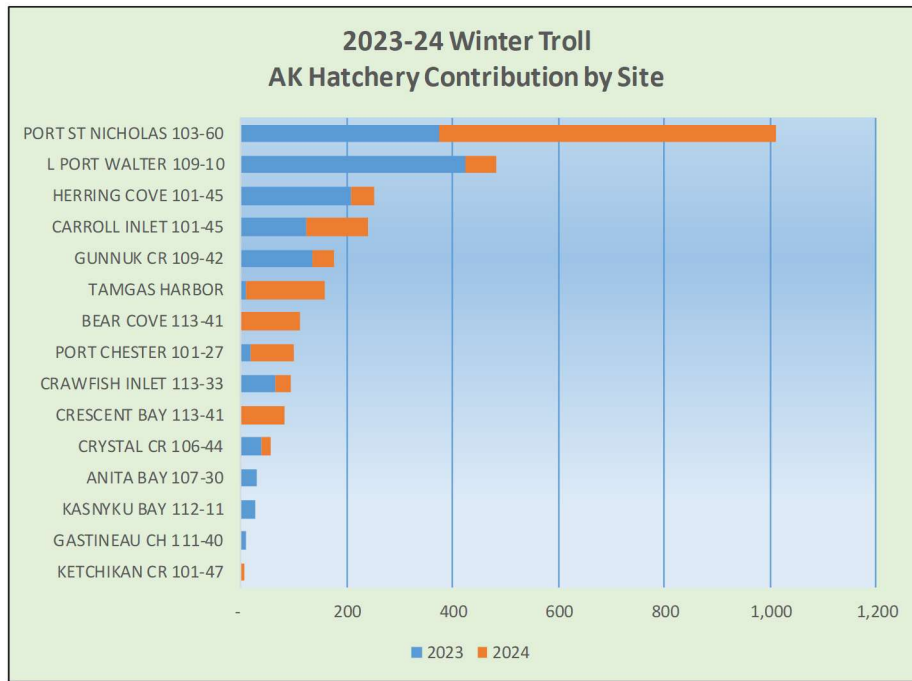
NSRAA accounted for 36% of the Alaskan hatchery contributors to troll fisheries in 2024, ranking 10th out of the last 22 years with Medvejie as the largest individual Alaskan hatchery contributor. NSRAA's Chinook contribution accounted for just 2.5% of the season's 151,000 total troll catch, ranking 15th out of the last 22 years.



DATA: SE AK Chinook Troll Contrib 2023-24.xlsx

Winter Troll Fishery (October 11, 2023 – April 15, 2024)

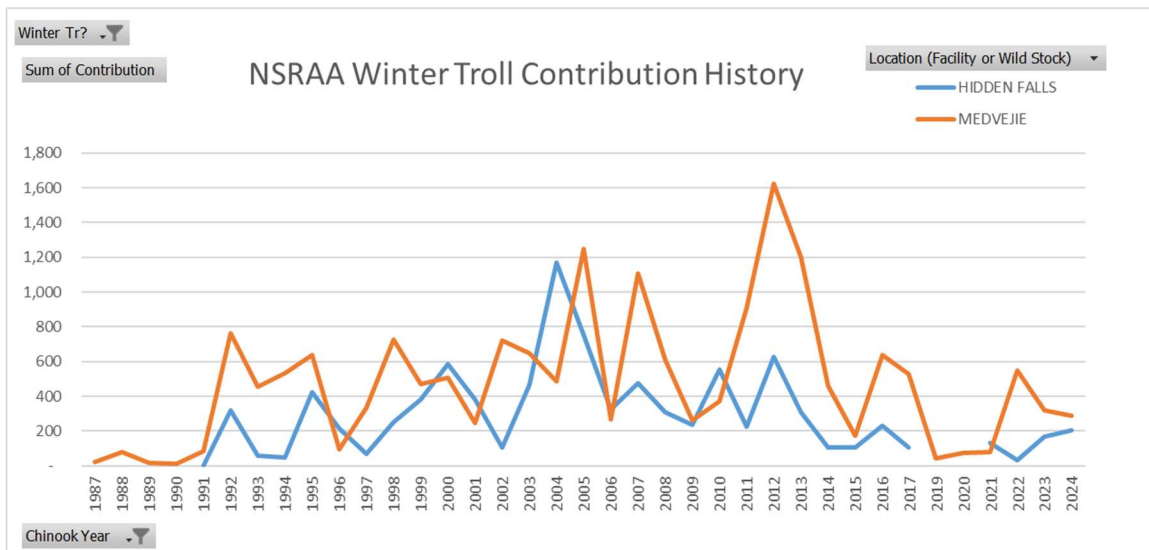
The table below breaks down the primary contributors to the 2023-2024 winter troll fishery. The fishery was first opened from October 11, 2023, and remained open until March 31st (in confined waters). NSRAA catch was evenly split between 2023 and 2024.



SITE	CATCH	PERCENT
BEAR COVE 113-41	111	0.2%
CRAWFISH INLET 113-33	94	0.2%
CRESCENT BAY 113-41	84	0.2%
GUNNUK CR 109-42	176	0.4%
KASNYKU BAY	26	0.1%
Total	491	1.0%

TOTAL WINTER TROLL CATCH: 48,103

NSRAA had a contribution of 491 Chinook in the Winter Troll fishery, ranking 25th out of 37 years.



Spring Troll Fishery (May 1 – June 30, 2024)

Below are estimates for Spring troll harvest by area in 2024. These are NSRAA derived values and may not match ADF&G reported totals. As usual, the greater Sitka area saw the highest catch in both terminal and traditional areas.

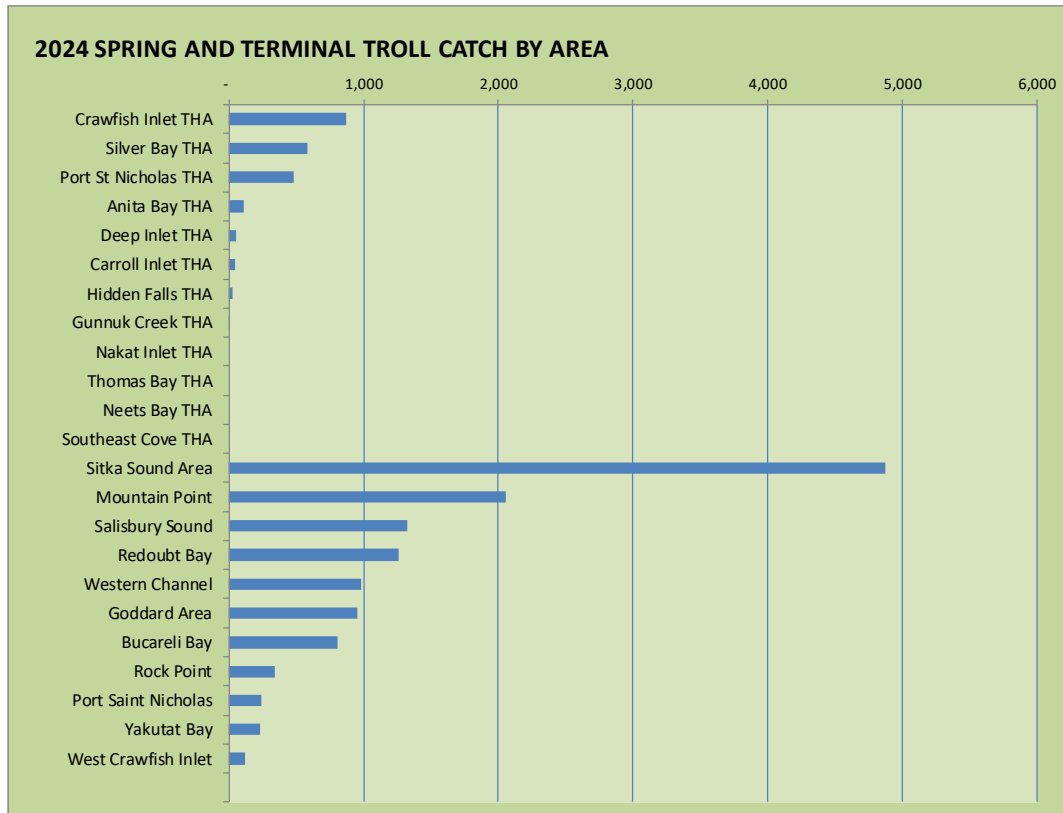
2024 SPRING AND TERMINAL TROLL CATCH BY AREA WITH (ALASKA) HATCHERY CONTRIBUTION

10/23/2024

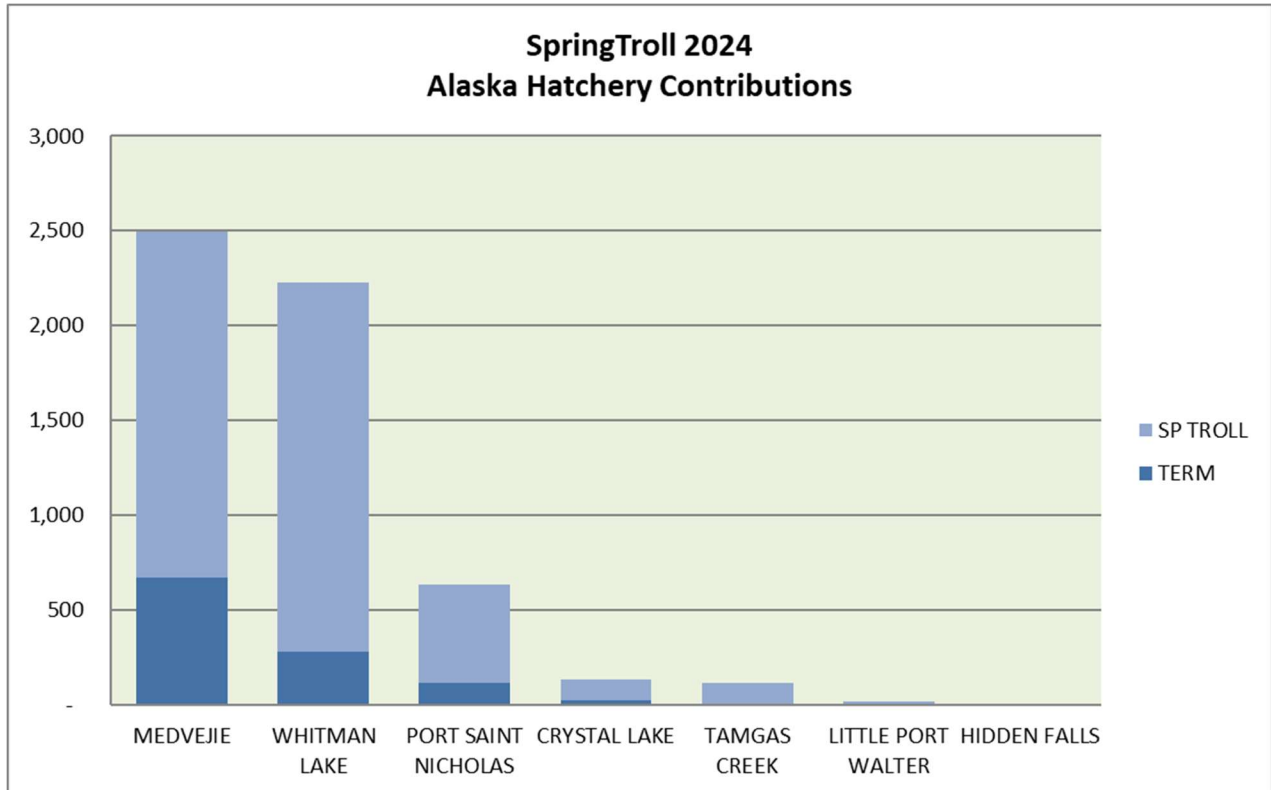
	Fishery	Total Catch	Medvejie	Hidden Falls	SSRAA	DIPAC	All AK Hatchery
Terminal	Crawfish Inlet THA	869	101	-	15		116
	Silver Bay THA	584	531	-	-		531
	Port St Nicholas THA	477	19	-	159		178
	Anita Bay THA	112	-	-	44		44
	Deep Inlet THA	50	21	-	-		21
	Carroll Inlet THA	42	-	-	42		48
	Hidden Falls THA	22	-	-	-		-
	Gunnuk Creek THA	9	-	-	-		-
	Nakat Inlet THA	-	-	-	-		-
	Thomas Bay THA	-	-	-	-		-
	Neets Bay THA	-	-	-	-		-
	Southeast Cove THA	-	-	-	-		-
	Traditional	Sitka Sound Area	4,875	1,388	-	103	
Mountain Point		2,060	-	-	1,551		1,623
Salisbury Sound		1,325	230	-	25		262
Redoubt Bay		1,263	50	-	38		88
Western Channel		983	26	-	-		26
Goddard Area		949	128	-	60		188
Bucareli Bay		804	-	-	167		180
Rock Point		339	-	-	289		313
Port Saint Nicholas		236	-	-	30		30
Yakutat Bay		233	-	-	-		-
West Crawfish Inlet		115	-	-	-		3
TOTAL		15,347	2,494	-	2,522		5,144

NOTE:

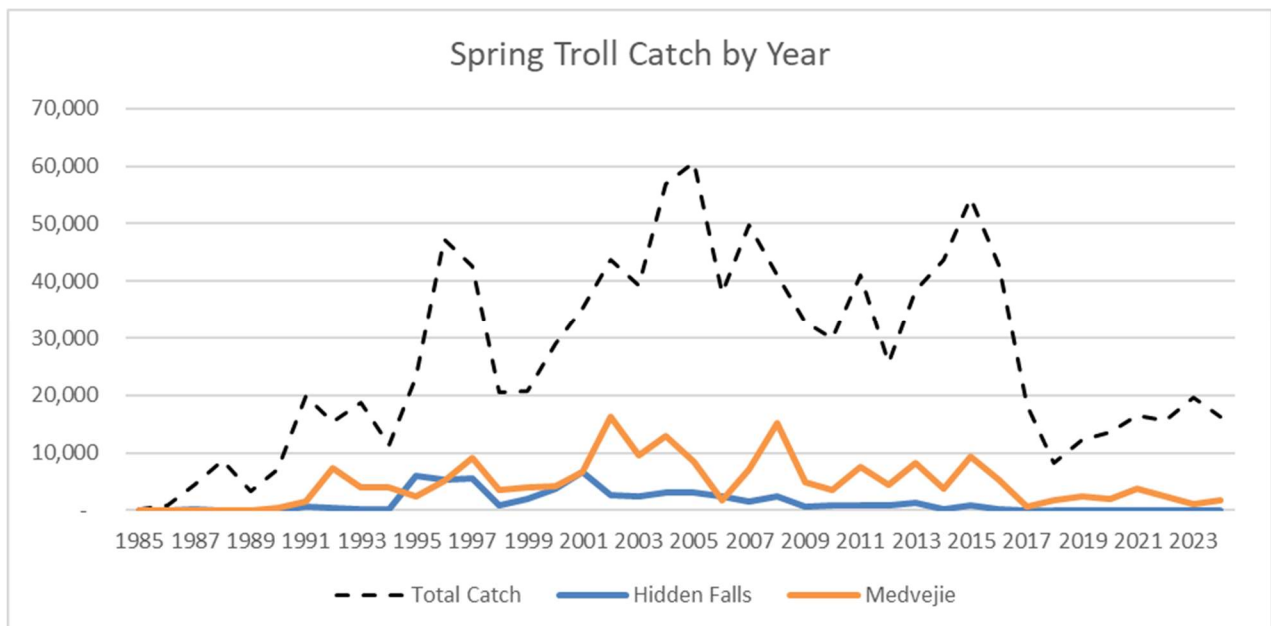
Hatchery contributions in this table are estimates based on coded-wire tag recoveries. These estimates are expansions based off fishery sub-sampling and include fractions. These values are rounded to the nearest whole number, which can also be zero.



Below are estimates for hatchery contributors to Spring troll fisheries. Medvejie is once again the largest contributor in SEAK.



Below are estimates for NSRAA contributions and total Spring Troll harvest (Traditional harvest only) over time. The NSRAA contribution of 1,822 fish in 2024 ranks 31st out of 40 years.



DATA: Spring Troll 2024.xlsx

Summer Troll Fishery (July 1 - 8, September 1-30, 2024)

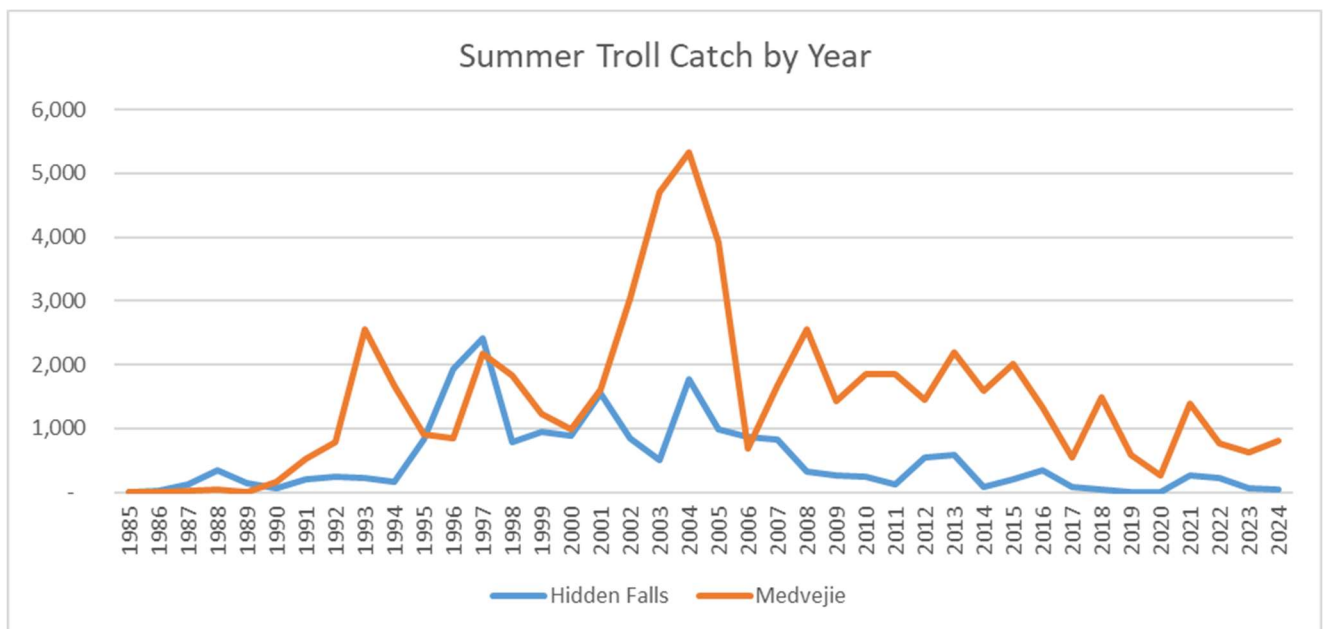
Below is a breakdown of the summer troll fishery along with the value. An estimated 86,313 Chinook were harvested in two Summer Troll openings. The first opening (July 1-8) saw a harvest of 83,168 Chinook caught in 8 days. The second summer opening lasted a month in which time all permit holders could sell up to 12 Chinook. This period saw a harvest of 3,145 fish. NSRAA contributed 839 Chinook (1.0% of catch) to the Summer Troll fishery. The value of the fishery was \$5.81 million; value of the NSRAA contribution was \$54,000.

Summer Troll Fisheries 2024

	Catch	Wt	Price	Value	Percent
Summer Troll	86,313	10.6	\$ 6.10	\$ 5,580,999	100.0%
Medvejie	795	10.6	\$ 6.10	\$ 51,396	0.92%
Hidden Falls	44	10.6	\$ 6.10	\$ 2,847	0.05%
NSRAA	839			\$ 54,243	0.97%

Opening Dates	Catch	Days Open
July 1-8	83,168	8
Sept 1-30	3,145	30
	86,313	38

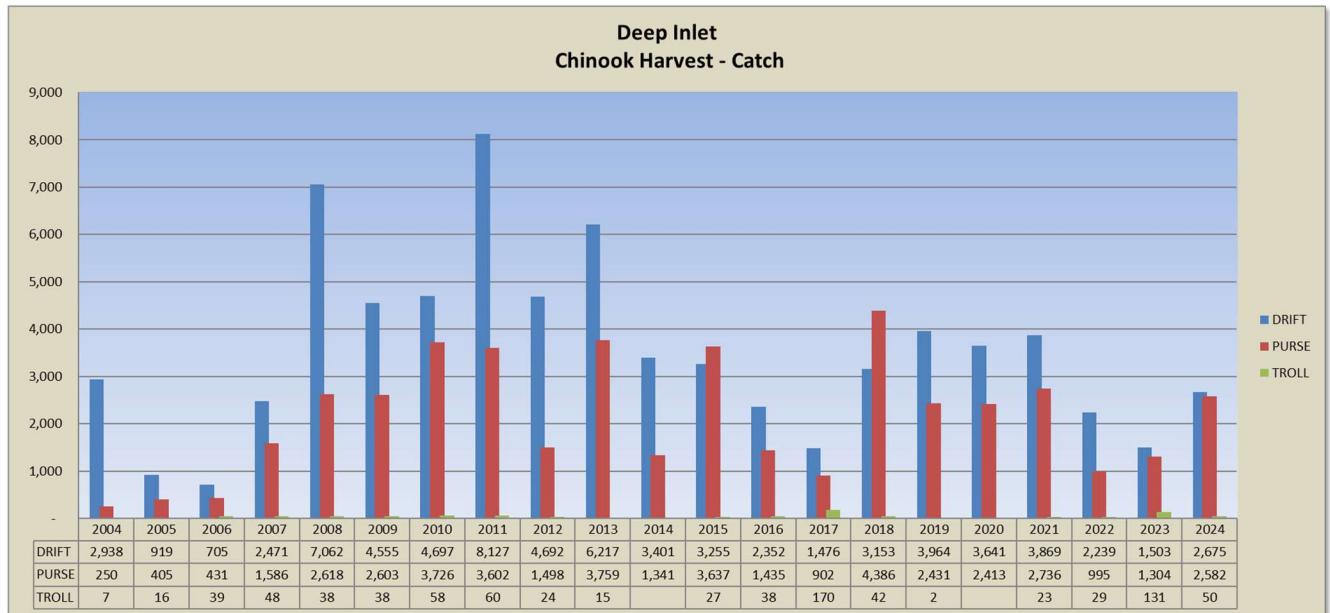
Below are estimates for NSRAA contributions to the summer troll fishery over time. The NSRAA contribution of 839 fish in 2024 ranks 29th out of 40 years.



DATA: Summer Troll 2024.xlsx

Deep Inlet Chinook

The Deep Inlet Chinook catch ranks 12th out of the past 21 years and 13th in terms of value. The harvest was even with the previous 5-year average. The value is estimated at \$252,000.

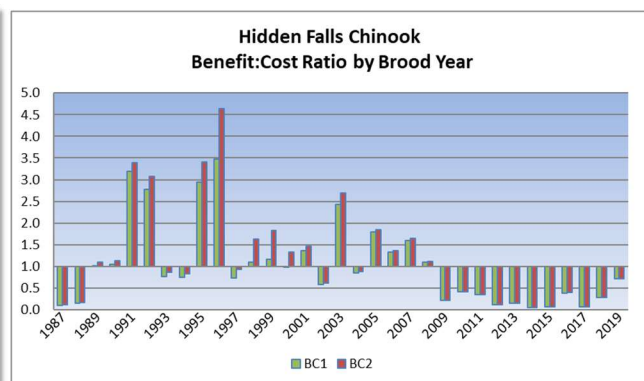
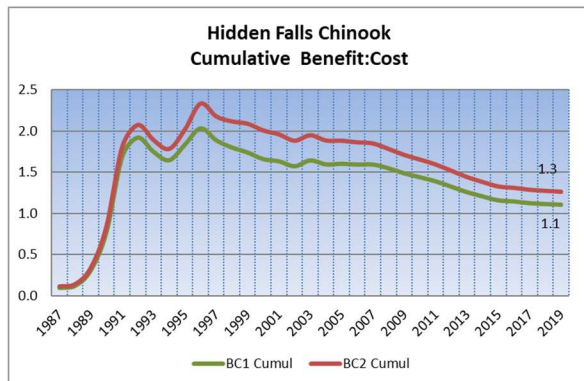


DATA: Deep Inlet Chinook Harvest 2004-24.xlsx

Hidden Falls Chinook

There were 766 Hidden Falls Chinook harvested in the seine fishery in 2024.

With this being the last year of returning 3-ocean adults, and very little chance of seeing any 4-ocean siblings, this marks the unofficial end to the Hidden Falls Chinook program for Andrew Creek stock returns to the facility. In total, nearly 27 million Chinook fry were released from Hidden falls, between 1983 and 2021. Survivals averaged 1.3% across the life of the program, producing just over 400,000 returning adults. The total seine contribution in this time was 130,000 fish and the troll contribution was 129,000 fish. The estimated commercial value was \$6.3 million, with a total value of \$7.2 million (commercial + cost recovery). The cost of this production is estimated to be \$5.7 million, meaning the program saw a cumulative benefit: cost ratio of 1.1:1 (commercial value only) and 1.3:1 (commercial + cost recovery). Cost began to consistently outweigh the benefit starting with brood year 2009. See the graphs below.



DATA: qry_Benefit_Cost_output Spring 2024.xlsx

NSRAA's Chinook Rearing History

As the nearly 40-year long Andrew Creek program at Hidden Falls comes to an end, it seems appropriate to reiterate that NSRAA has a long history of stock exploration and experimental rearing with Chinook production. NSRAA staff are constantly striving to maximize adults available for common property harvest, with NSRAA's Chinook programs implementing many different rearing strategies throughout its history. Chinook are a challenging species to culture because of their low tolerance for captivity, susceptibility to disease, long lifespans and naturally low smolt to adult ratio life histories. NSRAA's Chinook production has varied over the years with more production put towards programs that offer the best survival while still utilizing all available hatchery resources. Fish culture programs are thus constantly being reevaluated, and adjustments to release group populations are made as necessary. In addition to the Green Lake summer and salt water over winter rearing at Medvejie (both novel tactics amongst other SEAK hatcheries), NSRAA has also begun analyzing blood samples from Chinook and Coho smolts prior to saltwater entry to ensure fish are physiologically adaptable to the marine environment. Additionally, over the years NSRAA has made attempts at releasing a zero-check (subyearling) Chinook as a way of reducing costs associated with a notoriously expensive species to raise, but have been met with inconsistent, poor success. These efforts included the SeaReady™ diet and salinity trial in the early 2000's. Currently, NSRAA is collaborating with NOAA at Little Port Walter to develop the Keta River Chinook broodstock which has a natural inclination to outmigrate as a subyearling, while also experimenting with timing release of zero-check production in the fall.

The phasing out of Andrew Creek stock at Hidden Falls was simply another leap forward in the evolution of our Chinook culture. With the recent success of the Keta River production at Little Port Walter, NSRAA assumed permits to release this stock at both sites. Releases are now scheduled under NSRAA permits at Hidden Falls for 2025 and have been ongoing at Little Port Walter since 2023. NSRAA remains fully committed to utilizing the best practices available and will continue to pioneer Chinook aquaculture in Alaska.

Some noteworthy attributes of this program in the past two years are:

- Brood year 2023 was largest eggtake to date at 1.54 million green eggs with brood year 2024 just shy at 1.4 million.
- 2025 will mark the first year of Keta releases at Hidden Falls.
- The releases from Little Port Walter have already seen better survival than Andrew Creek at Hidden Falls.
- Multiple experimental strategies are underway on this stock which are outlined in the "Research" section of this book.



Coho

2024 Coho Return Overview

The Southeast Alaska (SEAK) all-gear commercial Coho harvest was 985,000 in 2024, just 67% of the 1.45 million caught in 2023. Troll fisheries saw a reduction of nearly half a million fish in 2024 from the previous season, at 577,000 fish. About 60% of the overall harvest was in northern districts, down from 73% in 2023.

While numbers were fewer, prices and fish size were up from 2023 with the summer troll price averaging \$1.96 (\$1.71 in 2023) and average weight for the season coming slightly higher at 5.6 pounds compared to the previous year's 4.9 pounds. The SEAK troll fleet harvested \$6.3 million worth of Coho, down from \$8.8 million in 2023.

Noteworthy attributes for the 2024 NSRAA Coho returns are shown below:

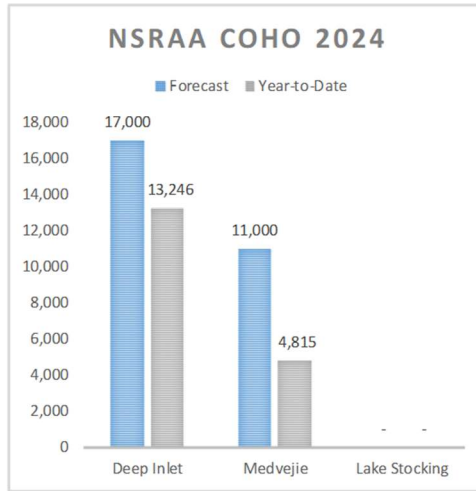
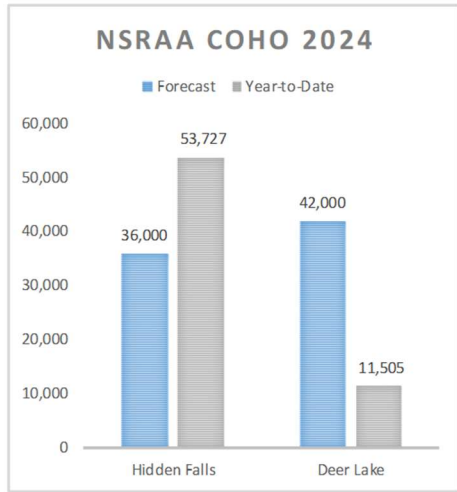
- NSRAA's Coho returns showed poor marine survival at all sites, with 2024 being the first year where all NSRAA projects have a 5-year average marine survival below 5%.
- All projects fell short of forecast except Hidden Falls
- In terms of commercial harvest, NSRAA Coho accounted for the lowest volume since 1990, the 5th lowest year in history.
- No supplemental lake stocking returns took place in 2024.
- Returns to Medvejie were poor and meeting brood stock goals required sport closures in Bear Cove as well as brood transport from Deep Inlet.
- Minimal cost recovery was available at Mist Cove compared to normal.

The following pages provide additional information for each project. Hatchery and terminal area estimates have not been finalized and these numbers may increase slightly.

Survival and returns vs forecasts are detailed below:

NSRAA 2024 COHO

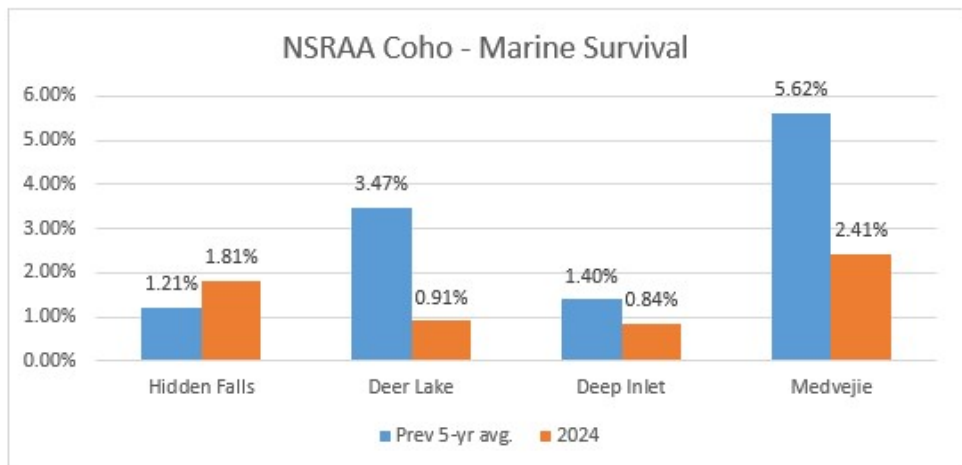
Updated: 10/17/2024



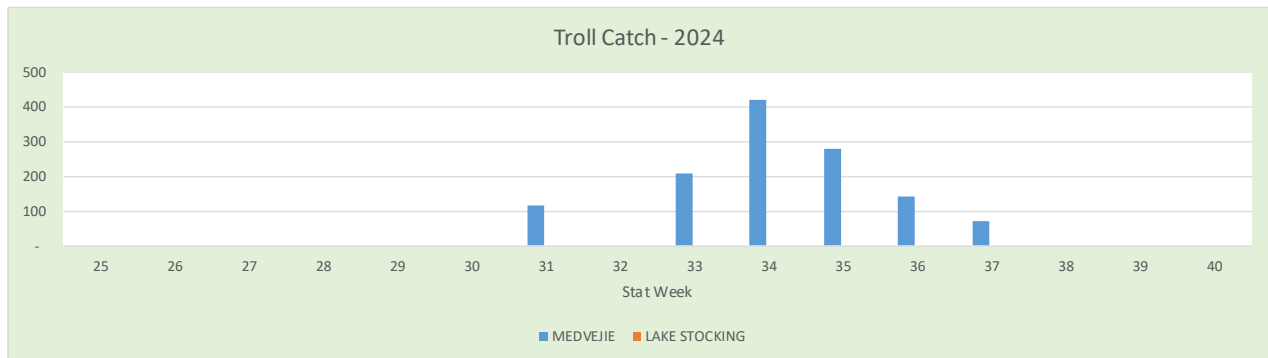
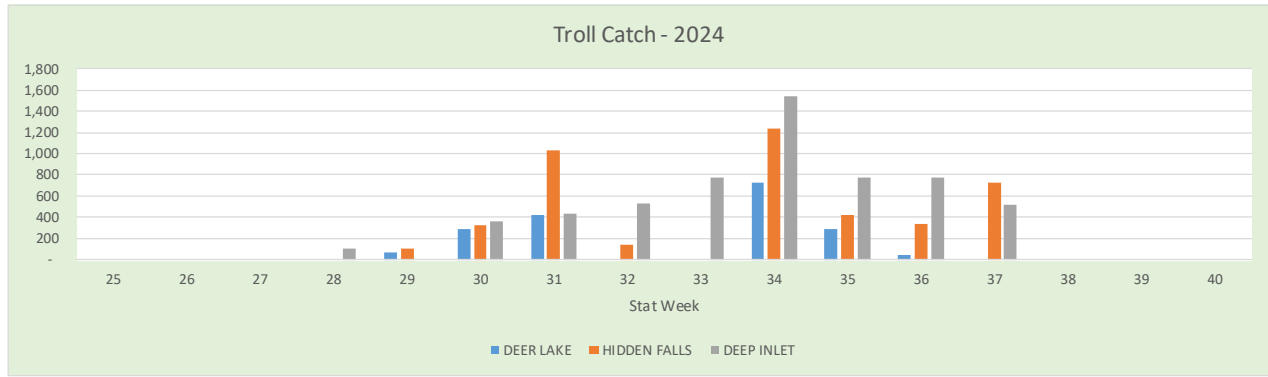
Site	Forecast	Return	% of Fcast	Smolt Release	Marine Survival to Date
Hidden Falls	36,000	53,727	149.2%	2,964,242	1.81%
Deer Lake	42,000	11,505	27.4%	1,261,409	0.91%
Deep Inlet	17,000	13,246	77.9%	1,568,497	0.84%
Medvejie	11,000	4,815	43.8%	199,477	2.41%
Lake Stocking	-	-	-	-	-
Total	106,000	83,294	78.58%	5,993,625	

Run projections are based on 5-year average marine survival rates for each project. The table and graph below show each project's 2024 marine survival compared to its 5-year average. Only Hidden Falls exceeded this average in 2024.

Site	Prev 5-yr avg.	2024
Hidden Falls	1.21%	1.81%
Deer Lake	3.47%	0.91%
Deep Inlet	1.40%	0.84%
Medvejie	5.62%	2.41%



The graphs and table below show troll harvest by week for 2024 NSRAA Coho projects:



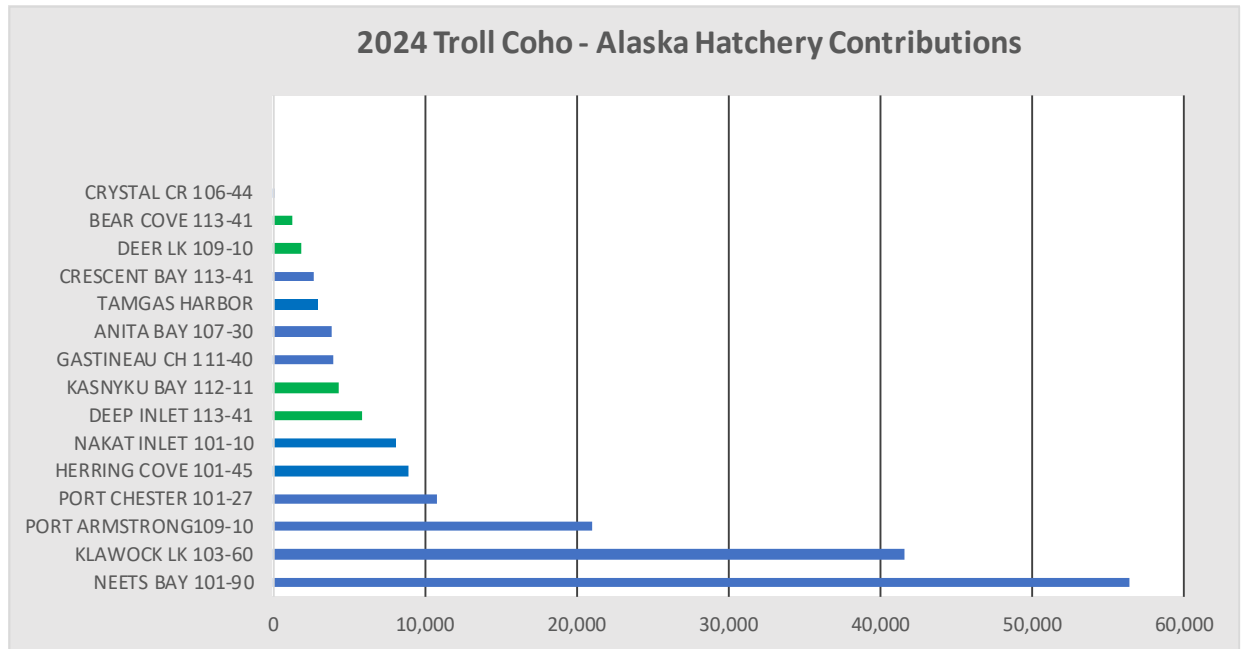
Troll

Week's end date	Week	DEER LAKE	HIDDEN FALLS	DEEP INLET	MEDVEJIE	LAKE STOCKING	TOTAL
22-Jun	25	-	-	-	-	-	-
29-Jun	26	-	-	-	-	-	-
6-Jul	27	-	-	-	-	-	-
13-Jul	28	-	-	107	-	-	107
20-Jul	29	66	99	-	-	-	165
27-Jul	30	287	325	362	-	-	974
3-Aug	31	419	1,033	431	116	-	2,000
10-Aug	32	-	148	532	-	-	680
17-Aug	33	-	-	778	210	-	989
24-Aug	34	732	1,241	1,549	421	-	3,943
31-Aug	35	283	420	776	280	-	1,760
7-Sep	36	44	338	776	140	-	1,298
14-Sep	37	-	722	516	70	-	1,308
21-Sep	38	-	-	-	-	-	-
28-Sep	39	-	-	-	-	-	-
5-Oct	40	-	-	-	-	-	-
Total		1,831	4,326	5,827	1,238	-	13,222

Data: 2024 NSRAA Coho.xlsx

NSRAA contributed an estimated 13,000 Coho to the troll fishery this season in traditional troll fisheries. No terminal troll harvest was reported.

The graph below illustrates troll totals by hatchery (from CWT data) from SEAK troll fisheries. NSRAA represented only 8% of the total SEAK troll contribution in 2024. The vast majority of hatchery Coho production in SEAK came from SSRAA this year.



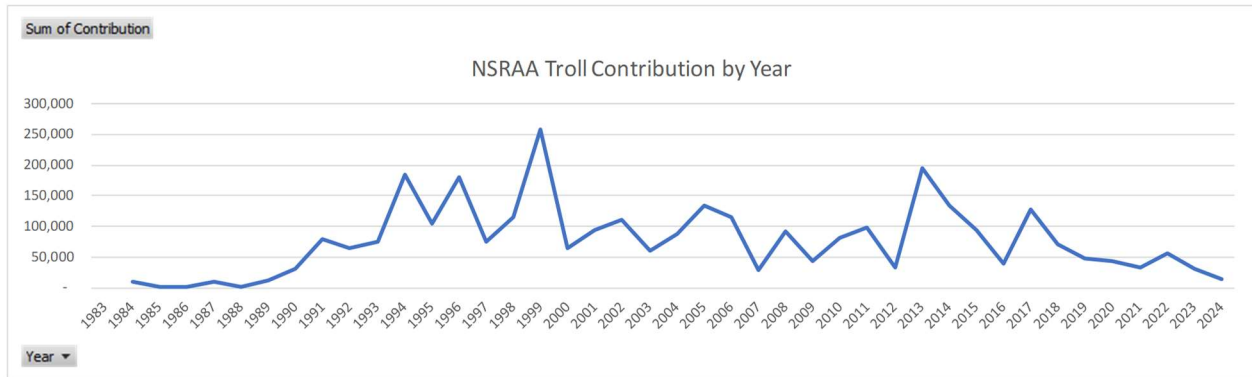
Year	2024	
Gear Class	TROLL	
State	AK	
Rearing Code	H	

Site	Sum of Contribution
CRYSTAL CR 106-44	129
BEAR COVE 113-41	1,252
DEER LK 109-10	1,832
CRESCENT BAY 113-41	2,642
TAMGAS HARBOR	2,944
ANITA BAY 107-30	3,883
GASTINEAU CH 111-40	3,998
KASNYKU BAY 112-11	4,341
DEEP INLET 113-41	5,879
NAKAT INLET 101-10	8,149
HERRING COVE 101-45	8,986
PORT CHESTER 101-27	10,780
PORT ARMSTRONG109-10	20,991
KLAWOCK LK 103-60	41,648
NEETS BAY 101-90	56,422
Grand Total	173,877

NSRAA	13,304
NSRAA Percent	8%

Data: 2024 SEAK HATCHERY Coho

The graph and table below illustrate NSRAA troll contributions over time, with 2024 being the lowest since 1989.



Sum of Contribution	Column Labels	BEAR COVE 113-41	DEEP INLET 113-41	KASNYKU BAY 112-11	Grand Total
Row Labels	CLR				
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			5,231	78,576
1992	54,460		57	3,513	64,054
1993	45,219		307	11,300	75,483
1994	101,761		299	11,755	151,426
1995	36,895		94	1,984	99,719
1996	67,933		318	2,052	171,998
1997	45,734		81		72,734
1998	36,593		549		101,702
1999	145,245		688		245,757
2000	7,501		611		64,546
2001	21,856		329		91,904
2002	32,668		268		105,462
2003	14,225		488		53,627
2004	13,354		298		78,584
2005	56,252		317	406	119,754
2006	39,152		323		109,834
2007	7,459		86	1,294	29,004
2008	665		3	658	92,564
2009	8,250		7	118	44,346
2010	17,094			191	82,049
2011	23,638				98,408
2012	17,833		593	2,886	32,279
2013	133,709		2,620	6,289	195,958
2014	98,127		3,525	9,452	134,396
2015	69,905		2,212	7,201	94,917
2016	12,946		3,323	10,427	38,491
2017	60,637		12,177	35,476	127,182
2018	12,503		8,051	40,050	69,890
2019	17,612		6,075	15,510	47,735
2020	15,946		6,646	16,579	42,698
2021	10,437		6,588	9,314	33,506
2022	41,066		4,266	2,298	55,322
2023	13,151		5,012	6,961	31,413
2024	1,832		1,252	5,879	13,304
Grand Total	1,407,922	67,463	207,267	1,322,993	3,005,645

Data: Historical NSRAA Troll Coho Contributions

Seine Coho contributions were down significantly in 2024, with nearly all seine harvest taking place outside of the THA's in traditional fisheries. Port sampling for terminal area harvest is generally very low. As a result, NSRAA calculates "add-ons" based off fish ticket data to account for NSRAA fish in these under-sampled areas/weeks. Seine harvest by week for NSRAA projects are shown below along with the add-on's, totaling 2,664 fish for the year in seine fisheries.

Purse Seine

Week's end date	Week	DEER LAKE	HIDDEN FALLS	DEEP INLET	MEDVEJIE	LAKE STOCKING	TOTAL
6-Jul	27	-	-	-	-		-
13-Jul	28	-	-	-	-		-
20-Jul	29	-	-	-	-		-
27-Jul	30	-	230	76	-		306
3-Aug	31	-	20	89	-		109
10-Aug	32	-	-	-	-		-
17-Aug	33	-	-	157	-		157
24-Aug	34	-	-	97	172		269
31-Aug	35						
7-Sep	36						
14-Sep	37						
21-Sep	38						
28-Sep	39						
5-Oct	40						
Total		-	250	418	172	-	840

Gear	DEER LAKE	HIDDEN FALLS	DEEP INLET	MEDVEJIE	LAKE STOCKING	TOTAL
SEINE	-	250	418	172	-	840
SEINE ADD-ON	-	583	1,230	11		1,824

No NSRAA Coho tags were recovered in gillnet fisheries this year, however a total of 741 Coho were reported as gillnet harvest in Deep Inlet and apportioned to both Medvejie and Deep Inlet projects as add-on's according to historical averages.

Gear	DEER LAKE	HIDDEN FALLS	DEEP INLET	MEDVEJIE	LAKE STOCKING	TOTAL
DRIFT	-	-	-	-		-
DRIFT ADD-ON	-	-	667	74		741

Data: 2024 NSRAA Coho.xlsx

NSRAA projects again made contributions to sport fisheries. 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. The sport total for 2024 was 4,292 fish.

Sport

Week's end date	Week	DEER LAKE	HIDDEN FALLS	DEEP INLET	MEDVEJIE	LAKE STOCKING	TOTAL
22-Jun	25	-	-	-	-	-	-
29-Jun	26	-	-	-	-	-	-
6-Jul	27	-	-	-	-	-	-
13-Jul	28	-	-	-	-	-	-
20-Jul	29	-	-	-	-	-	-
27-Jul	30	-	-	407	-	-	407
3-Aug	31	-	-	348	232	-	580
10-Aug	32	-	60	321	174	-	555
17-Aug	33	131	78	479	65	-	753
24-Aug	34	131	76	237	65	-	509
31-Aug	35	-	-	240	262	-	502
7-Sep	36	-	-	485	-	-	485
14-Sep	37	-	-	-	-	-	-
21-Sep	38	-	-	-	-	-	-
28-Sep	39	-	-	-	-	-	-
5-Oct	40	-	-	-	-	-	-
Total		262	214	2,518	798	-	3,792

Gear	DEER LAKE	HIDDEN FALLS	DEEP INLET	MEDVEJIE	LAKE STOCKING	TOTAL
SPORT	262	214	2,518	798	-	3,792
SPORT - TERMINAL	500					500

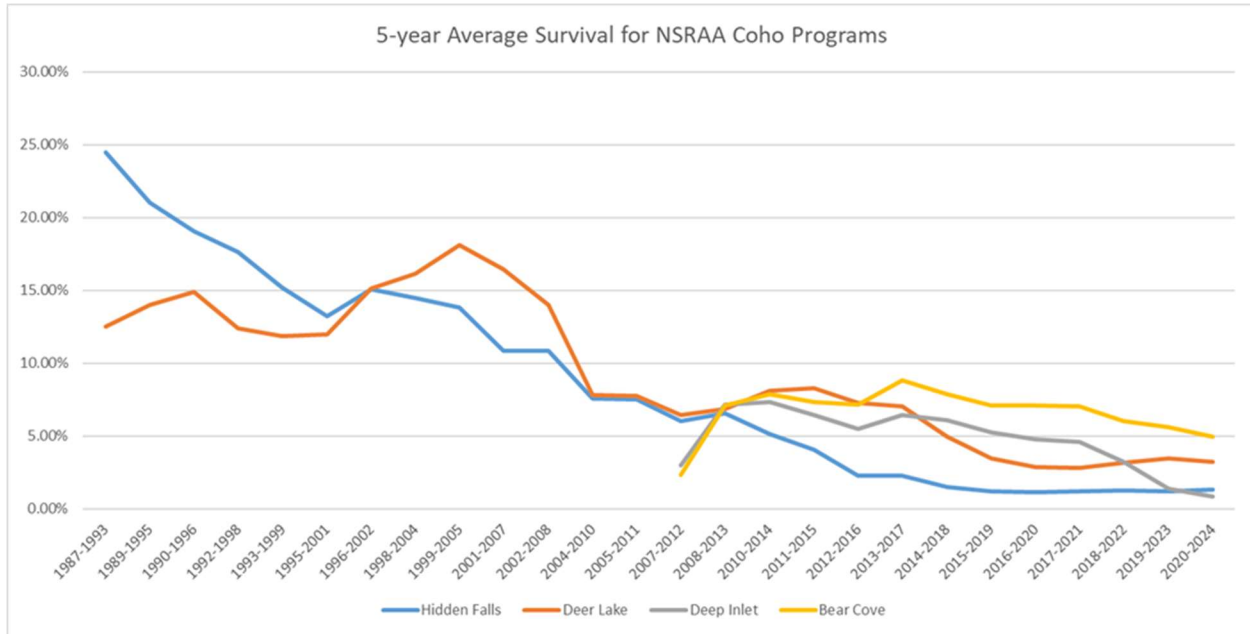
Total NSRAA Coho returns are summarized in the tables below: The total return for 2024 is estimated at just over 83,000.

Summary

Gear	DEER LAKE	HIDDEN FALLS	DEEP INLET	MEDVEJIE	LAKE STOCKING	TOTAL
TROLL	1,831	4,326	5,827	1,238	-	13,222
TROLL ADD-ON	-	-	-	-	-	-
SEINE	-	250	418	172	-	840
SEINE ADD-ON	-	583	1,230	11	-	1,824
DRIFT	-	-	-	-	-	-
DRIFT ADD-ON	-	-	667	74	-	741
SPORT	262	214	2,518	798	-	3,792
SPORT - TERMINAL	500					500
COST RECOVERY	5,413	33,801	1,800	200	-	41,214
RACK		7,553	786	1,322	-	9,661
TERMINAL-OTHER	3,500	7,000		1,000	-	11,500
Donation						-
Total	11,505	53,727	13,246	4,815	-	83,294

Data: 2024 NSRAA Coho.xlsx

Survivals of NSRAA Coho have varied widely but have been on the decline for decades, with 2020-2024 being the first period where the 5-year average is below 5% for all programs.



Data: 2024 NSRAA Coho.xlsx

Like Chinook, NSRAA's Coho rearing strategies and release tactics have evolved to try and mitigate mortality in rearing and maximize survival post release. Below are on-going examples of these adjustments and trials as NSRAA continues to strive for increased survival and commercial value:

- Hidden Falls
 - o Tender/Tow releases to avoid predation
- Sawmill Creek/Medveje
 - o Bacterial Kidney Disease tracking of all broodstock at Sawmill Creek
 - o Density trial of juveniles at Sawmill Creek to determine whether rearing density selects for fitness
- Deer Lake
 - o Retaining a portion of fish in overwinter netpens to shield from in-lake rainbow trout predation and early emigration prior to weir installation
 - o Monitoring for early lake-release emigration using Passive Integrated Transponder (PIT) tagging technology (pending budget approval)



Chum

2024 Chum Return Overview

Coming off the 2023 season, we again expected an uptick in chum returns to our summer stock programs, forecasting all-time records for Medvejie, Gunnuk Creek, and Thomas Bay. While Southeast Cove was expected to be meager, the Gunnuk Creek return was anticipated to be 5x larger than anything NSRAA has seen for this site. Similarly, Medvejie summer stock returns to the hatchery were expected to be 3x larger than the previous record. Considering the minimal egg take needs from either of these sites for summer chums, cost recovery was structured to maximize interception on these summer returns, to alleviate the burden on staff and maximize value. Expectations for fall stock returns were average with Crawfish Inlet again selected for cost recovery, at 38% of the revenue goal for 2024. Medvejie and Deep Inlet were slated to pick up another 45% of the revenue, and the remaining 18% would come from Southeast Cove, Gunnuk, and Hidden Falls. Ideally, with the massive forecast of summer chum returning to the Sitka area, most (or all) of this harvest could occur before the fall run. Careful planning went into breaking the cost recovery need into manageable chunks that would be desirable and competitive for processors, while limiting the risks of run shortages. Additionally, some revenue was pre-awarded in 2023 under special circumstances that allowed both parties to survive the market crash. Luckily, bid prices for both Crawfish and the Sitka area came back above expectations, meaning if the returns reach the forecast, there should be room for additional commercial harvest. As an additional precaution, Deep Inlet proper was reserved for cost recovery only from the start of the season, while still allowing rotational fisheries in the outer part of the THA. The plan had many moving parts but seemed like the best possible approach.

As the season kicked off, test fisheries and early harvest showed a very large volume of chums entering the Chatham Strait corridor earlier than anticipated. Samples from these fisheries suggested the NSRAA component was well represented. Things appeared to be shaping up better than expected with sampling test fisheries proving to be easy for once. That said, as the volume at Hidden Falls ramped up much faster than expected, the male sex ratio began

dropping weeks earlier than normal. This caused concerns that the summer run would peak early and not make forecasts. But the volume hardly relented and after a brief lull in mid-July, Hidden Falls remained on target, coming in at 95% of the forecast. It appears that a second pulse of fish, likely from the south, was what drove this phenomenon. This trend held true at all other inside summer sites as well, with male sex ratios and volume dropping temporarily, prior to a second pulse of new fish.

At Hidden Falls, staff were able to again use drone technology to effectively manage for broodstock with minimal surplus, allowing the best possible utilization by the seine fleet. Egg takes began early on July 12th, spanning just 19 days with a minimal surplus. By the end, it was the largest return to Hidden Falls since 2009, largest seine harvest in a decade, and highest survival of 3-year-olds to Hidden Falls since 1979, doubling last year's record! Thomas Bay nearly topped the high end of the forecast at just under 500,000 fish. Early and aggressive cost recovery also proved to be effective for summer chums at Medvejie, maximizing value of hatchery bound fish.

Unfortunately, while the management of summer rack returns to Hidden Falls and Medvejie was going well, cost recovery as a whole was not. Gunnuk Creek came at only 28% of the forecast. With common property harvest occurring at Southeast Cove at the start of the season, it became apparent that there were simply not enough fish to make the goal without a closure, which occurred at the end of stat week 29. The remaining 90,000 chums at Southeast Cove were taken for cost recovery, leaving us at 64% of that cost recovery goal, and accounting for 11% of the loss in revenue in 2024. Issues arose in the Sitka area as well. Keeping the head of Deep Inlet closed did not have the desired effect and despite some opportunity, the Eastern Channel SHA remained mostly closed due to regulation and proved to be minimally effective. With not much for a build and copious common property opportunity, cost recovery harvesters tended to catch what was readily available and quickly moved on, leaving us well behind expectations as the summer return wound down. It became apparent that a full Deep Inlet closure would be warranted to keep up with the cost recovery. This came into effect on July 8th.

Cost recovery progress remained slow and arduous during the closure, with some low-price harvest contracts the processor incentives to their fleets resulting in minimal interest and involvement from the fleet. Progress was made more difficult near Sitka when a warmer and drier than average period hindered fish movement into the THA during the peak of the fall return. Pink salmon directed fisheries were also more prevalent in Sitka Sound this year with the 7th highest volume of pinks landed in 43 years. These variables created a perfect storm of chum interception by traditional seine and troll fisheries, which landed nearly 1.2 million chums collectively, the largest volume on record and highest interception rate on the fall stock since robust otolith data collection began in 2013. With NSRAA fish being caught regardless of our actions in the terminal area, and to allow some gillnet access, Deep Inlet reopened in a limited capacity on August 8th. With traditional, terminal, and cost recovery fishing all taking place simultaneously, week 33 topped 1-million chum for the Sitka area, the largest weekly total on record. Naturally, the following weeks saw a massive drop in numbers and broodstock availability at Medvejie became the chief concern. As seine openers in Sitka Sound finally relented, NSRAA closed Deep Inlet for the remainder of the season on August 25th, allowing what was left to be utilized by NSRAA. In the end, cost recovery would fall short for the Sitka Area, at 84% of goal lbs. landed, accounting for an additional 18% of the loss of revenue in 2024. Medvejie did make broodstock goals but with little to spare.

Crawfish was therefore the last hope for making up any losses and had already been selected to carry 44% of the year's cost recovery. Since the Crawfish return in 2024 was projected to be comprised of 33% 3-year-olds, it came as a deadly blow when this age class fell disastrously

short at just 18% of projection (79,000 fish). Such a catastrophic shortfall of three-year-olds has never been seen in that program’s history and is a frightening prospect for what is to come. With the lack of this later returning age class, cost recovery fell short here as well at just 48% of goal lbs., accounting for the remaining 72% loss of revenue in 2024. West Crawfish saw a relatively average traditional seine harvest to mitigate any buildup or straying into the head stream and troll conditions were much more favorable in Sitka Sound. The season ended with total cost recovery coming in at 66%, over \$3 million in unrealized revenue, and substantial time and area restrictions to commercial fishing at Deep Inlet and Southeast Cove.

Again, it is important to look at the positives. Prices, traditional fisheries, and weather are variables that NSRAA cannot control. While most would have preferred better utilizations of our chum returns this year, no wasteful cleanup events took place like they did in 2023. Carcass disposal, while arduous, was manageable at the hatcheries thanks to our preparation and actions. Despite some run shortages in key areas, we are again forecasting a return that could top the record books, with Hidden Falls having the potential to reach numbers never seen before. Forecast methodology continues to evolve as we seek to incorporate fish condition upon release, predator surveillance, and growth analysis into our models. Perhaps most importantly, NSRAA staff and board continue to work cohesively in carrying out our mission and NSRAA remains financially viable. We remain poised to utilize our diverse and comprehensive chum programs, the newest of which were built with the purpose of withstanding years such as this.

Further details on each project are outlined in the following pages, as well as value summaries, and the 2025 forecasts.

Comparisons of all chum projects for 2024 relative to 2023 and 2024 forecasts are shown below. Overall, NSRAA saw 32% more chums in 2024 than in 2023, coming in at 108% of the total forecast.

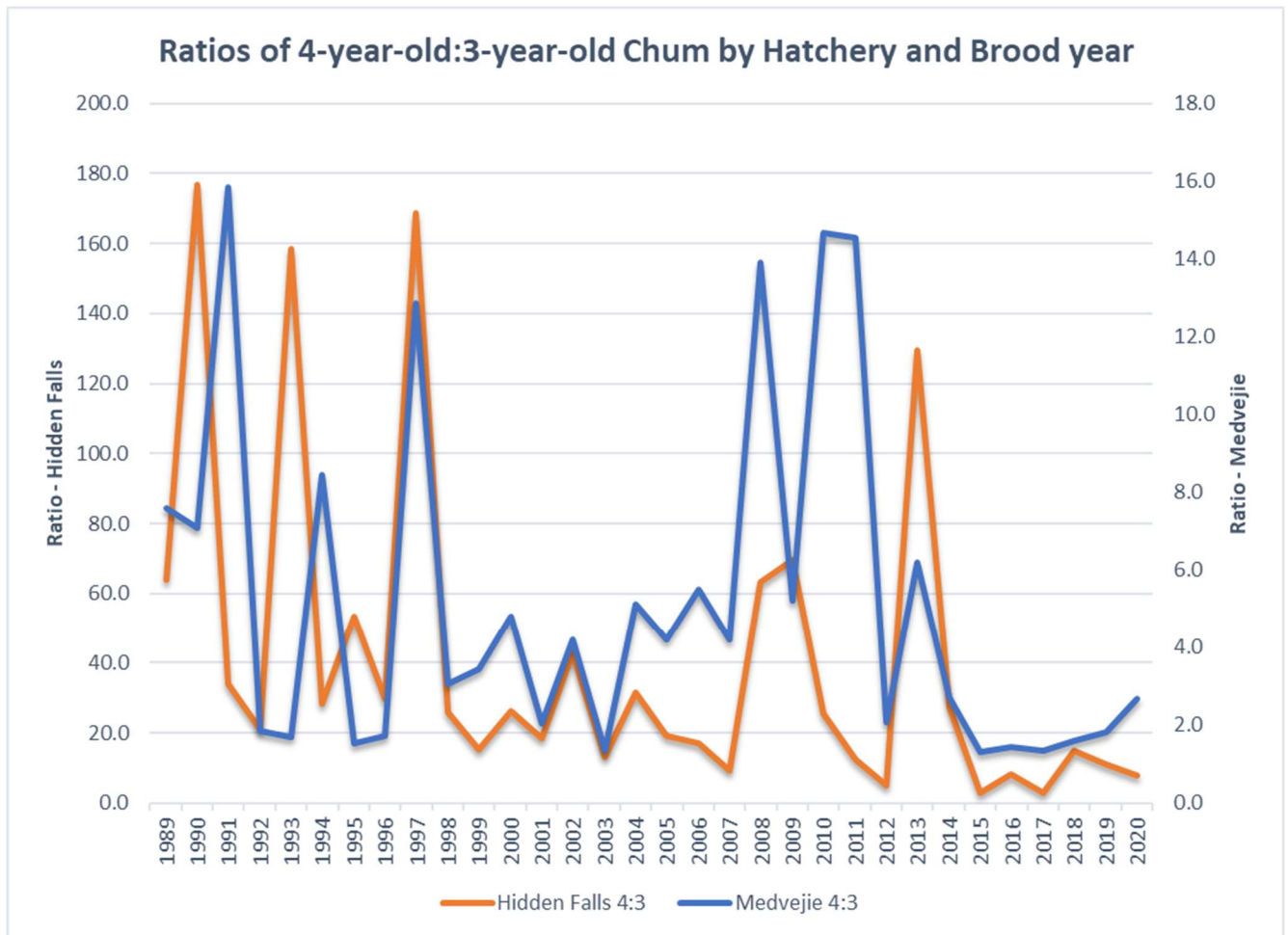
Project	2024	2024 Forecast	Pcmt of Fcast	2023	2024 as Pcmt of 2023
Hidden Falls	1,468,288	1,553,000	95%	1,248,904	118%
Deep Inlet	3,244,017	2,454,000	132%	1,588,510	204%
Crawfish Inlet	1,016,257	1,336,000	76%	1,659,084	61%
Southeast Cove	398,672	215,000	185%	383,575	104%
Gunnuk Creek	58,904	211,000	28%	37,997	155%
Thomas Bay	480,359	381,000	126%	130,034	369%
	6,666,497	6,150,000	108%	5,048,103	132%

Data: 2024 set salmon Harvest by area 10.15.24

Fish Size and Age at Return

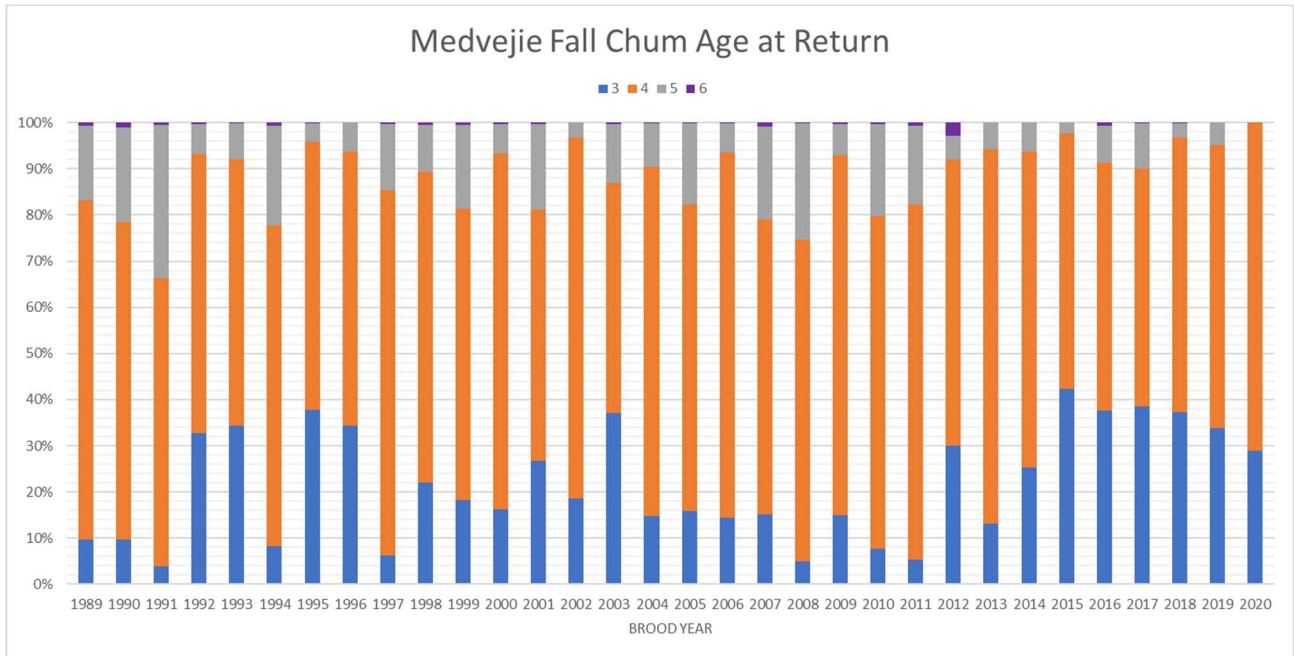
While we have seen fluctuations in our age at return ratios over time for both Hidden Falls and Medvejie chum, the past ten years have shown a shift to fewer old and more young fish. Six-year-old chums have become essentially non-existent and ratios of 4:3-year-old chum have decreased and remained more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

Ratios of 4:3-year-old chum by brood year and hatchery stock are shown below. Note the two vertical axes on this chart, since the two stocks exhibit similar trends but different magnitudes of 3-year-old returns.

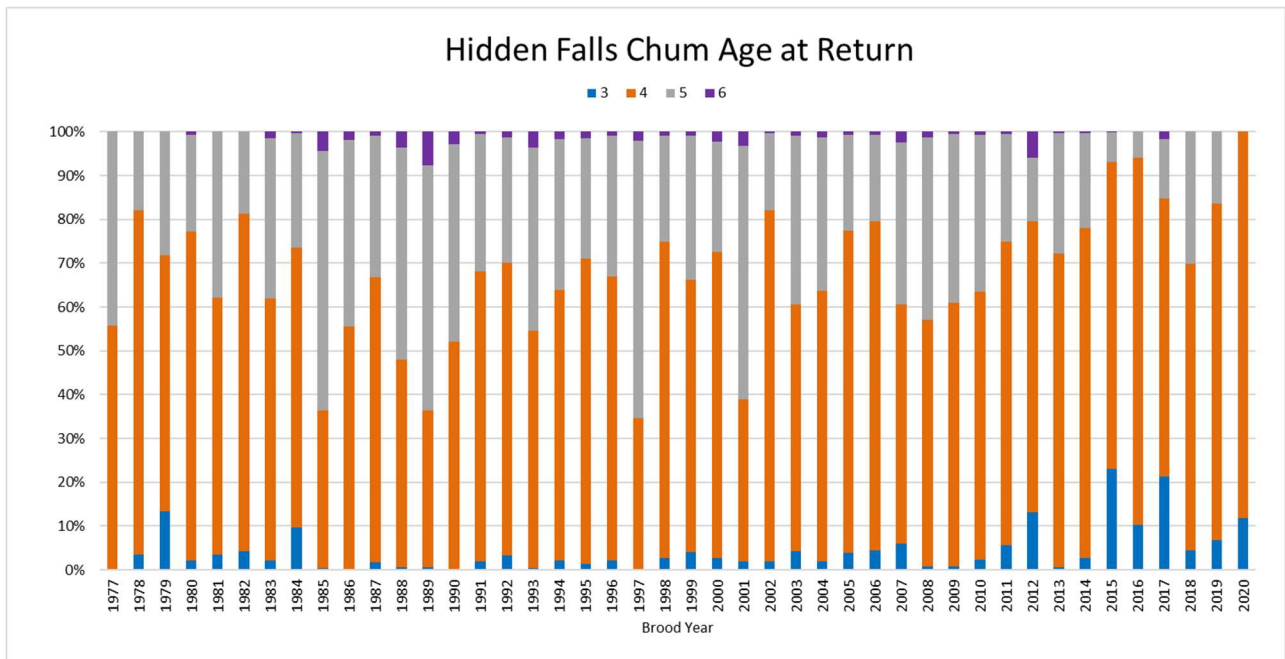


Data: 2024 BC & DI Forecasts – NEW.xlsx

The Percent Age at Return by Brood Year at Medvejie are shown below. Note the higher prevalence of three-year-olds fluctuating over time, eventually displacing the oldest age classes which have nearly disappeared altogether.

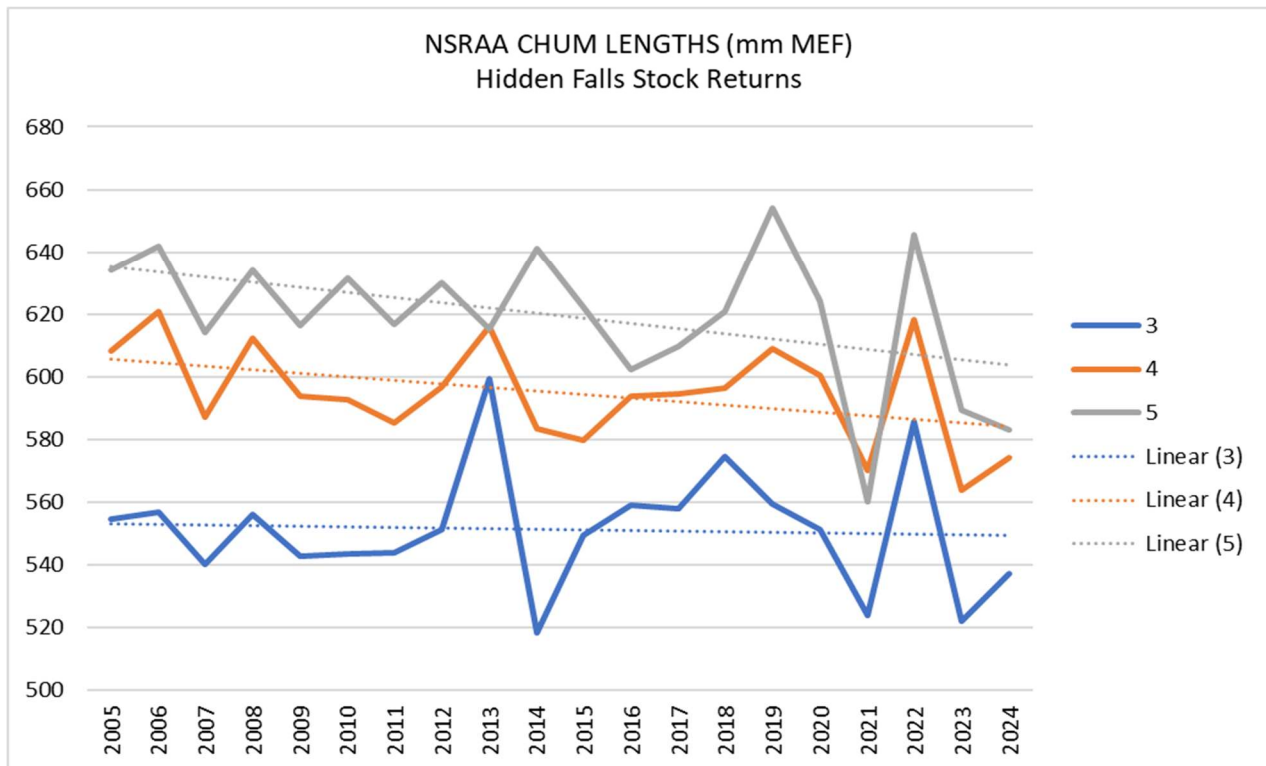


The Percent Age at Return by Brood Year at Hidden Falls shown below. Notice the more radical increase of three-year-olds in recent years and decrease in the oldest age classes over time.

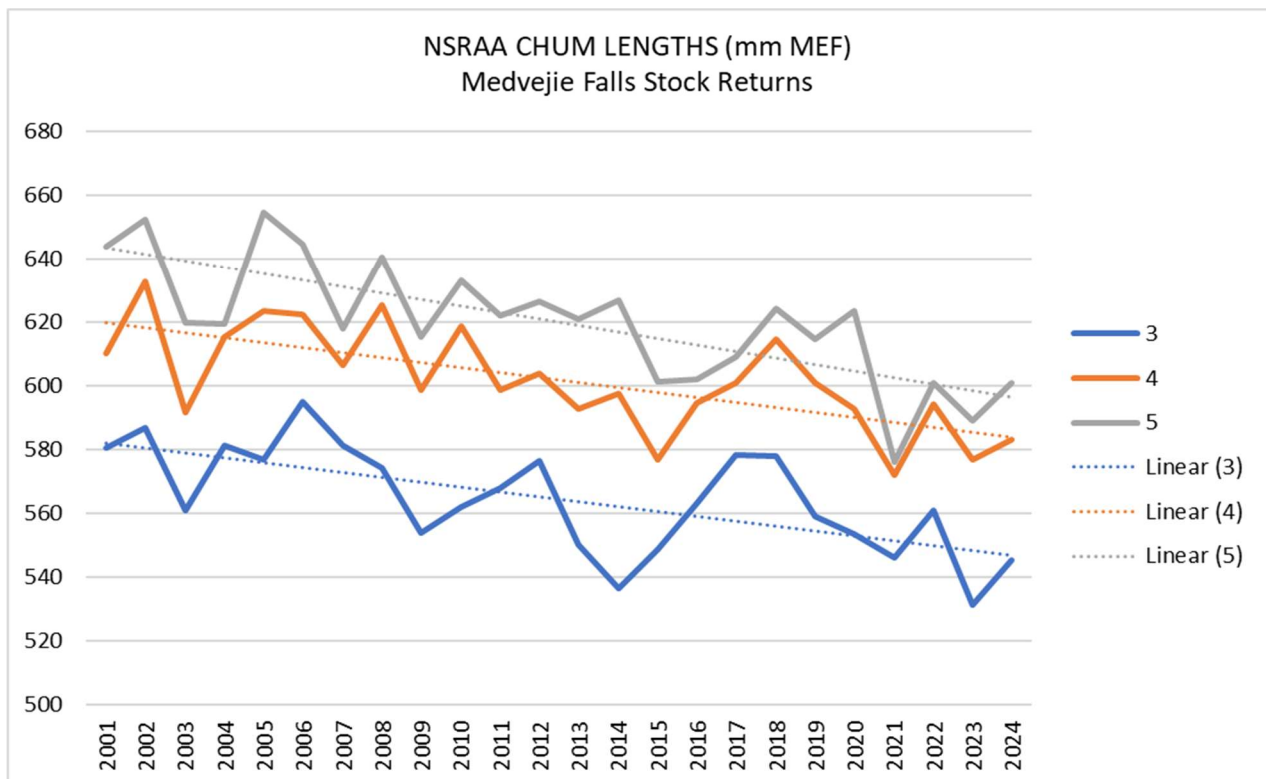


Data: 2024 HF Chum Projects Forecasts – NEW.xlsx

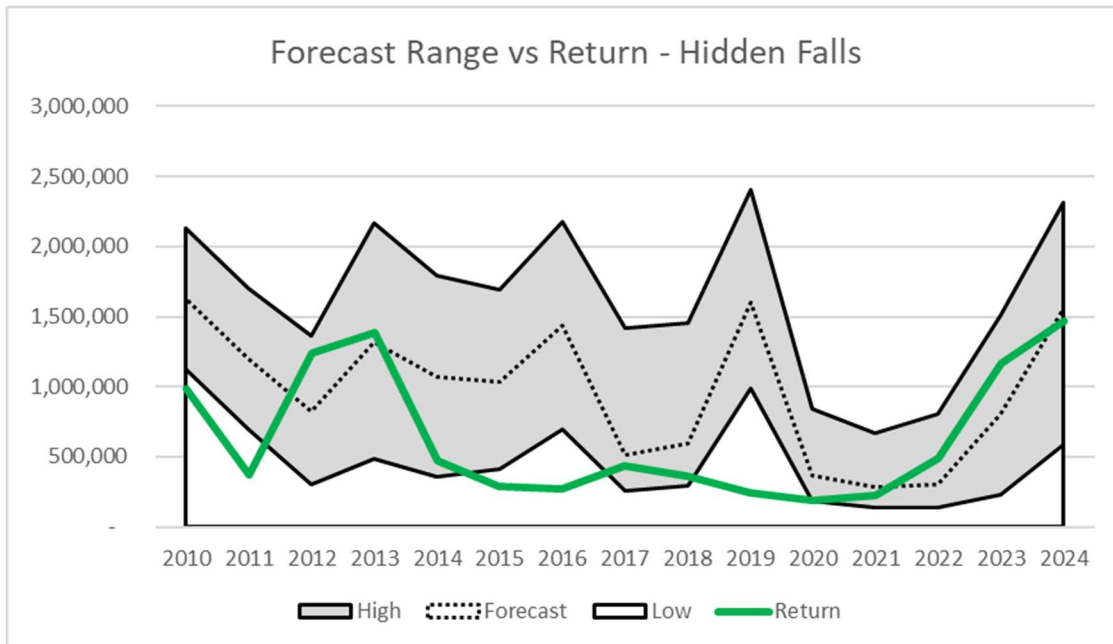
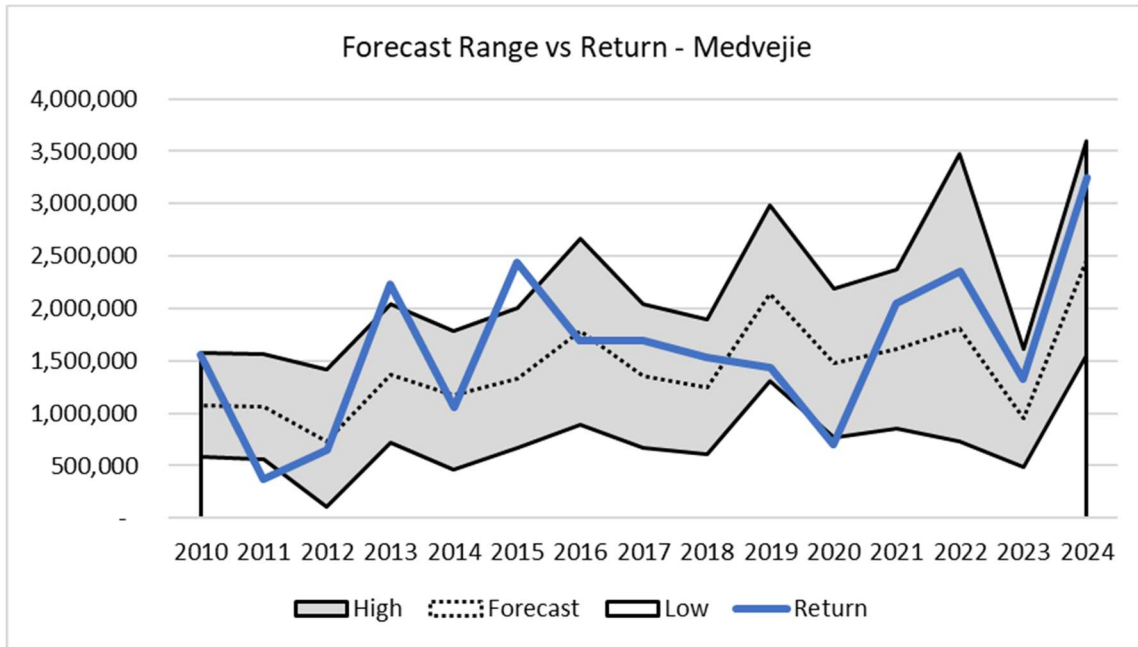
Fish have also been getting smaller, not simply from the higher prevalence of younger fish, but within most age/sex cohorts. The Hidden Falls chums seem more susceptible to shifts in length at return. Average of Length (mm mid-eye to tail fork) by return year and age for Hidden Falls projects shown below.



Average of Length (mm mid-eye to tail fork) by return year and age for Medvejie projects shown below. The decrease in size across all age classes is much more apparent with this stock.



Recent adjustments to forecasting methods have resulted in point estimates that more consistently track actual return figures that fall within the forecast range. Forecast ranges to actual returns are shown below for Medvejie and Hidden Falls chum.



Data: Forecast to actual summary.xlsx

Hidden Falls Chum Return

Hidden Falls continues its resurgence in chum returns with 2024 experiencing several record-breaking run attributes, including:

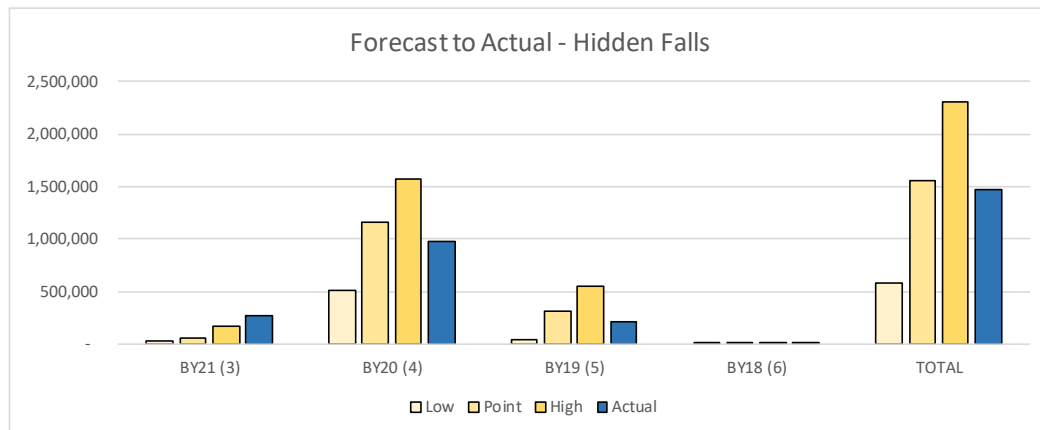
- Largest seine harvest since 2013 – over 950,000.
- Highest 3-year-old survival since 1979 and most 3's ever, at nearly 270,000 in 2024
- Continued, albeit reduced success from tendered release program - adding an estimated 380,000 fish to date.

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 THA for brood concerns or collection. Drone technology has allowed NSRAA staff to more accurately gauge volume and recruitment for volitional collection.

Below is the 2024 weekly schedule and return vs forecast for Hidden Falls in 2024:

Hidden Falls	Sun	Mon	Tue	Wed	Thu	Fri	Sat
	Seine					Seine	

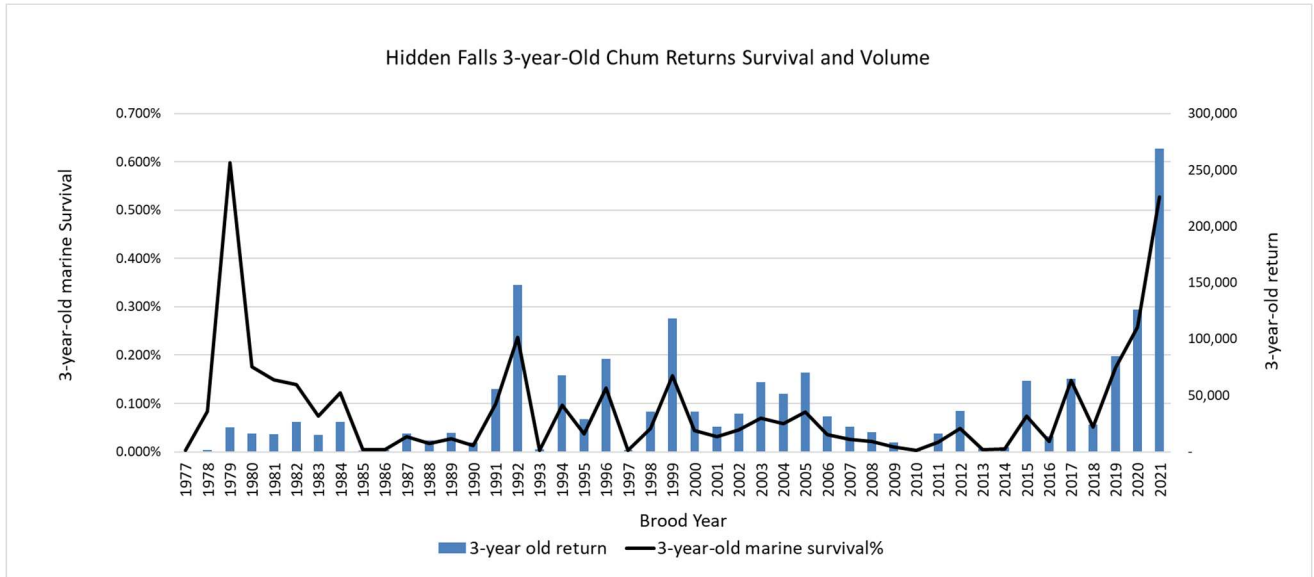
	BY21 (3)	BY20 (4)	BY19 (5)	BY18 (6)	TOTAL
Low	25,000	516,000	46,000	1,000	588,000
Point	60,000	1,168,000	319,000	6,000	1,553,000
High	167,000	1,576,000	560,000	9,000	2,312,000
Actual	268,987	979,995	217,102	2,205	1,468,288
% of Point Forecast	448%	84%	68%	37%	95%



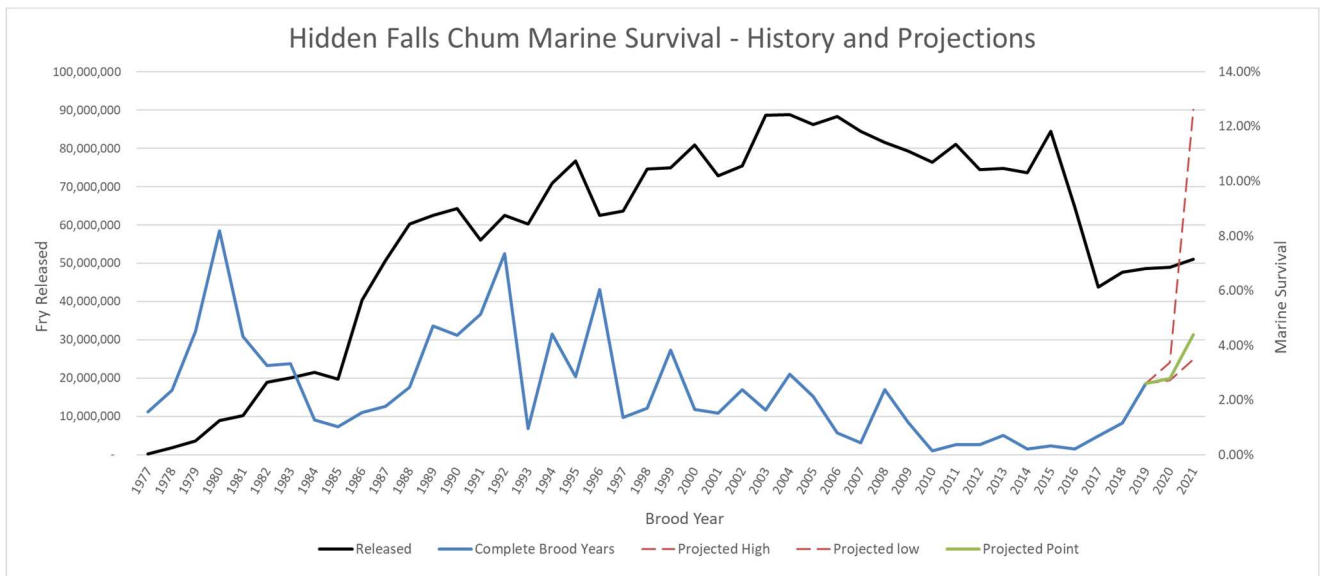
DATA: 2024 BIG Picture all years 10.14.24 - BD meeting

Hidden Falls came in at 95% forecast overall, with the three-year-olds coming in at 4.5x the forecasted total and other age classes underperforming relative to forecast. The brood year 2021 three-year-old survival is the highest in the program's history, effectively doubling the record that was set with brood year 2020. This was also the largest volume of 3's back to the site since 1979, despite fewer chums being released at Hidden Falls due to shifts in production to other (newer) NSRAA release sites. Such an unprecedented return of three's does make forecasting a challenge but fortunately the challenge lies mainly in discerning how large is too unrealistic, with nearly all models projecting returns over 2-million fish, and some as many as 13 million. We might wonder whether this is another age shift, but even the most conservative estimates put us at a historically high marine survival for brood year 2021. Scale growth analysis this winter should shed some light on this and be reflected in final forecasts in the spring.

The partial marine survivals for three-year-old chum returns to Hidden Falls are detailed in the table below. Note the radical increase in volume and survival in recent years.



Marine survival for complete brood years are shown below along with estimated survival ranges for incomplete brood years. The projected high marine survival is based off using historical age classes for all years, at an unrealistic 12.6% for brood year 2021. The projected low marine survival is based off using only years with anomalously high 3-year-old fractions. Because these most anomalous age shifts occurred between 2012 and 2017, point estimates used for forecasting brood years 2020-2021 are slightly higher than the low end of the range.

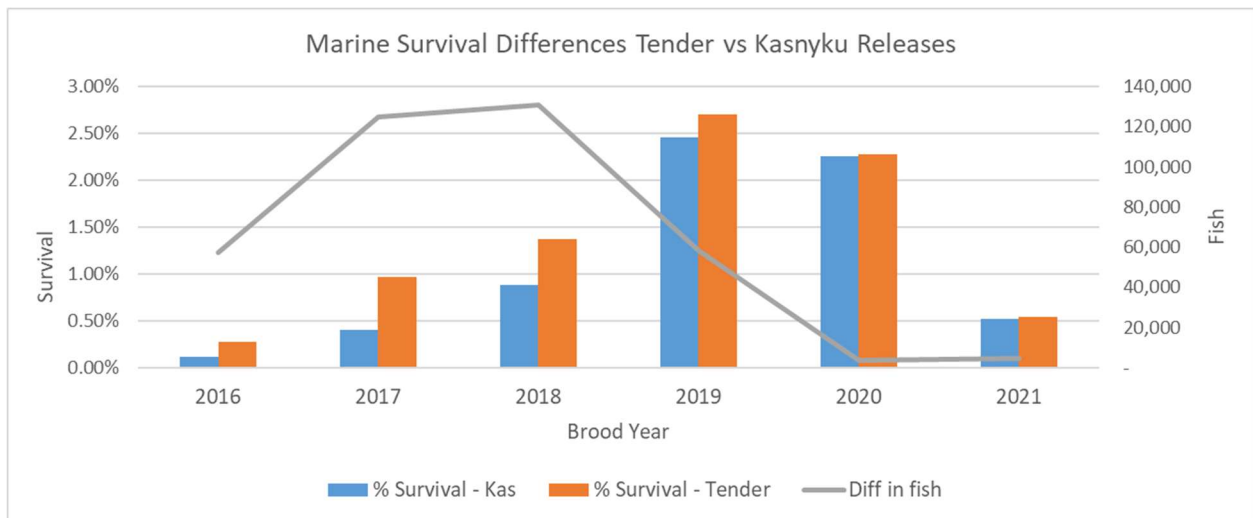


DATA: 2025 HF Chum Projects Forecasts – multiple models.xlsx

The tendered release strategy appears to still be working, with continued but reduced survival benefit to tendered releases for brood years 2020 and 2021. Tendered releases were initiated as a method to evade assumed predation near the hatchery and took place in Eastern Chatham with brood years 2016 – 2021. They have thus far produced an estimated 380,000 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%	0.96%	0.55%	124,644
2018	0.88%	1.37%	0.49%	130,674
2019	2.46%	2.70%	0.24%	58,387
2020	2.26%	2.27%	0.01%	3,449
2021	0.52%	0.54%	0.02%	4,570
TOTAL	1.09%	1.27%	0.18%	379,004

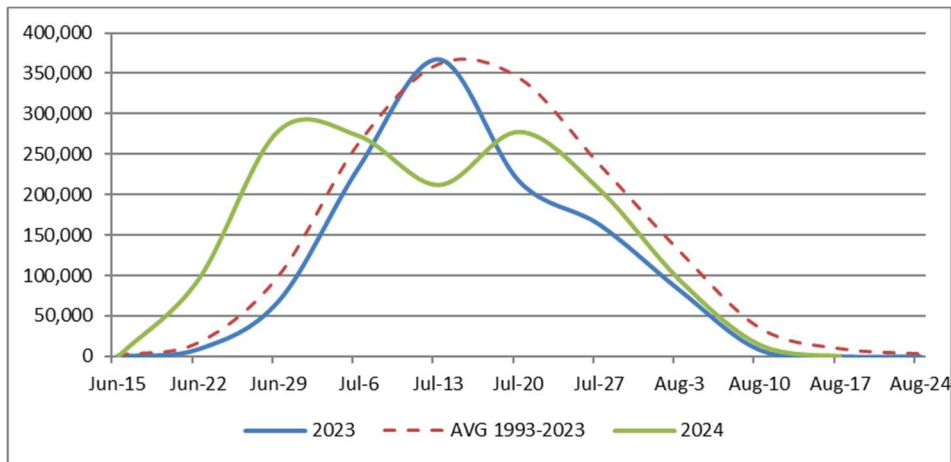
Tendered releases ceased in brood year 2022 due to the original permit lapse and (at the time) what appeared to be little survival benefit, with survivals not showing a drastic change until the brood year 2017 4's and 2018 3's arrived in 2021. Tendered releases resumed with brood year 2023, utilizing an altered strategy of transporting fry north along the Baranof shoreline, to try and maximize homing to the hatchery upon return. Results of this will be pending until fall 2026.



DATA: 2024 BIG Picture all years 10.14.24 - BD meeting

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.

Weekly return volume to Hidden Falls is shown below relative to 2023 and historical averages:

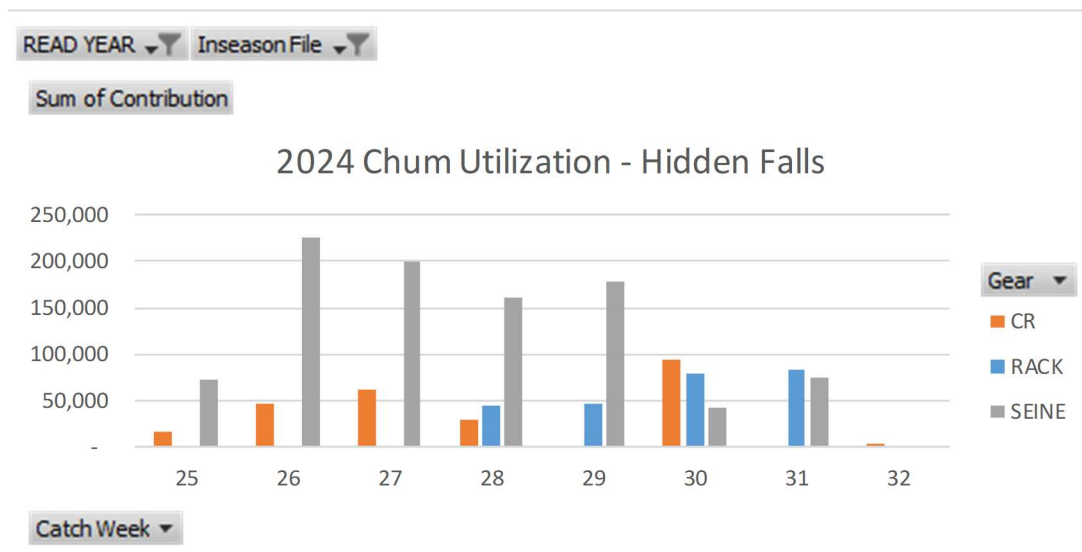


DATA: 2024 Inseason HF Chum

The 2024 run utilization for Hidden Falls is shown below. To best illustrate actual harvest volume, these figures include all fish harvested in Hidden Falls fisheries (regardless of origin) and exclude Hidden Falls fish caught outside of these fisheries (based on otolith sampling).

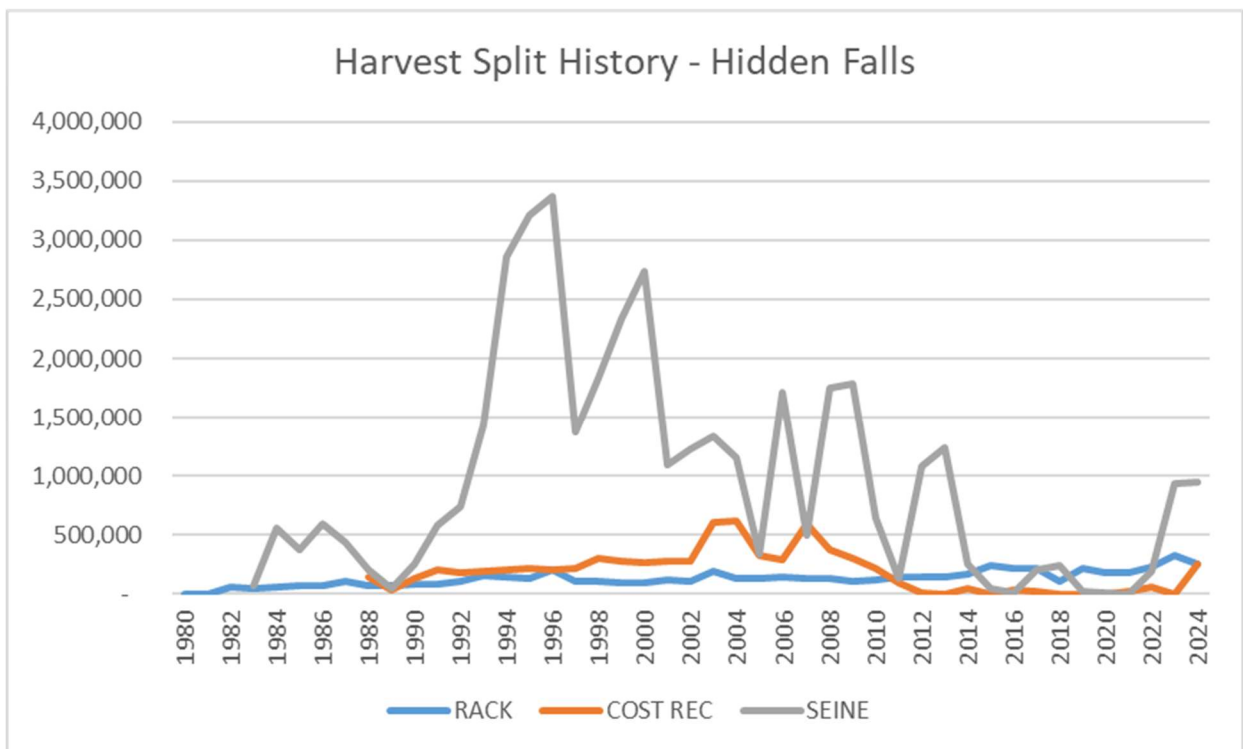
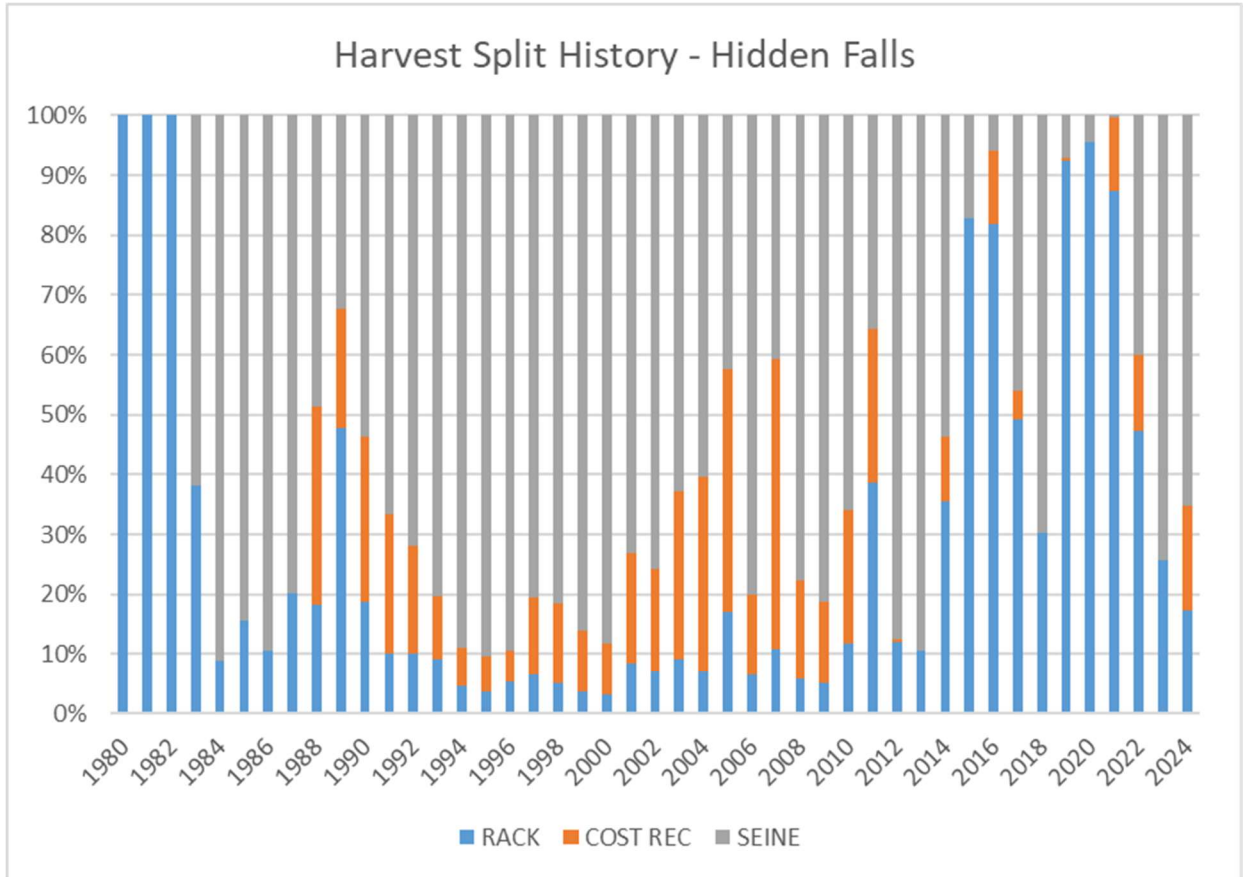
READ YEAR
 Inseason File

Row Label	CR	RACK	SEINE	Grand Total
25	17,268		72,598	89,866
26	47,267		224,689	271,955
27	61,273		198,977	260,249
28	30,551	43,831	161,530	235,912
29		47,130	177,889	225,019
30	95,038	78,182	41,520	214,739
31		83,835	74,283	158,118
32	3,994			3,994
Grand Total	255,390	252,977	951,485	1,459,853



DATA: 2024 BIG Picture all years 10.14.24 - BD meeting

Historical run utilization for Hidden Falls is shown below. For data tables see the NSRAA website.



DATA: 2024 BIG Picture all years 10.14.24 - BD meeting

Medvejie/Deep Inlet Return

Medvejie returns came in mostly as expected in terms of total volume as well as volume by age. A further breakdown of return sites and stocks shows that both sites came in at 132% of the forecast with the summer stock returning relatively short of the forecast and the fall stock effectively doubling forecast expectations. This overage on the fall stock came mostly from the four-year old age class, which more than doubled the forecast as well as three-year olds which were roughly 140% of the forecast. As mentioned, the summer stock return to Bear Cove was of particular interest coming into this season with its potential to overwhelm the facility. This return ultimately came in at 84%, but was still a record for volume, more than doubling the previous record in 2023. While this stock has a relatively short history at Bear Cove, it has done exceptionally well in recent years and has already shaped the landscape of our egg takes and cost recovery management region wide. Noteworthy run attributes for Medvejie are listed below. Keep in mind that accurately discerning the two stocks 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.

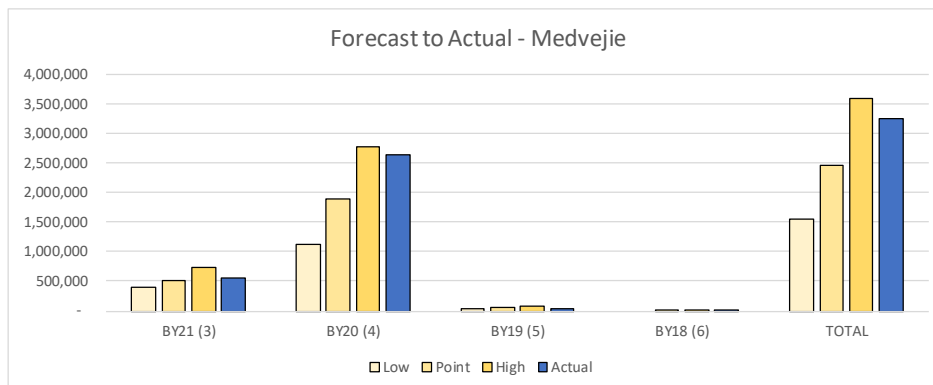
- 3rd highest return for Medvejie projects and 2nd highest return for Medvejie 4-year-olds.
- Survivals at Medvejie have seen mixed results in recent years. Brood year 2018, now complete, has highest marine survival since 1996, at 5.1%. Brood year 2019 remains under 1% (suspected black cod mortality at release) with brood year 2020 at nearly 4%.
- Capture and transport of roughly 6,000 adult chums from Deep Inlet to Medvejie for broodstock was warranted during the fishery closure.
- Despite falling short of goal, 760,000 Medvejie chums were harvested as cost recovery, the largest volume on record. Of this total, 36% occurred in Silver Bay. Removing this portion would put the remaining (Deep Inlet) portion at 485,000, ranking 3rd all time.
- Deep Inlet never fully opened to fishing, with either partial or full area closures.
- The Deep Inlet gillnet fishery saw its 3rd lowest harvest share of all time
- Interception by traditional fisheries in Sitka Sound accounted for 62% of the commercial harvest and 52% of the fall stock return, both record high's (since accurate stock splits could be determined starting in 2013). Using the full history of both stocks combined, these rank 1st and 4th respectively in the available 31-year time series.

Below is the 2024 weekly schedule and return vs forecasts for Medvejie/Deep Inlet in 2024:

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

	BY21 (3)	BY20 (4)	BY19 (5)	BY18 (6)	TOTAL
Low	392,000	1,125,000	32,000	-	1,549,000
Point	502,000	1,899,000	48,000	5,000	2,454,000
High	732,000	2,777,000	80,000	9,000	3,598,000
Actual	554,725	2,642,232	42,361	4,700	3,244,017

% of Point Forecast 111% 139% 88% 94% 132%



For additional context, below is the return split by stock and release site relative to forecast:

Forecasted	Bear Cove	Deep Inlet	TOTALS
Summer stock	695,000	732,000	1,427,000
Fall stock	352,000	675,000	1,027,000
TOTALS	1,047,000	1,407,000	2,454,000
Actual	Bear Cove	Deep Inlet	
Summer stock	585,703	630,076	1,215,780
Fall stock	798,266	1,229,972	2,028,238
TOTALS	1,383,969	1,860,048	3,244,017
% of forecast	Bear Cove	Deep Inlet	
Summer stock	84%	86%	85%
Fall stock	227%	182%	197%
TOTALS	132%	132%	132%

Marine survivals for Medvejie programs have been highly variable over the past ten years. Another year of relatively high three-year-old Medvejie returns is a very good sign that the terrible survival from the brood year 2016 and 2019 chum released at Medvejie (believed to be from black cod predation) were anomalous events.

Brood Year	Summer Stock		Fall Stock		Summer Total	Fall Total	Bear Cove Total	Deep Inlet Total	Grand Total
	Bear Cove	Deep Inlet	Bear Cove	Deep Inlet					
2012	NA	1.9%	2.7%	2.4%	1.9%	2.0%	1.5%	2.1%	2.0%
2013	NA	0.9%	1.3%	5.5%	0.9%	3.2%	1.3%	2.9%	2.5%
2014	NA	0.2%	1.1%	1.2%	0.2%	0.9%	1.1%	0.7%	0.8%
2015	NA	2.3%	ND	ND	2.3%	3.4%	ND	ND	3.0%
2016	NA	1.0%	ND	ND	1.0%	0.7%	ND	ND	0.8%
2017	0.8%	0.5%	1.7%	2.5%	0.6%	2.0%	1.4%	1.5%	1.5%
2018	NA	NA	ND	ND	NA	5.1%	ND	ND	5.1%
*2019	0.2%	0.7%	0.2%	1.4%	0.4%	1.0%	ND	ND	0.8%
**2020	4.1%	4.7%	4.2%	2.8%	4.4%	3.6%	4.2%	3.8%	2.3%
***2021	0.2%	0.3%	1.2%	0.7%	0.3%	0.9%	0.8%	0.5%	1.2%

* Missing 6 year-old age class

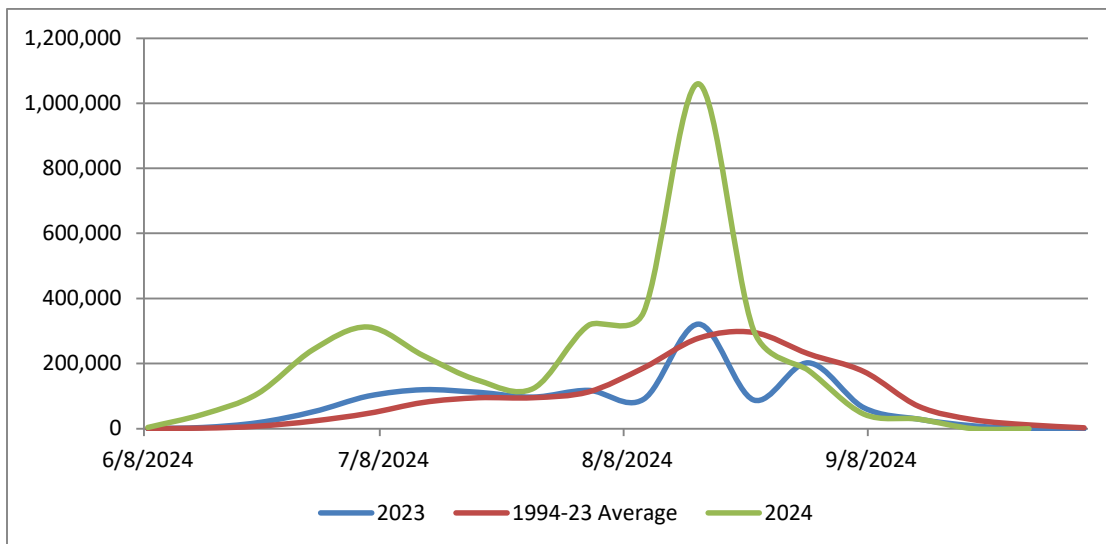
** Missing 5-6 year-old age classes

*** Missing 4-6 year-old age classes

NA	Does not apply, there were no releases
ND	Data is omitted due to non-descrete otolith marks by site

DATA: BIG Picture all years 10.14.24 – BD meeting.xlsx

Weekly return volume to Medvejie/Deep Inlet is shown below relative to historical averages:

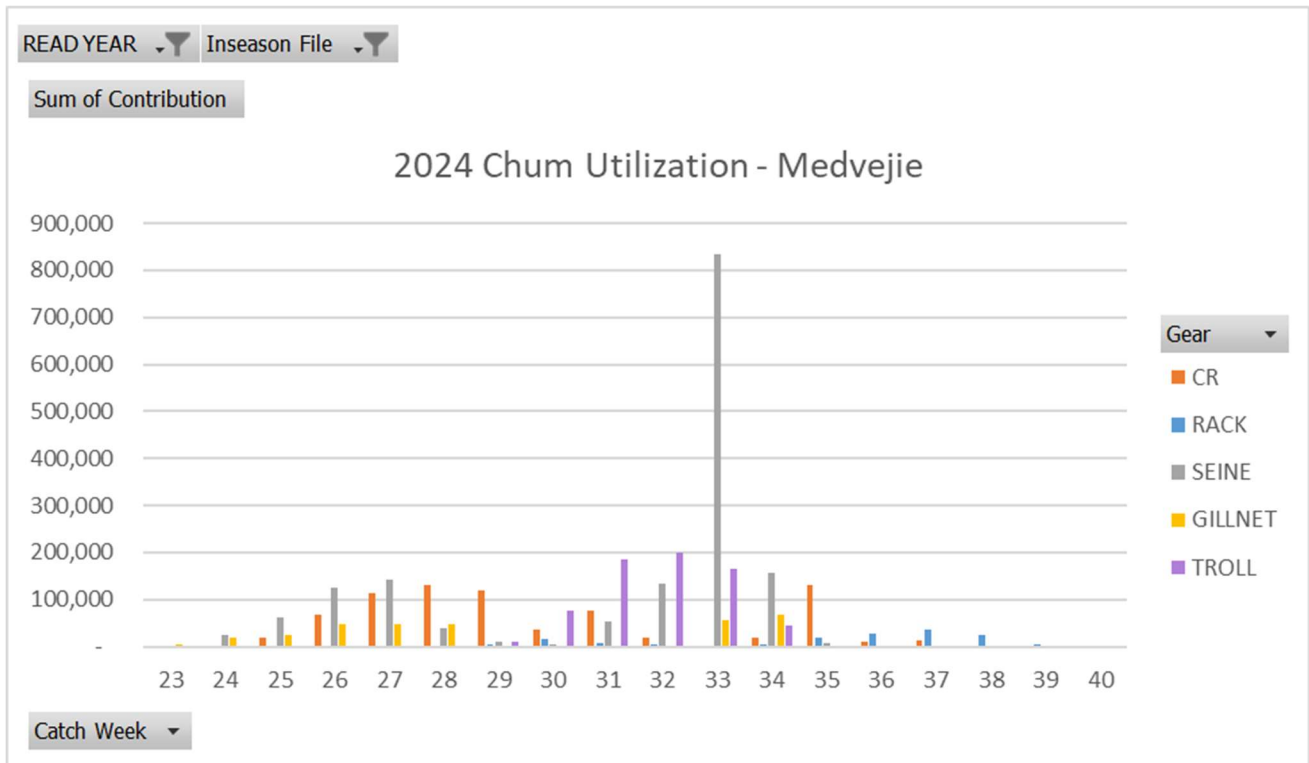


DATA: 2024 Inseason DI Chum

The 2024 run utilization for Medvejie/Deep Inlet is shown below. To best illustrate actual harvest volume, these figures include all fish harvested in Medvejie, Deep Inlet, and Sitka Sound fisheries (regardless of origin) and exclude Medvejie fish caught outside of these fisheries (based on otolith sampling).

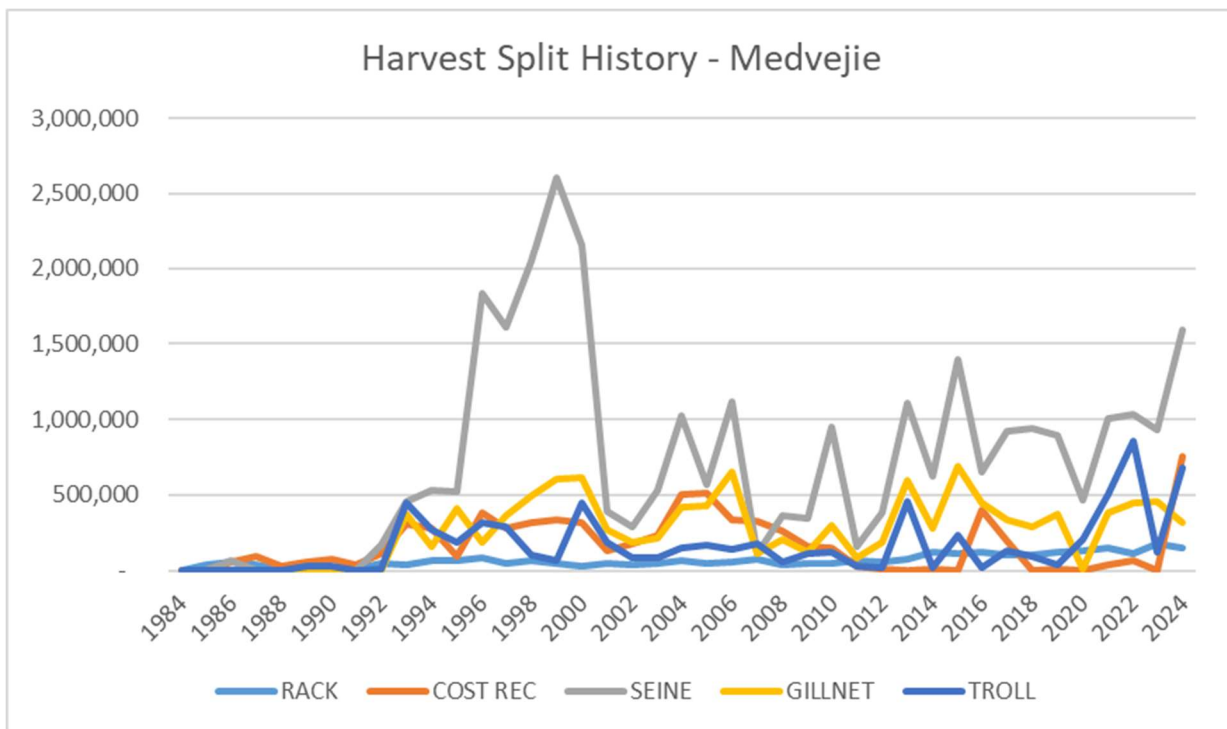
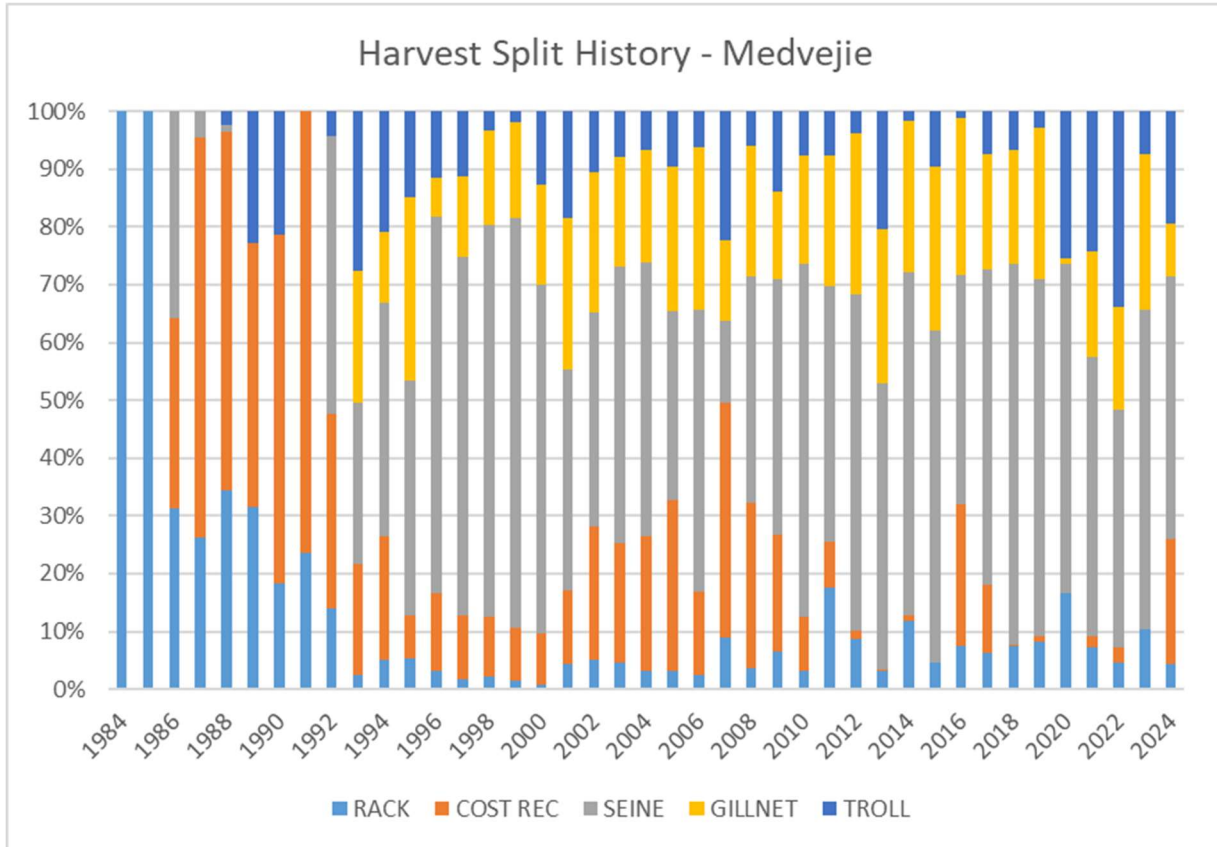
READ YEAR 2024
 Inseason File DEEP INLET

Row Label	CR	RACK	SEINE	GILLNET	TROLL	Grand Total
23				3,544		3,544
24			24,089	20,056		44,145
25	19,990		61,613	24,466	204	106,273
26	67,659		124,691	46,207	109	238,666
27	114,633		143,662	47,433	1,037	306,765
28	130,887		37,692	48,240	768	217,587
29	119,981	5,804	9,956		9,963	145,704
30	36,987	14,959	4,357		77,571	133,875
31	75,661	7,716	53,070		183,910	320,356
32	17,627	4,459	134,599		201,022	357,707
33	2,152	1,994	834,130	56,674	164,019	1,058,970
34	18,284	3,391	155,965	67,106	44,581	289,326
35	129,800	19,973	8,624		570	158,966
36	10,286	27,415			30	37,731
37	14,090	36,340				50,430
38		23,227				23,227
39		4,490				4,490
40		1,180				1,180
Grand Total	758,038	150,948	1,592,447	313,726	683,784	3,498,942



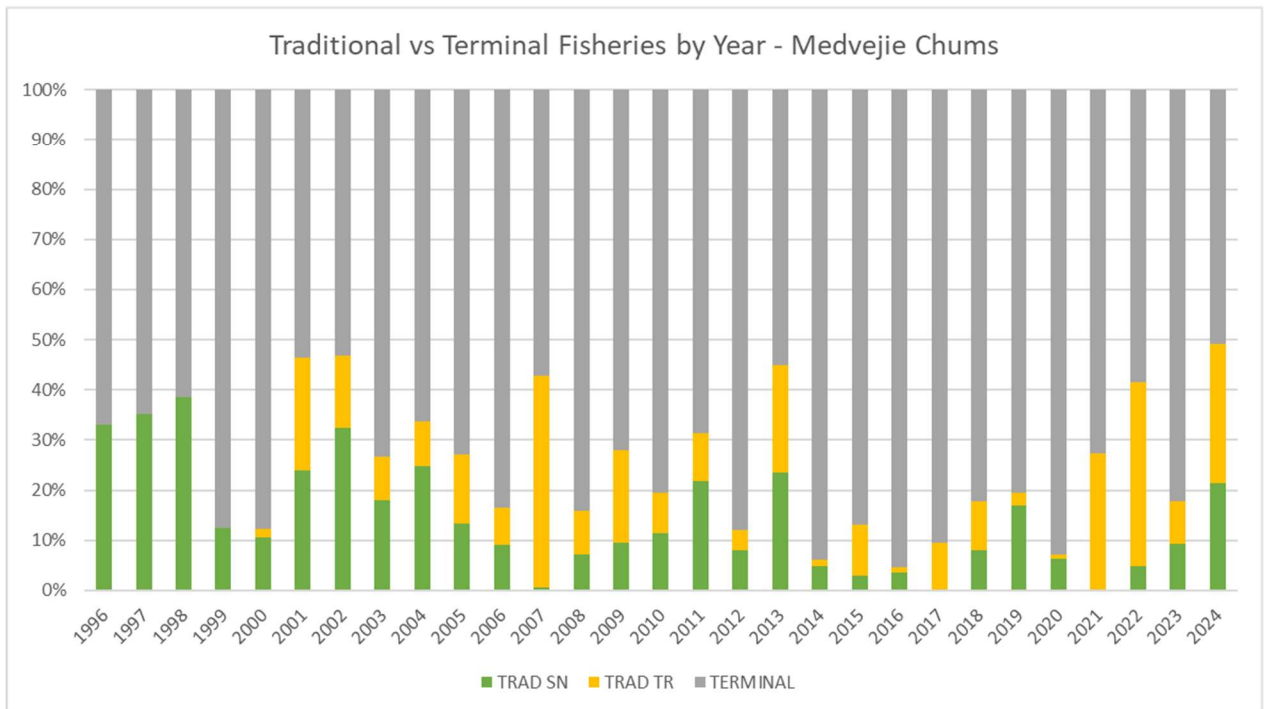
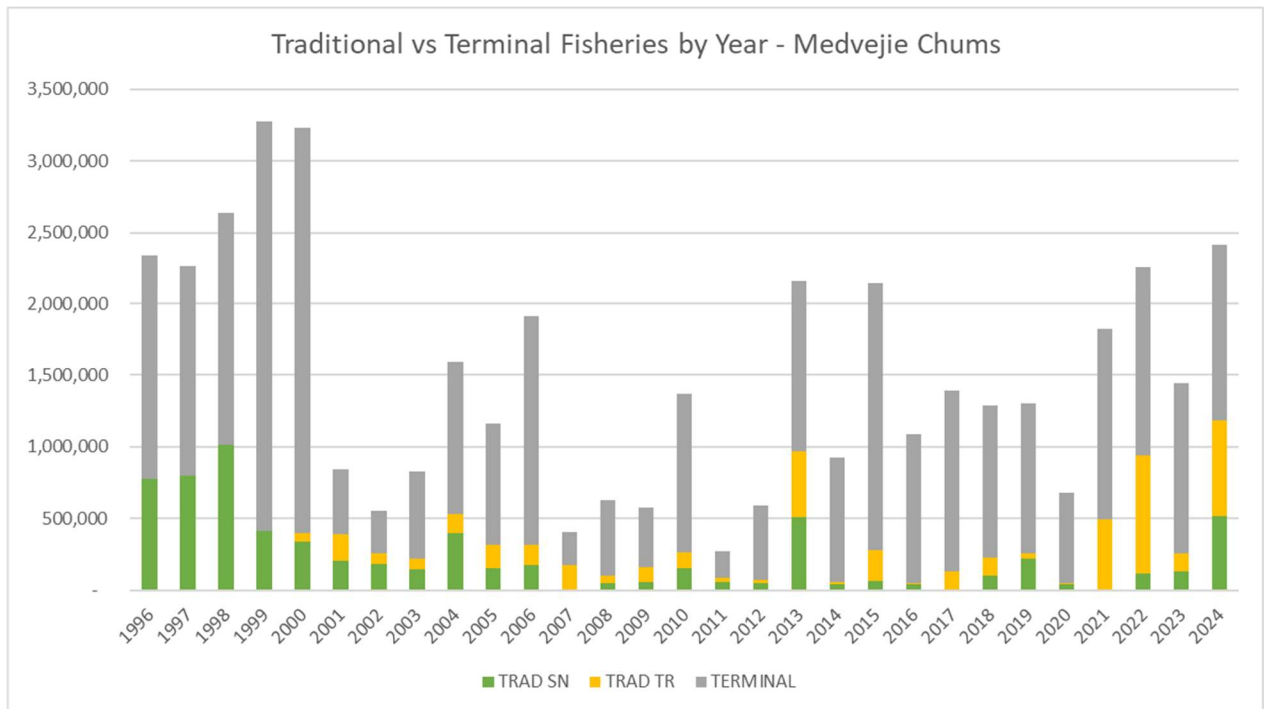
DATA: BIG Picture all years 10.14.24 – BD meeting.xlsx

Historical run utilization for Medvejie/Deep Inlet chums are shown below. For data tables see the NSRAA website.



DATA: BIG Picture all years 10.14.24 – BD meeting.xlsx

2024 saw the highest interception of the fall stock by traditional fisheries (Troll and Seine) in Sitka Sound to date, at 62% of the commercial harvest and 52% of the fall stock return. Using the full history of both stocks combined, these rank 1st and 4th respectively in the available 31-year time series). The latter figures are shown below.



DATA: All sites returns.xlsx

Southeast Cove Return

Southeast Cove returns came in above forecast for all age cohorts, with an estimated total return just short of 400,000, 185% of the total forecast. Most noteworthy is the three-year-old age class coming in at nearly 3x the forecast. Before the season began, 11% of the 2024 chum cost recovery was allocated to Southeast Cove and Gunnuk Creek combined, to spread cost recovery effort across both summer and fall returns to hopefully ensure cost recovery goals would be met.

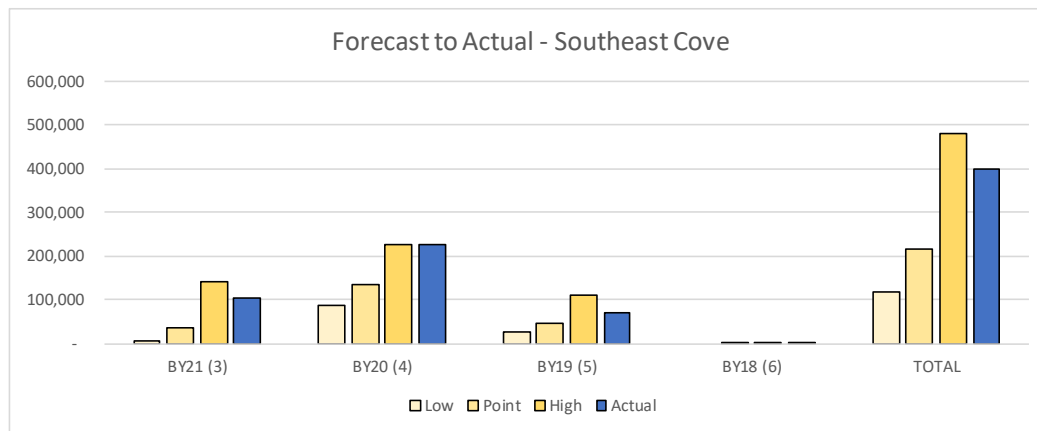
Despite nearly doubling forecast at Southeast Cove, cost recovery fell short of the goal for the combined sites, primarily due to the Gunnuk Creek portion coming in at just 28% of forecast. Rotational fisheries had been taking place since the start of the season at Southeast Cove, assuming there would be plenty of surplus with the large Gunnuk Creek portion being utilized for cost recovery. Unfortunately, with that shortage, the THA was closed in week 29, to allow the remaining chums to be taken as cost recovery.

Below is the 2024 weekly schedule and return vs forecast for Southeast Cove in 2024:

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

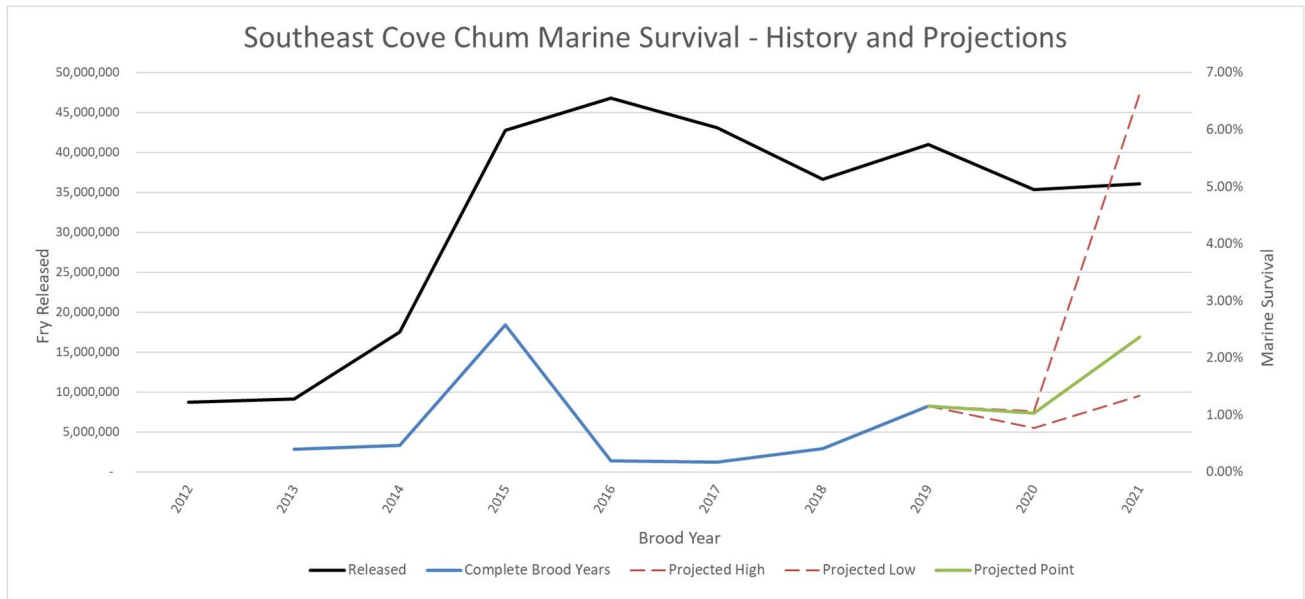
	BY21 (3)	BY20 (4)	BY19 (5)	BY18 (6)	TOTAL
Low	6,000	86,000	26,000	-	118,000
Point	35,000	134,500	44,500	1,000	215,000
High	140,000	227,000	111,000	2,000	480,000
Actual	102,603	226,466	68,564	1,039	398,672

% of Point Forecast 293% 168% 154% 104% 185%



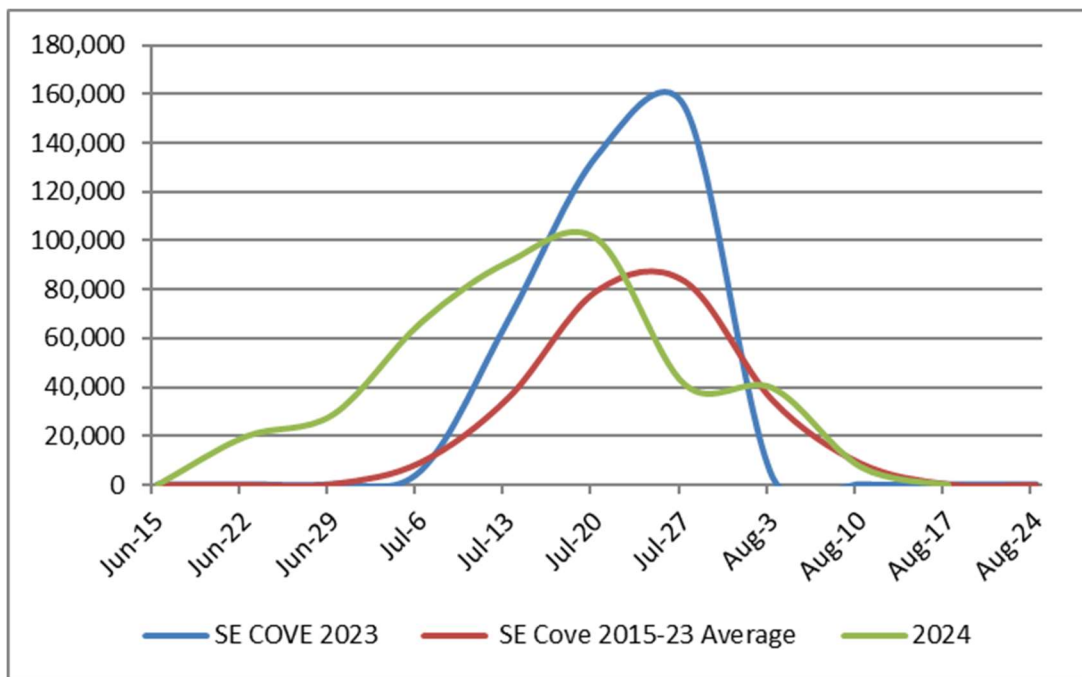
DATA: BIG Picture all years 10.14.24 – BD meeting.xlsx

Marine survival for complete brood years is shown below along with estimated survival ranges for incomplete brood years. Like Hidden Falls, there was a strong return of three-year-olds in 2024 and the projected high marine survival is based off using historical age classes for all years while the projected low marine survival is based off using only years with anomalously high 3-year-old fractions. Point estimates used for forecasting brood years 2020-2021 are slightly higher to reflect trends in most recent years.



DATA: Hidden Falls Chum Projects Forecast 2024.xlsx

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

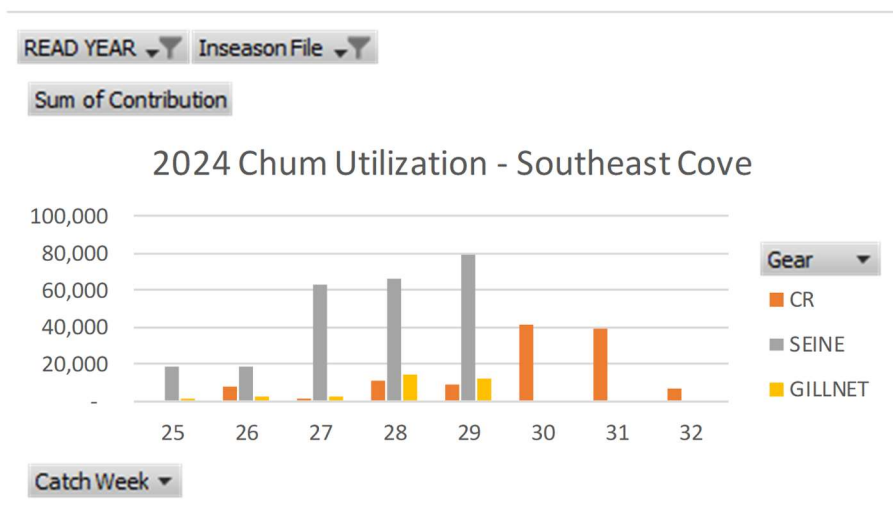


DATA: 2024 Inseason SEC Chum

The 2024 run utilization for Southeast Cove is shown below. To best illustrate actual harvest volume, these figures include all fish harvested in Southeast Cove fisheries (regardless of origin) and exclude Southeast Cove fish caught outside of these fisheries (based on otolith sampling).

READ YEAR	2024	<input type="button" value="▼"/>
Inseason File	SE COVE	<input type="button" value="▼"/>

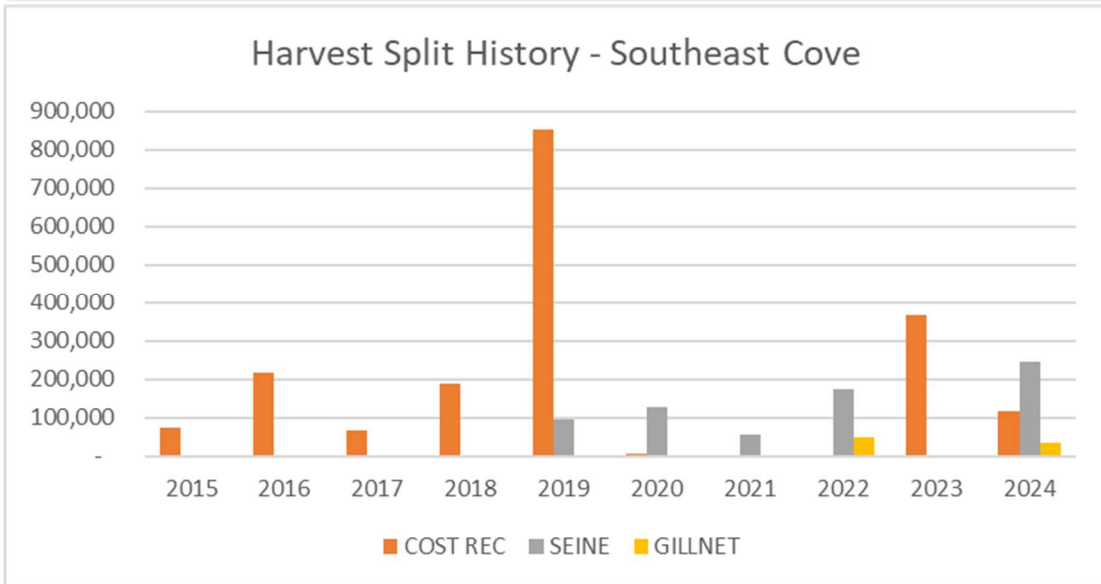
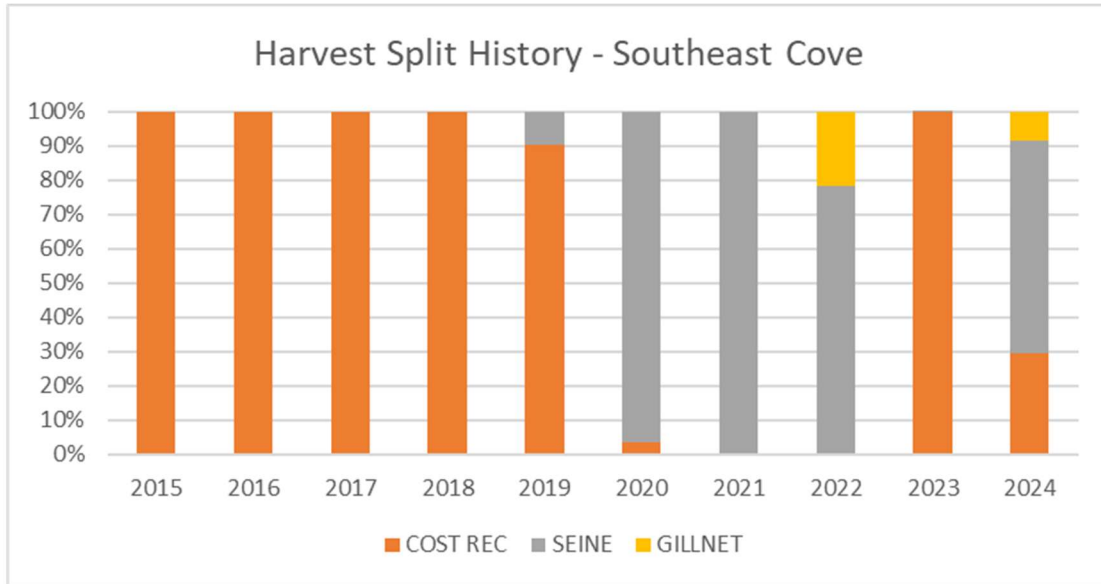
Stat Week	CR SEINE	GILLNET	Grand Total	
25	18,839	986	19,825	
26	7,840	18,598	2,514	28,951
27	1,020	62,679	3,010	66,709
28	10,881	66,655	14,152	91,688
29	8,748	79,574	12,612	100,934
30	41,148			41,148
31	39,711			39,711
32	7,417			7,417
Grand Total	116,765	246,344	33,274	396,383



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	48,347
2023	365,863	679	
2024	116,765	246,344	33,274

Historical run utilization for Southeast Cove continued:



DATA: BIG Picture all years 10.14.24 – BD meeting.xlsx

Crawfish Inlet Return

Crawfish is a site that has seen modest release sizes but unbelievably good survival, until now. Also, unusual to most programs the fraction of chums that return at age three is substantially higher (ranging from 20-60% for a brood year). Forecasts for the older age classes can be done with a fair degree of accuracy based on the number of three-year-olds the year before, but there is hardly anything we can use to predict the three-year-old return itself. Crawfish Inlet returns came in under forecast in 2024 at 76%, primarily due to the three-year-olds suddenly experiencing a run failure unlike anything seen yet for the project. At just 18% of the forecast for brood year 2021, the lack of Crawfish three's in 2024 was the largest driver for unrealized revenue in 2024, accounting for 72% the shortfall in 2024. After setting the benchmark that all other chum projects will be compared to for chum survival, Crawfish appears to have suffered its first major collapse. Whether this is just a super anomalous age shift or an actual crash in survival will be revealed in 2025.

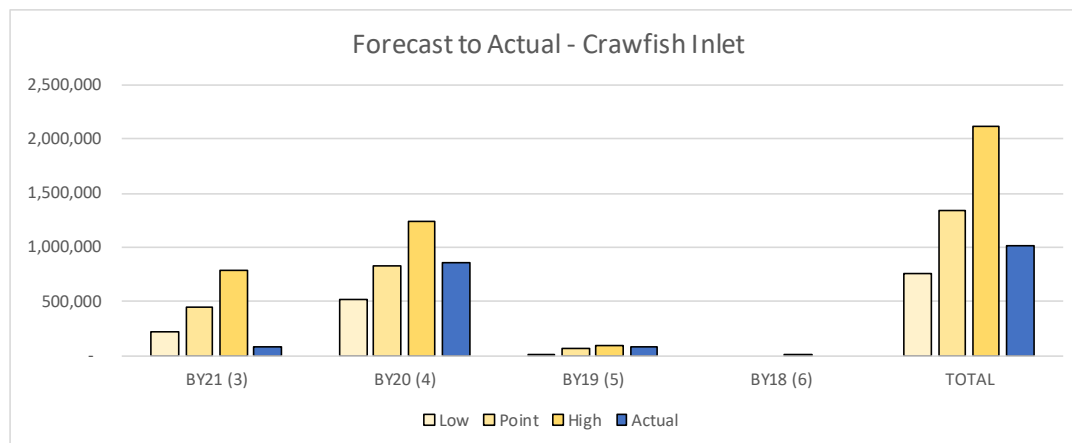
Noteworthy run attributes for Crawfish Inlet are listed below.

- Worst partial survival for three-year-olds to date for the project at 0.33%
- Fell short of cost recovery goal at 48%, accounting for most of the unrealized revenue in 2024
- No access to commercial seining in Crawfish Inlet in 2024
- Multiple pink salmon directed traditional seine openings took place in West Crawfish Inlet, intercepting 319,000 NSRAA chums.

Below is the 2024 weekly schedule and return vs forecast for Crawfish Inlet in 2024:

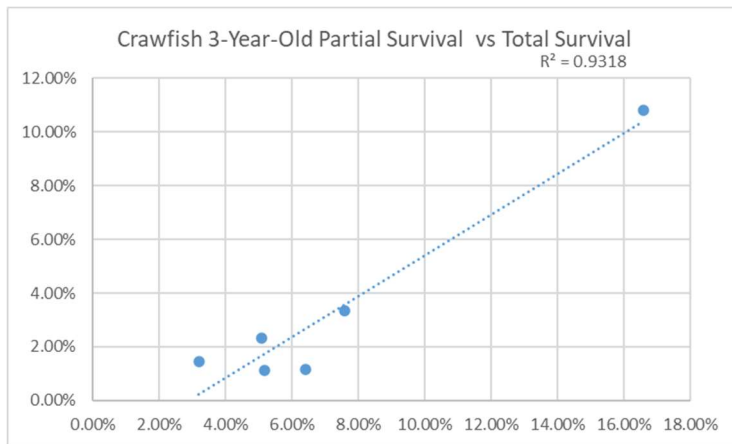
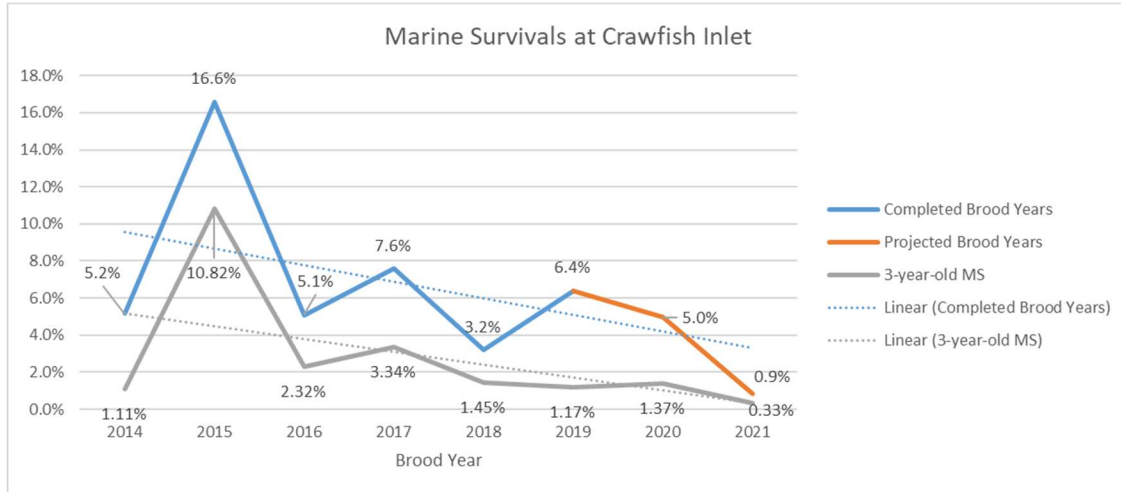
Crawfish Inlet	Sun	Mon	Tue	Wed	Thu	Fri	Sat
	Seine					Seine	

	BY21 (3)	BY20 (4)	BY19 (5)	BY18 (6)	TOTAL
Low	223,000	518,000	15,000	-	756,000
Point	447,000	829,000	60,000	-	1,336,000
High	784,000	1,235,000	92,000	2,000	2,113,000
Actual	79,102	863,192	73,963	-	1,016,257
% of Point Forecast	18%	104%	123%	NA	76%



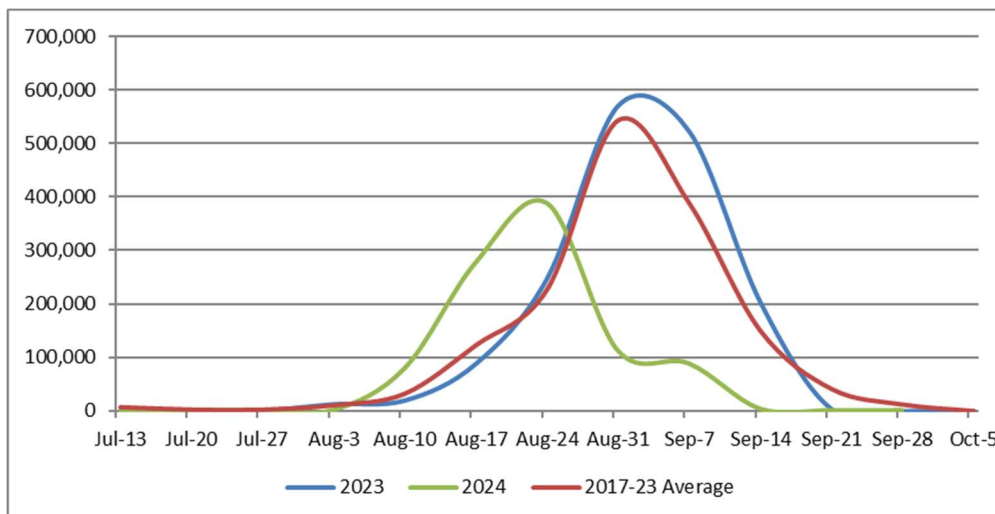
DATA: BIG Picture all years 10.14.24 – BD meeting.xlsx

Survivals at Crawfish have been steadily declining since the inception of the program. This is not surprising considering how remarkably high they have been, at an average of 7.5% for complete brood years 2014-2018. What is surprising is how abruptly the partial 3-year-old survival dropped off with brood year 2021. As with most chum programs, the partial survival of the three-year-old age class is indicative of the overall survival. The 2025 forecasts for Crawfish Inlet will certainly see greatly reduced 4-year-olds and there is now a fair degree of uncertainty in forecasting brood year 2022 three-year-olds.



DATA: Crawfish Inlet Forecast - multiple models.xlsx

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

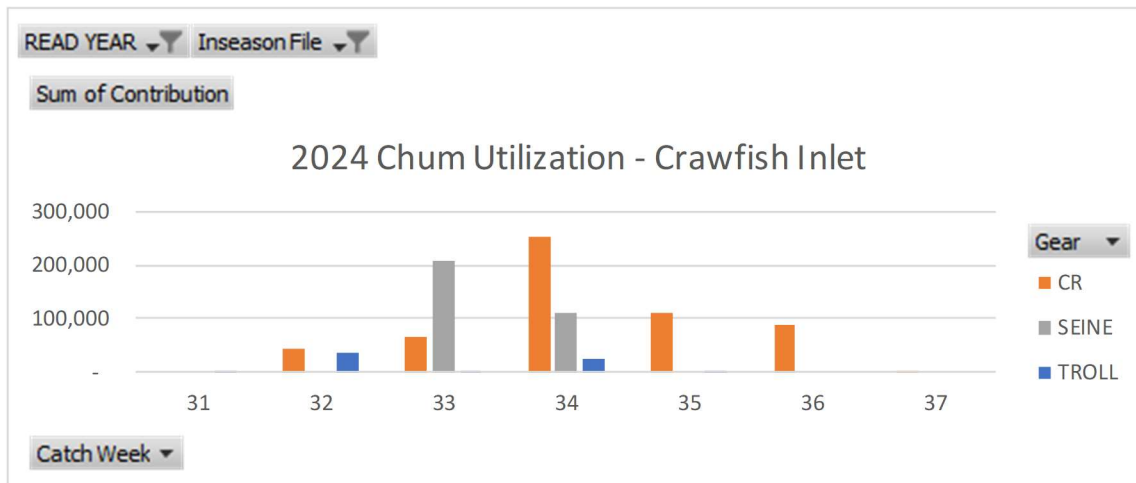


DATA: 2024 Inseason CI Chum

The 2024 run utilization for Crawfish Inlet is shown below. To best illustrate actual harvest volume, these figures include all fish harvested in Crawfish Inlet fisheries (regardless of origin) and exclude Crawfish Inlet fish caught outside of these fisheries (based on otolith sampling).

READ YEAR 2024
 Inseason File CRAWFISH INLET

Stat Week	CR	SEINE	TROLL	Grand Total
31			569	569
32	43,450		35,292	78,742
33	67,717	207,769	1,461	276,947
34	253,806	110,748	23,596	388,150
35	111,504		375	111,878
36	87,697			87,697
37	2,888			2,888
Grand Total	567,061	318,517	61,292	946,871

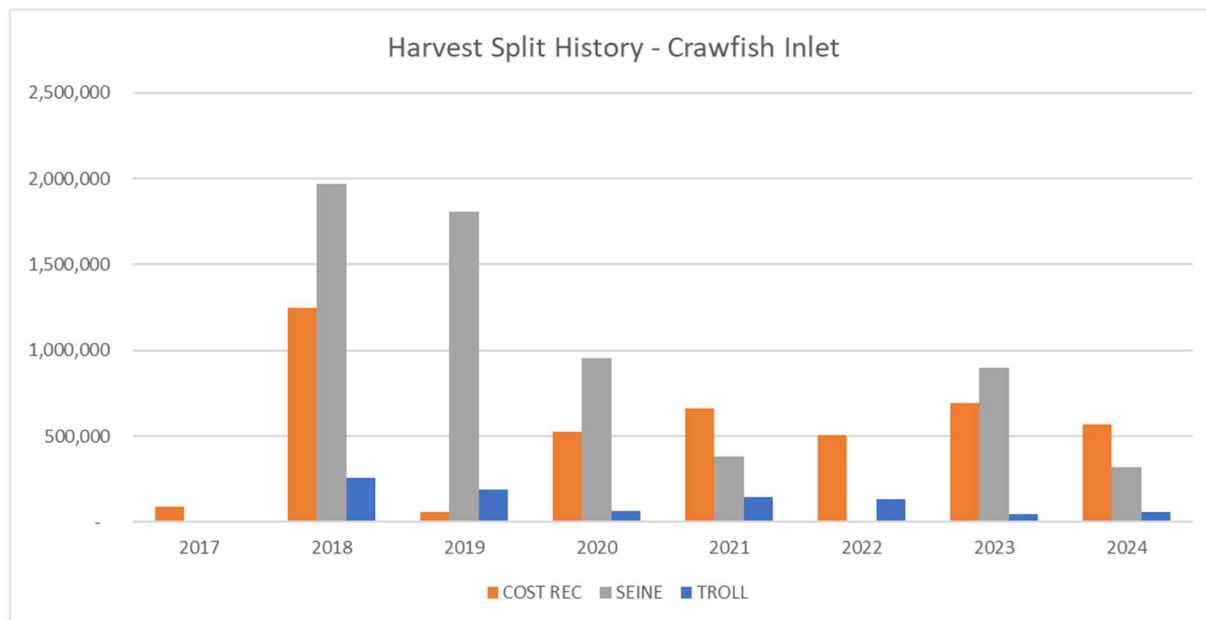
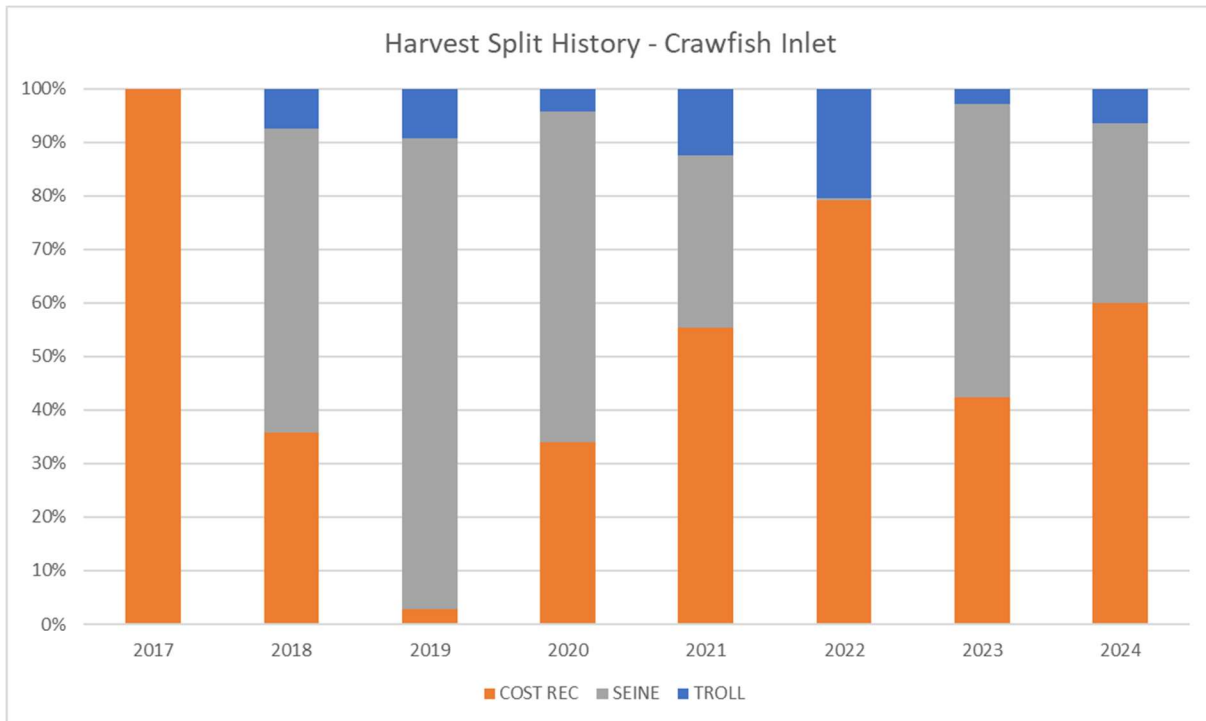


Historical run utilization for Crawfish Inlet is shown below:

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	898,746	47,336
2024	567,061	318,517	61,292

DATA: BIG Picture all years 10.14.24 – BD meeting.xlsx

Historical run utilization for Crawfish Inlet continued:



DATA: BIG Picture all years 10.14.24 – BD meeting.xlsx

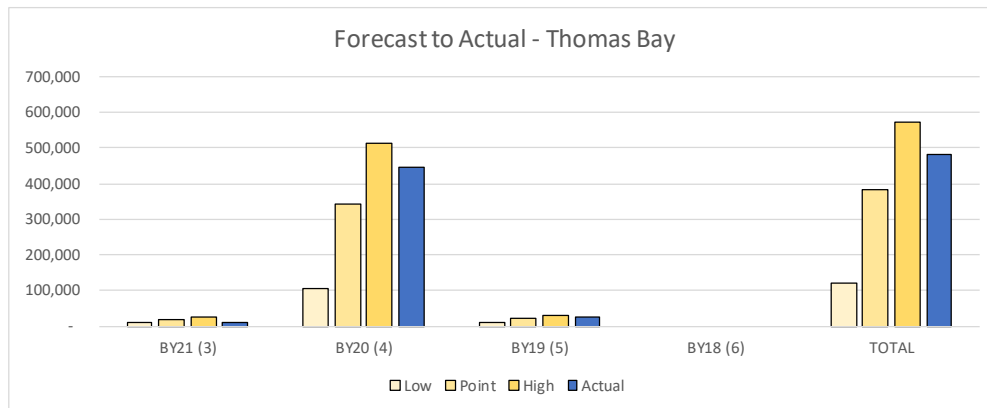
Thomas Bay Return

Thomas Bay returns came in at 126% of the forecast at an all-time record of over 480,000 fish in 2024. Three-year-old returns were under forecast but the other age cohorts came in above forecast. It is very encouraging to finally see this site perform well, given the favorable rearing conditions and proximity to Petersburg seine fleets. District 108 gillnetters also reaped the reward with nearly 30,000 fish intercepted. Interestingly, Thomas Bay’s brood year 2020 has seen the highest survival to date (over 4%) for this project, despite it also being the smallest release to date for the site.

Below is the 2024 weekly schedule and return vs forecast for Thomas Bay in 2024:

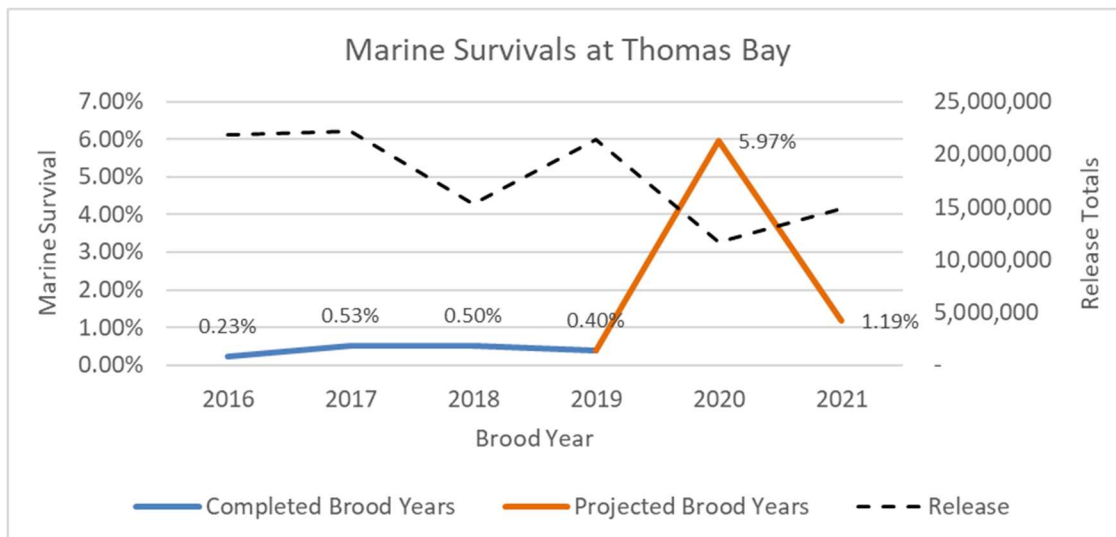
Thomas Bay	Sun	Mon	Tue	Wed	Thu	Fri	Sat
	Seine				Seine		

	BY21 (3)	BY20 (4)	BY19 (5)	BY18 (6)	TOTAL	
Low	9,000	104,000	10,000	-	123,000	
Point	17,000	343,000	21,000	-	381,000	
High	26,000	515,000	31,000	-	572,000	
Actual	9,693	446,559	24,107	-	480,359	
% of Point Forecast		57%	130%	115%	NA	126%



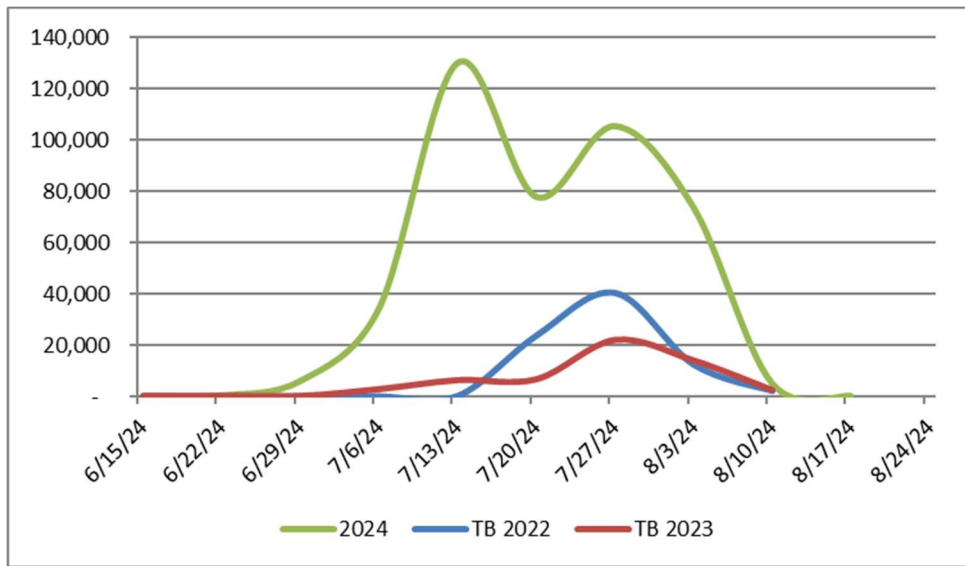
DATA: BIG Picture all years 10.14.24 – BD meeting.xlsx

Survivals at Thomas Bay have been shockingly low until brood year 2020, which is now projected to finish at 14x the previous 4-year’s survival average, at just shy of 6%. Hopefully this is the start of a new chapter for the project. NSRAA does not currently have any explanation for this sudden boom in survival.



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

The weekly return volume to Thomas Bay is shown below relative to the past two years:



DATA: 2024 Inseason TB Chum

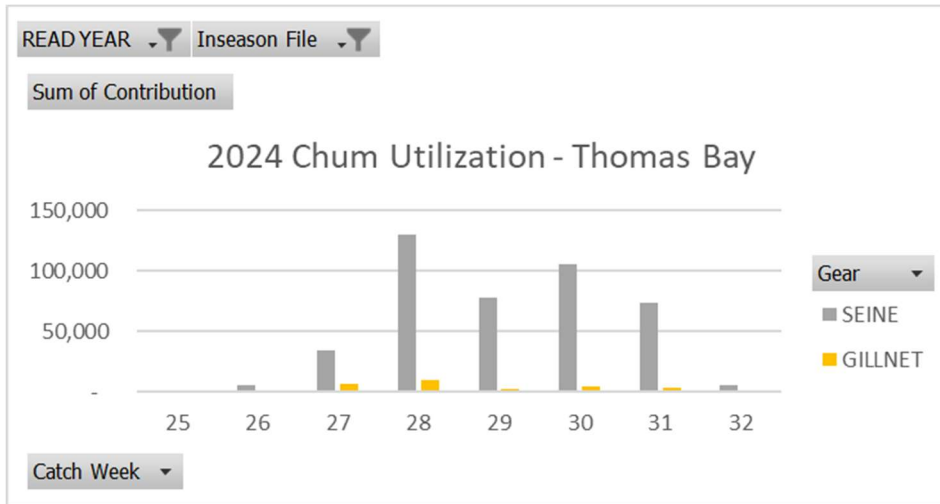
The 2024 run utilization for Thomas Bay is shown below. Note that this includes some harvest in other areas based on otolith sampling as it is reflective of the return to Thomas Bay as well as District 108 Traditional gillnet fisheries. Seine totals within the Thomas Bay THA include all fish regardless of origin.

READ YEAR 2024
 Inseason File THOMAS BAY

Stat Week	SEINE	GILLNET	Grand Total
25	272		272
26	5,867	497	6,364
27	34,179	6,409	40,588
28	130,227	10,041	140,268
29	77,910	2,672	80,582
30	105,508	4,070	109,578
31	73,836	3,080	76,916
32	4,999	1,613	6,612
Grand Total	432,798	28,382	461,180

DATA: BIG Picture all years 10.14.24 – BD meeting.xlsx

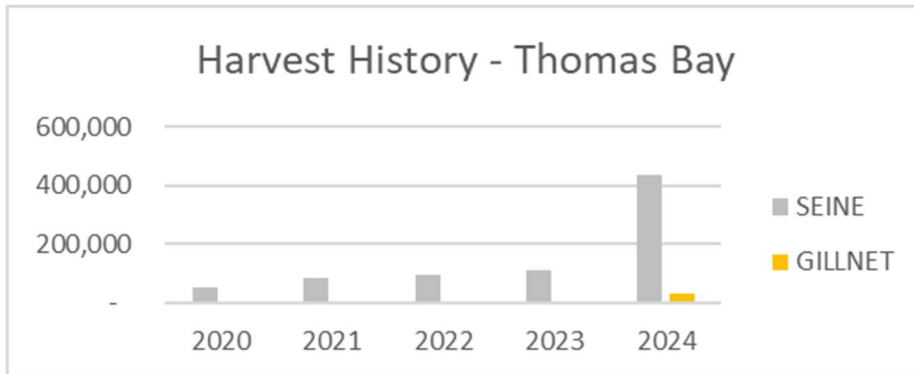
2024 run utilization for Thomas Bay continued:



DATA: BIG Picture all years 10.14.24 – BD meeting.xlsx

Historical run utilization for Thomas Bay is shown below:

YEAR	SEINE	GILLNET
2020	54,220	727
2021	82,590	
2022	91,798	
2023	109,155	6,352
2024	432,798	28,382



DATA: BIG Picture all years 10.14.24 – BD meeting.xlsx

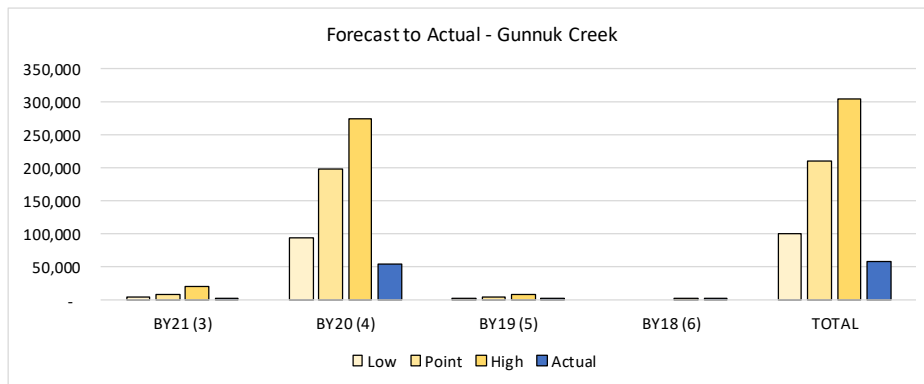
Gunnuk Creek

Gunnuk Creek came in severely under forecast at just 28%. While this ordinarily would not be an issue due to the low egg take demands at the facility, cost recovery had been put in place to intercept the forecasted record return that was based off the three-year-old age class in 2023. While it is unfortunate that revenue was unrealized, the hatchery was very short staffed in 2024 and had the run come in at forecast, or the cost recovery been less effective, the additional volume could have easily overwhelmed the creek and facility. Better carcass disposal methods will need to be in place if this is to occur again in the future. Marine survival for Gunnuk Creek chums remains very poor, with current and projected brood years ranging between 0.1-0.6%.

Below is the 2024 weekly schedule and return vs forecast for Gunnuk Creek in 2024:

Gunnuk Creek	Sun	Mon	Tue	Wed	Thu	Fri	Sat
	Cost Recovery Only						

	BY21 (3)	BY20 (4)	BY19 (5)	BY18 (6)	TOTAL
Low	4,000	95,000	2,000	-	101,000
Point	8,000	199,000	4,000	-	211,000
High	21,000	274,000	8,000	1,000	304,000
Actual	770	55,745	2,162	226	58,904
% of Point Forecast	10%	28%	54%	NA	28%



DATA: BIG Picture all years 10.14.24 – BD meeting.xlsx

Otolith based contributions for NSRAA chums in other fisheries

The previous sections detailed compositions of NSRAA chums at their intended hatchery return sites and fisheries of interest. However, some mixing of hatchery stocks occurs outside of these areas and NSRAA chums are intercepted elsewhere. Thanks to otolith sampling by NSRAA, DIPAC, and SSRAA these additional fish can be counted towards the NSRAA total return for the year and credited to their respective projects for survival and value estimates. Below are NSRAA origin chums captured in additional fisheries that were not depicted in the above utilization figures. These account for an additional 266,000 fish in 2024.

Fishery	NSRAA Release Site							Grand Total
	BEAR COVE	CRAWFISH INLET	DEEP INLET	GUNNUK CR	KASNYKU BAY	SE COVE	THOMAS BAY	
CRAWFISH CR	2,700		720					3,420
CRAWFISH TR	65							65
DEEP INLET CR		648			3,000			3,649
DEEP INLET GN		1,413			1,421	155	900	3,889
DEEP INLET SN		40,134		143	2,375	2,761	1,313	46,725
DIST 108 GN	122			210	1,716	210		2,258
GARDNER TEST				1,617	19,087	4,475	1,346	26,526
GILLNET (DIPAC)				858	10,135		5,497	16,490
GILLNET (SSRAA)	156	21	251	749	2,296	131	7,448	11,052
GUNNUK CR					327	466		793
GUNNUK RACK					341	277		619
HAWK INLET TEST					1,559	72	113	1,744
HIDDEN FALLS CR						996	674	1,670
HIDDEN FALLS RACK				827		742		1,569
HIDDEN FALLS SN				2,073		6,906	5,788	14,767
KINGSMILL TEST	331		110	1,055	9,560	6,377	2,330	19,763
PT AUGUSTA TEST			219	588	22,235	3,458	5,985	32,486
SE COVE CR	1,093			450	2,385		154	4,081
SE COVE GN	354				708			1,062
SE COVE SN	1,332			3,954	12,456		1,332	19,072
SEINE (SSRAA)	3,383	2,566	5,470	736	2,127	77	138	14,497
SIT SND SN		2,042			591	5,221		7,854
SIT SND TR		29,319						29,319
THOMAS BAY SN				898	1,306			2,203
Grand Total	9,536	76,143	6,771	14,158	93,624	32,325	33,018	265,575

DATA: BIG Picture all years 10.14.24 – BD meeting.xlsx

2025 Forecast

October 2024

NSRAA 2025 Return Projections					
Site	Projected Return	Range		2024 Return	2024 Forecast
		Low	High		
Chum					
Hidden Falls	2,865,000	2,004,000	4,769,000	1,468,288	1,553,000
Medvejie/Deep Inlet*	2,059,000	1,172,000	3,161,000	3,244,017	2,454,000
Crawfish Inlet	559,000	235,000	897,000	1,016,257	1,336,000
Southeast Cove	905,000	294,000	1,282,000	398,672	215,000
Gunnuk Creek	43,000	25,000	77,000	58,904	211,000
Thomas Bay	378,000	255,000	567,000	480,359	381,000
	6,809,000	3,985,000	10,753,000	6,666,497	6,150,000
Chinook					
Hidden Falls	-	-	50	1,708	900
Gunnuk Creek	600	400	1,200	821	900
Medvejie	22,000	12,000	31,000	13,615	10,000
Crawfish Inlet	300	100	600	1,923	400
Crescent Bay	2,000	1,400	3,000	1,154	1,800
	24,900	13,900	35,850	19,221	14,000
0-ck Chinook					
Medvejie	-	-	200	-	300
Crawfish Inlet	250	-	400	206	100
	250	-	600	206	400
Coho					
Hidden Falls	51,000	26,000	59,000	53,727	36,000
Deer Lake	48,000	15,000	116,000	11,505	82,000
Lake Stocking				-	-
Medvejie	9,000	5,000	12,000	4,815	11,000
Deep Inlet	22,000	12,000	23,000	13,246	17,000
	130,000	58,000	210,000	83,293	146,000
ALL SPECIES TOTALS:	6,964,150	4,056,900	10,999,450	6,769,217	6,310,400

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

Return splits for Medvejie/Deep Inlet:							
Stock	Forecast	Low	High	Percent	Release Site		
					Bear Cove	Deep Inlet	Total
Hidden Falls stock (early run)	621,000	328,000	999,000	30%	212,000	409,000	621,000
Medvejie stock (late run)	1,438,000	844,000	2,162,000	70%	586,000	852,000	1,438,000
	2,059,000	1,172,000	3,161,000		798,000	1,261,000	2,059,000
					39%	61%	100%

NSRAA Chum split by area				
	Forecast	Low	High	Percent
"WEST" = MEDVEJIE/ DEEP INLET/ CRAWFISH	2,618,000	1,407,000	4,058,000	38%
"EAST" = HIDDEN FALLS/ SE COVE/ THOMAS BAY/ GUNNUK	4,191,000	2,578,000	6,695,000	62%
	6,809,000	3,985,000	10,753,000	

NSRAA Value – 2024 Summary

Total ex-vessel value of NSRAA production for 2024 is shown below. Values are for all projects prior to any adjustments for tax assessments (none this year). The NSRAA value of \$13.4 million in 2024 ranks 10th out of 41 years (20th when adjusted for inflation) and was 139% of the \$9.7 million in 2023. It is worth noting that the market for Alaska salmon is still recovering. Dock prices rose throughout the season and these figures represent value as of this writing. Retro payments may need to be factored in for final estimates later this year. It is possible that dock price will become higher than the cost recovery price for 2024, which has only happened one other time since 1988.

The below table details NSRAA's commercial value for 2024 by project:

NSRAA VALUE - 2024

Includes cooperative programs

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

AGENCY (All)

Sum of Value	Species <input type="button" value="v"/>			
Project <input type="button" value="v"/>	Chum	Chinook	Coho	Grand Total
HF Chum	\$2,475,082			\$2,475,082
SEC Chum	\$695,577			\$695,577
Gunnuk Chum	\$27,360			\$27,360
TB Chum	\$1,283,413			\$1,283,413
DI Chum (SJ)	\$726,438			\$726,438
Craw Chum	\$1,263,618			\$1,263,618
Haines Chum	\$0			\$0
Med Chin		\$513,548		\$513,548
HF Chin		\$84,955		\$84,955
Deer Coho			\$20,097	\$20,097
HF Coho			\$50,671	\$50,671
DI Coho			\$77,970	\$77,970
Med Coho			\$15,144	\$15,144
Banner/Blanchard Coho			\$0	\$0
DI Chum (NSRAA)	\$6,193,962			\$6,193,962
Grand Total	\$12,665,450	\$598,503	\$163,881	\$13,427,834

DATA: 2024 est salmon Harvest by area 10.15.24.xlsx

Below are tables showing value splits by Agency, which illustrates the portion of Deep Inlet chum on the SSSC permit:

NSRAA VALUE - 2024

Includes cooperative programs

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

ALL PRODUCTION FROM NSRAA - WITH SSSC PORTION OF DEEP INLET PRODUCTION

AGENCY (All)
 Project (Multiple Items)

Sum of Value	Species				
Gear	Chum	Chinook	Coho	Grand Total	
Gillnet	\$1,200,726	\$147,865	\$8,559	\$1,357,149	10%
Seine	\$9,144,502	\$60,498	\$10,198	\$9,215,198	69%
Troll	\$2,320,223	\$390,139	\$145,125	\$2,855,487	21%
Grand Total	\$12,665,450	\$598,503	\$163,881	\$13,427,834	100%
	94%	4%	1%		

NSRAA PRODUCTION - REMOVING SSSC PORTION OF DEEP INLET PRODUCTION

AGENCY NSRAA
 Project (Multiple Items)

Sum of Value	Species				
Gear	Chum	Chinook	Coho	Grand Total	
Gillnet	\$1,146,242	\$147,865	\$8,559	\$1,302,666	10%
Seine	\$8,761,141	\$60,498	\$10,198	\$8,831,837	70%
Troll	\$2,031,630	\$390,139	\$145,125	\$2,566,894	20%
Grand Total	\$11,939,013	\$598,503	\$163,881	\$12,701,396	100%

SSSC PORTION OF DEEP INLET PRODUCTION

AGENCY SSSC
 Project DI Chum (SJ)

Sum of Value	Species			
Gear	Chum	Grand Total		
Gillnet	\$54,484	\$54,484	8%	
Seine	\$383,361	\$383,361	53%	
Troll	\$288,593	\$288,593	40%	
Grand Total	\$726,438	\$726,438	100%	

DATA: 2024 est salmon Harvest by area 10.15.24.xlsx

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	\$ -
2024	2024	2025	\$ -	\$ 2,840,298	\$ -

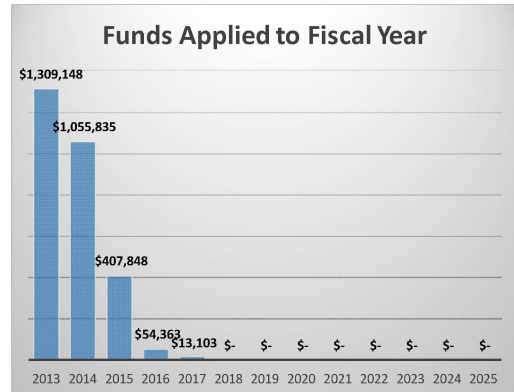


Table 2.

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)
2024	2024	2025	\$ -	\$ -	\$ -	\$ (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	\$ -		\$ -
2024	2024	2025	\$ -		\$ -
Total			\$ 2,840,298	\$ 26,187,679	\$ 23,347,380

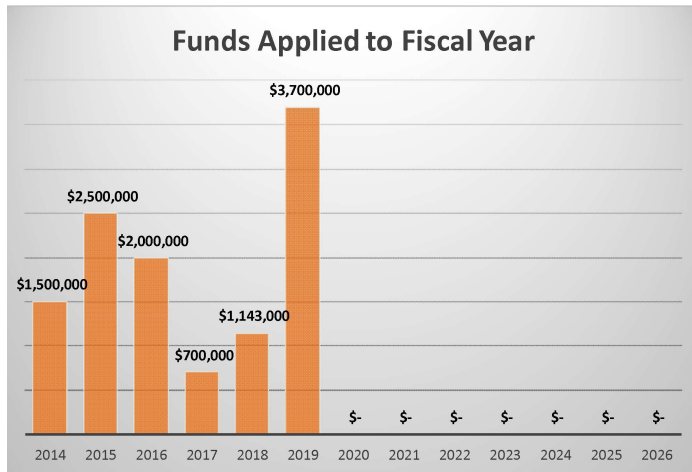
DATA: HF ASSESSMENT TAX FUNDS RECD 2012-2024.xlsx

Northern Southeast Fund (DIPAC Monies)

Table 1.

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
2024	2026	\$ -	\$ 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	\$ -			
2024	2025	\$ -			
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.

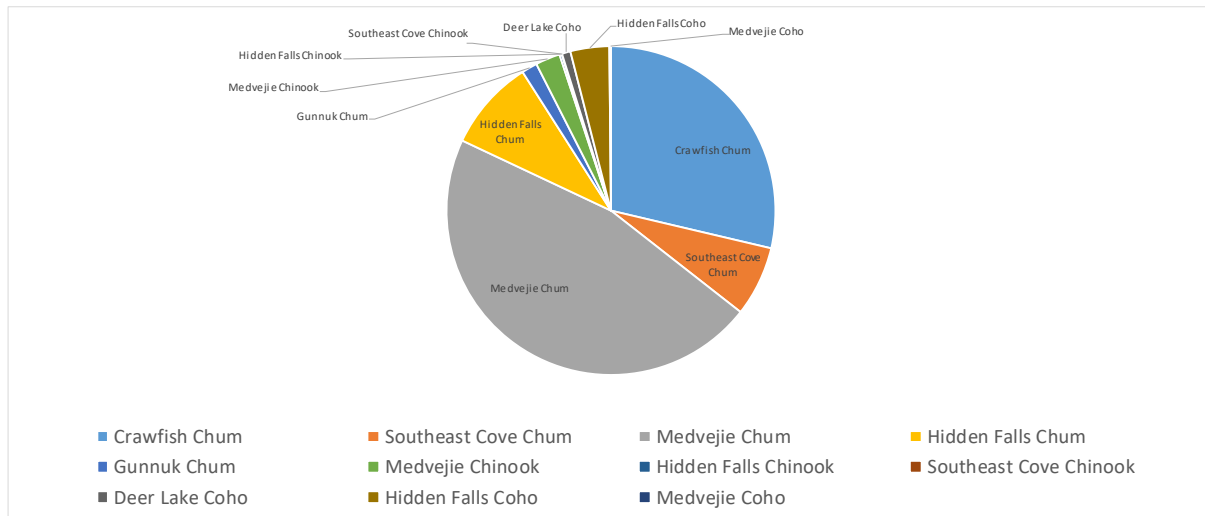
DATA: DIPAC FUNDS RECD 2012-2024.xlsx

2024 Cost Recovery Summary

This year's Cost Recovery contracts included chum lbs. that were pre-purchased (paid for but not harvested) in 2023 along with a matching portion (to be harvested and paid for at a matching price in 2024) for additional revenue. The pre-paid lbs. were unable to be fully realized with a shortage at the end of the season resulting in a repayment back to the processor. This summary is not yet final due to an outstanding payment from a processor, but expected amounts are shown. **The summary below details the revenue in 2024 but does not factor in repayment to the processor (\$783,101.75):**

2024 Cost Recovery

Project	CR-FISH	CR-INCID	CR-CARC	CR-EGG	Cost Rec Subtotal	Repayment of 2023 "prepayment"	Net income
Crawfish Chum	\$1,794,362.67	\$1,595.65			\$1,795,958.32		\$1,795,958.32
Southeast Cove Chum	\$432,613.35	\$0.00			\$432,613.35		\$432,613.35
Medvejie Chum	\$2,882,567.87	\$10,401.20	\$0.00	\$13,285.75	\$2,906,254.82		\$2,906,254.82
Hidden Falls Chum	\$560,028.00	\$166.75	\$0.00		\$560,194.75		\$560,194.75
Gunnuk Chum	\$96,189.60	\$0.00	\$0.00		\$96,189.60		\$96,189.60
Medvejie Chinook	\$152,341.19				\$152,341.19		\$152,341.19
Hidden Falls Chinook	\$13,433.00				\$13,433.00		\$13,433.00
Southeast Cove Chinook	\$1,787.25				\$1,787.25		\$1,787.25
Deer Lake Coho	\$52,003.00	pending			\$52,003.00		\$52,003.00
Hidden Falls Coho	\$240,541.00	pending			\$240,541.00		\$240,541.00
Medvejie Coho	\$9,796.65				\$9,796.65		\$9,796.65
Grand Total	\$6,235,663.58	\$12,163.60	\$0.00	\$13,285.75	\$6,261,112.93	\$0.00	\$6,261,112.93



DATA: CR tracking.xlsx (2024 file)

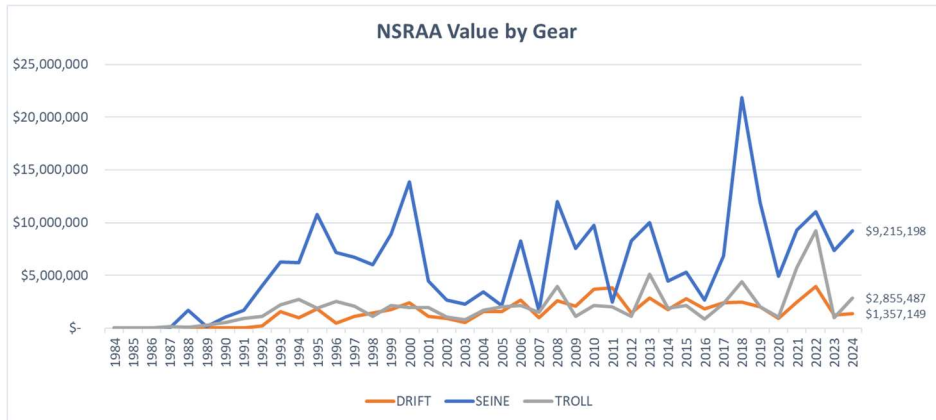
Multiple cost recovery goals were not met in 2024, with revenue unrealized at Southeast Cove/Gunnuk, Deep Inlet/Medvejie, and Crawfish Inlet. Details of these shortfalls below:

- Southeast Cove/Gunnuk Creek – Approximately \$321,000 unrealized revenue, 11% of total shortfall in 2024
- Deep Inlet/Medvejie – Approximately \$535,000 unrealized revenue, 18% of total loss in 2024
- Crawfish Inlet – Approximately \$2.17 million unrealized revenue, 72% of total loss in 2024

NSRAA Historical Value Summary

This section includes historical references to the figures listed above as well as several other metrics for tracking NSRAA's value over time. Where applicable, adjustments for inflation are made using the Consumer Price Index. Values are ranked within their respective time series for additional context.

NSRAA value by gear and species are shown below, including SSSC production in Deep Inlet:



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

Gear	Chum	Coho	Chinook	Total	Record	Year
Troll	\$ 2,320,223	\$ 145,125	\$ 390,139	\$ 2,855,487	\$ 9,234,535	2022
Seine	\$ 9,144,502	\$ 10,198	\$ 60,498	\$ 9,215,198	\$ 21,881,512	2018
Gillnet	\$ 1,200,726	\$ 8,559	\$ 147,865	\$ 1,357,149	\$ 3,949,647	2022
Total	\$ 12,665,450	\$ 163,881	\$ 598,503	\$ 13,427,834	\$ 28,819,414	2018

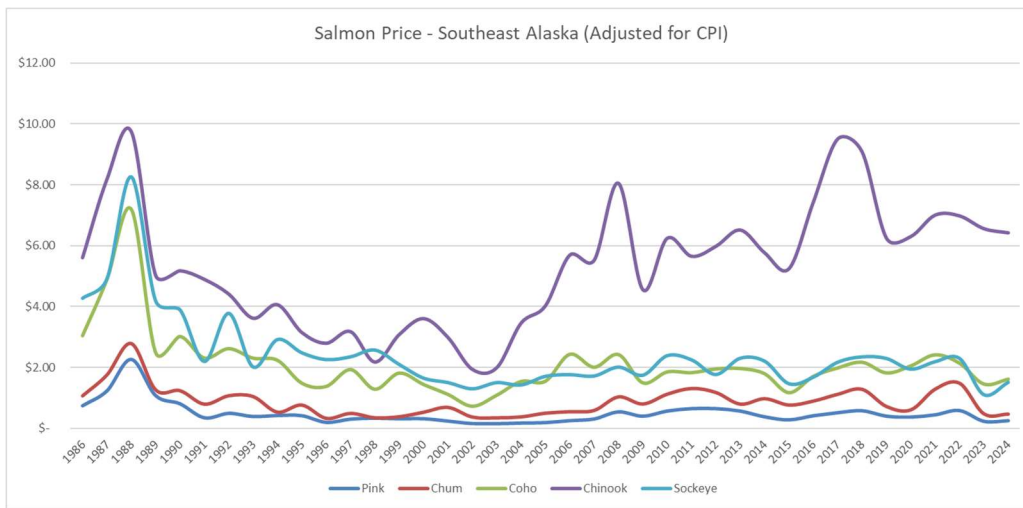
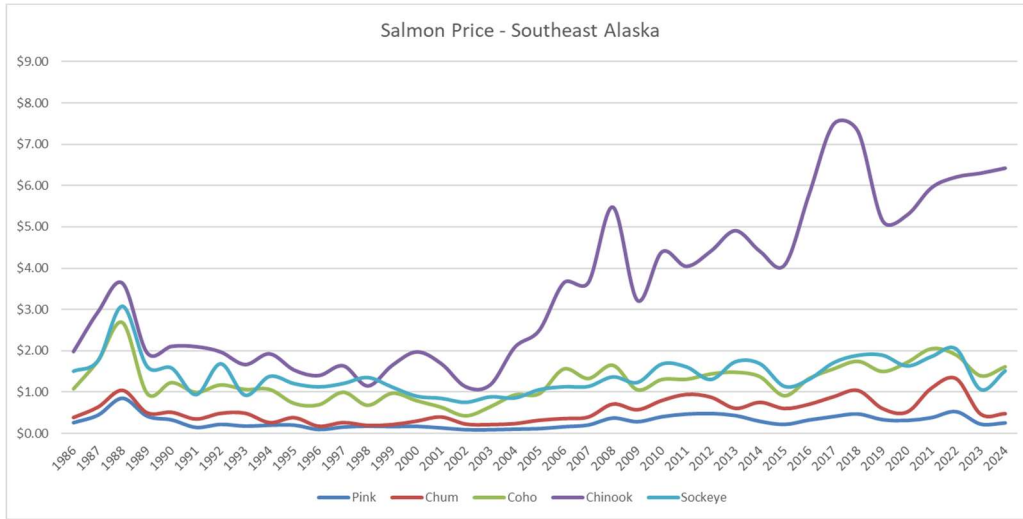
DATA: 2024 est salmon Harvest by area 10.15.24.xlsx

The largest driver for NSRAA value is chum. Chum ex-vessel prices in 2024 are currently reported at \$.47/lb, just \$.01/lb higher than 2023. This is likely to change soon to reflect the improving market conditions. Prices for all species as well as price history are shown below.

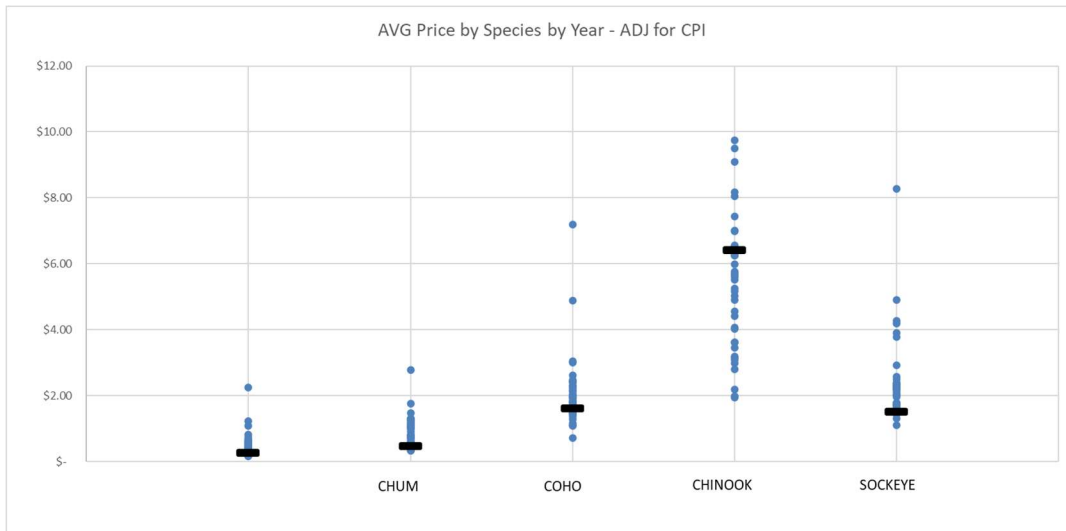
	2024 \$/lb	Rank/39 years
Pink	\$0.26	22
Chum	\$0.47	8
Coho	\$1.61	3
Chinook	\$6.42	16
Sockeye	\$1.52	22

DATA: Price hist CR-CPH.xlsx

The graphs below show the history of salmon prices for all species in Southeast Alaska (SEAK) per ADF&G data:

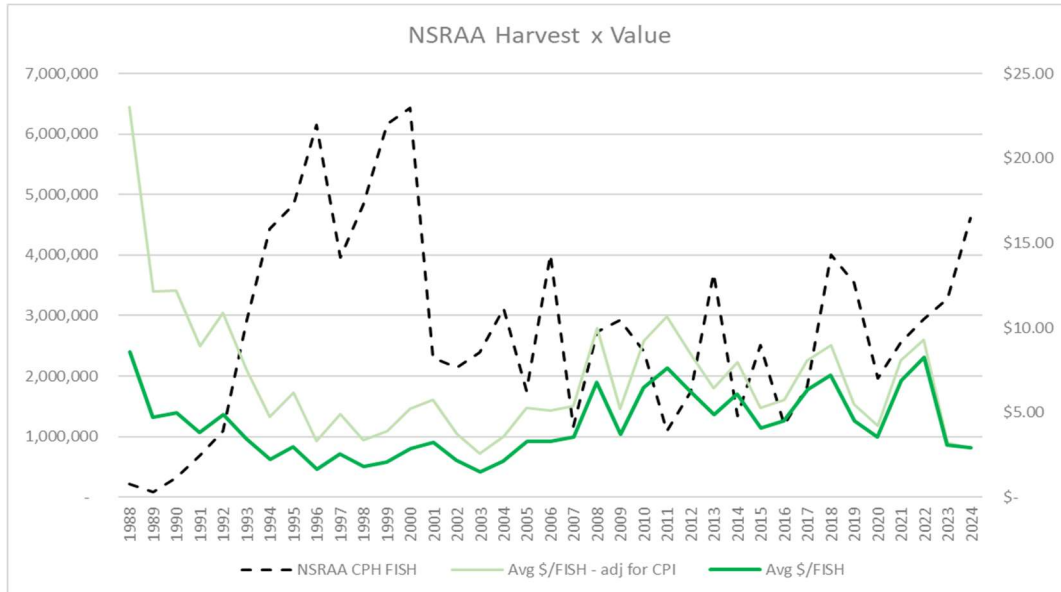


This graph better depicts where 2024 sits in the time series for each species:

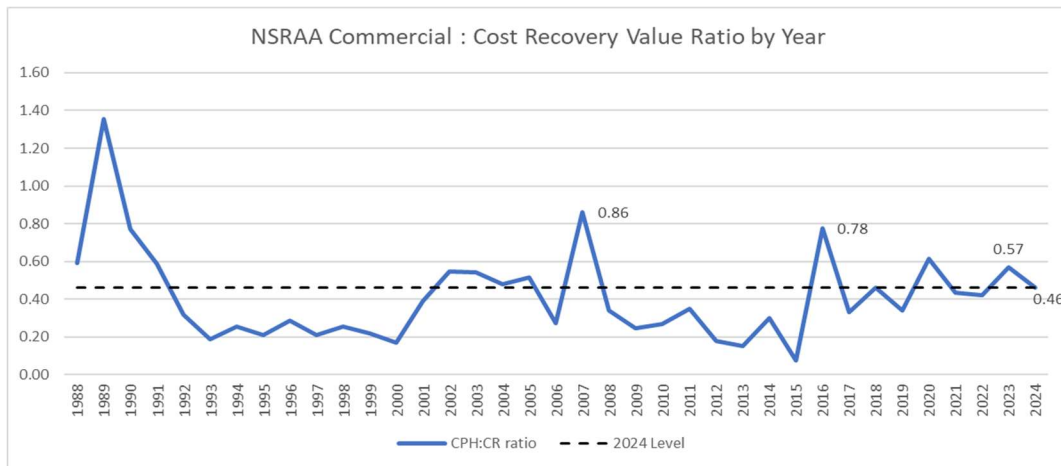


DATA: Price hist CR-CPH.xlsx

Below is the estimated value per commercially landed fish through NSRAA's history, calculated as [NSRAA commercial value / adult fish harvested]. At \$2.91/fish, 2024 ranks 30th out of 39 years, and 38th when adjusting for inflation. This occurs despite the total commercial volume reaching a 24-year high at 4.6 million salmon sold by fishermen in 2024.



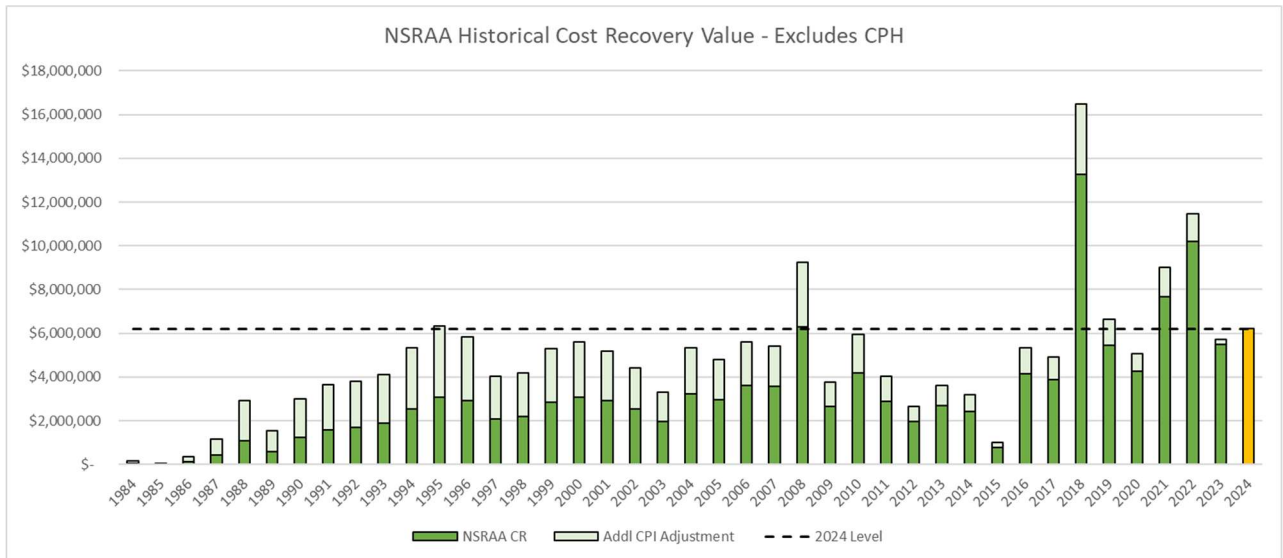
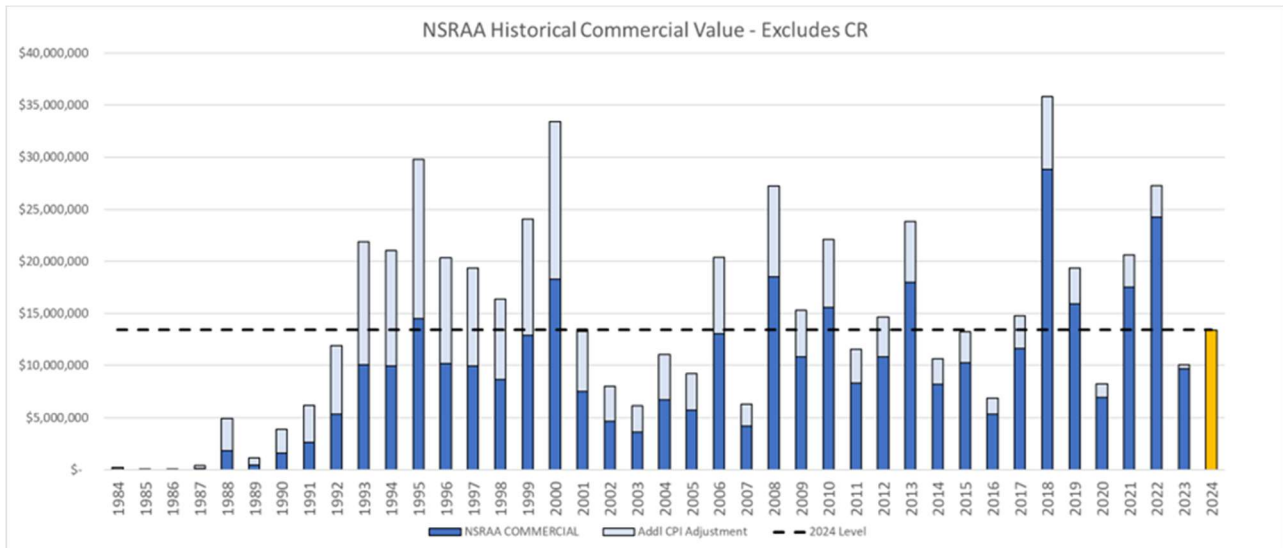
Below are ratios of the value of Common Property Harvest to Cost Recovery throughout NSRAA's history, calculated as [NSRAA value CR / NSRAA value CPH]. In other words, how many dollars of cost recovery were made for every dollar of commercially sold fish. In 2024 this value was 0.46, which ranks 13th out of 37 years.



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

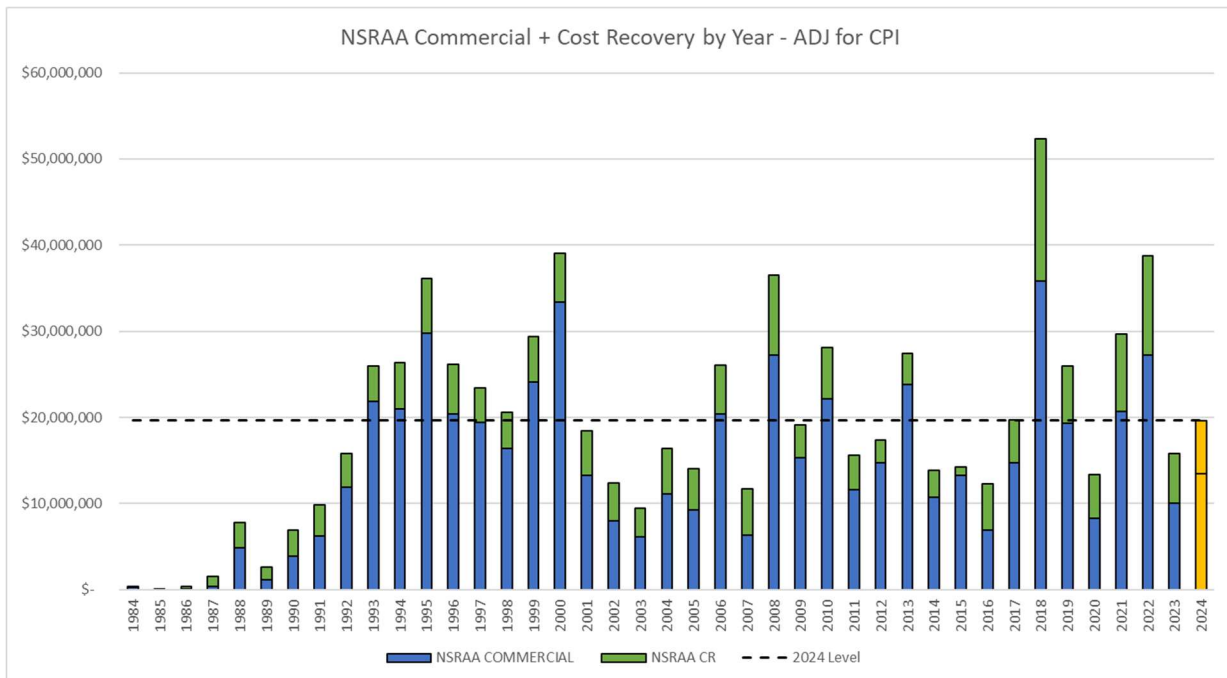
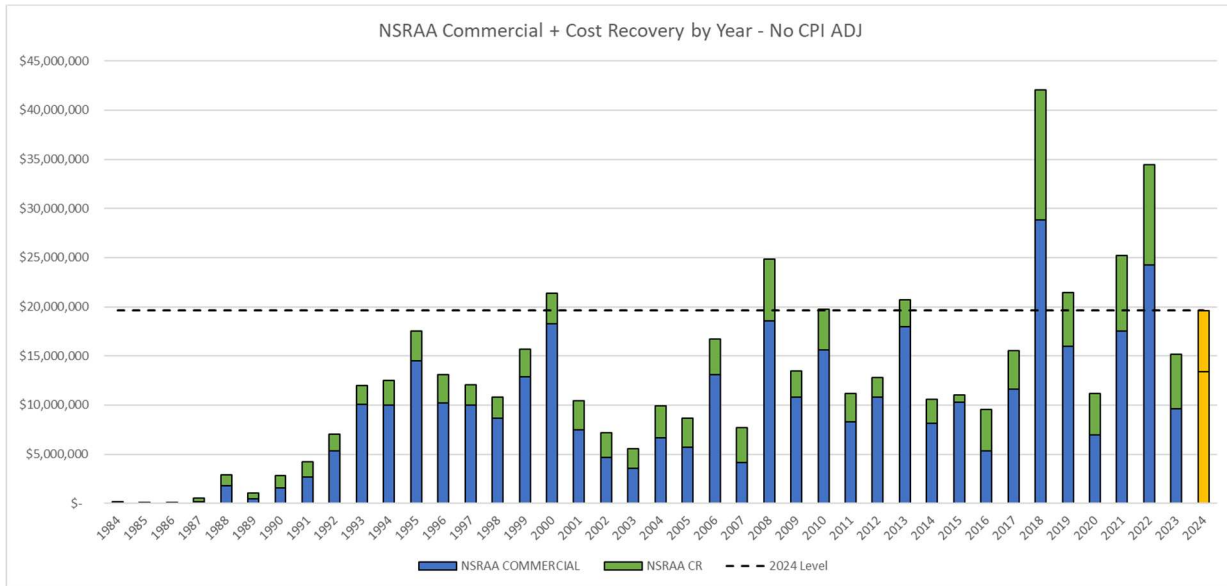
The below table and graphs provide some historical context for NSRAA's commercial and cost recovery value, including adjustments for inflation, based on the U.S. Consumer Price Index.

	Value	Rank in 41 Years	Rank with CPI ADJ
CPH	\$ 13,427,834	10	20
CR	\$ 6,200,000	5	7
TOTAL	\$ 19,627,834	9	18



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

Historical context for NSRAA's commercial and cost recovery value continued:



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