



# 2021 Salmon Season

- Returns
- Value/Allocation
- 2022 Preliminary Forecast

NSRAA came in at **87%** of forecast overall – **3.8 Million fish**

*all species*



# 2021 Salmon Returns

-Chum



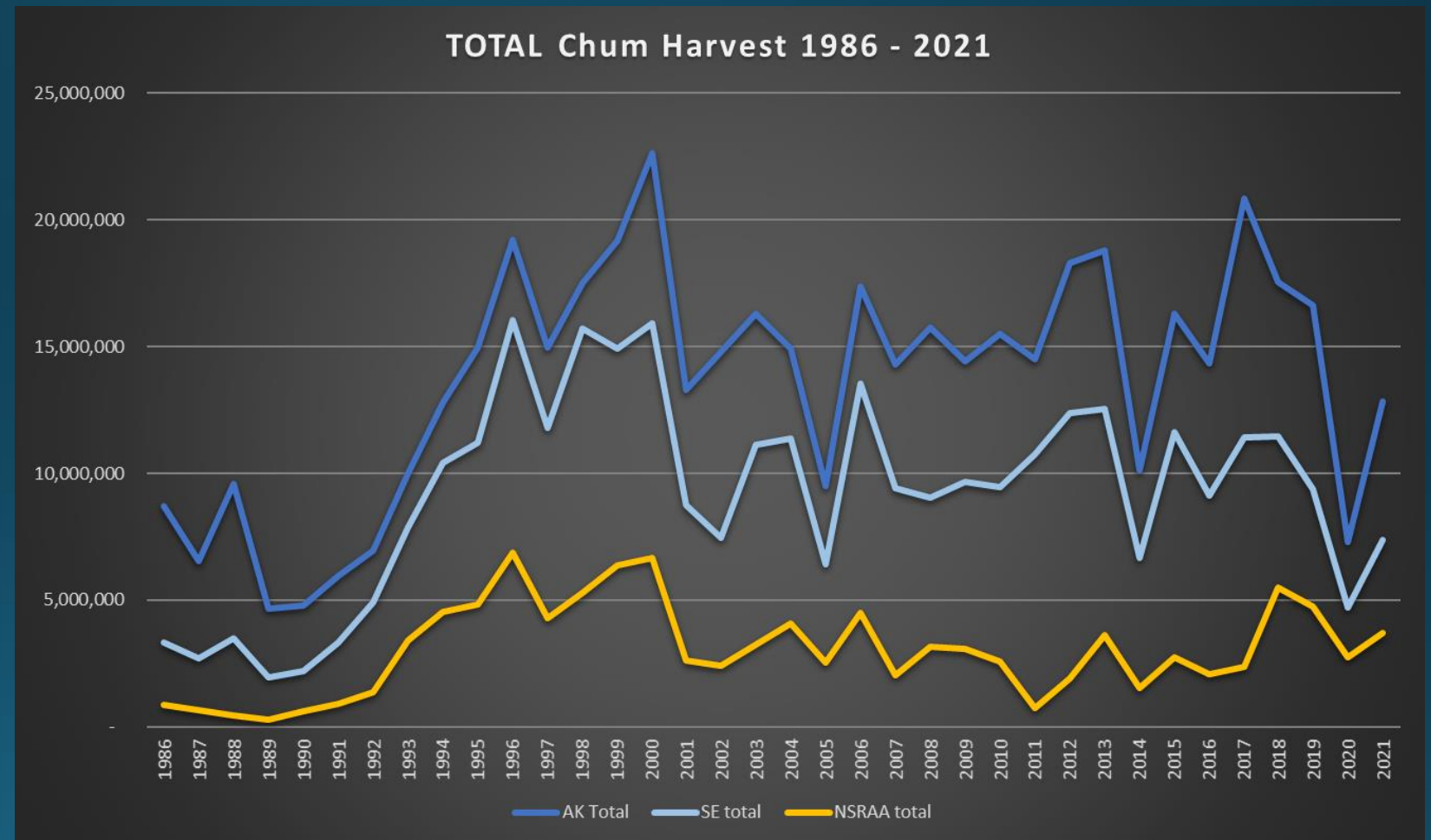
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# 2021 Chum - HIGHLIGHTS

- Hidden Falls experienced another disappointing return, however summer egg take goals were eventually met.
- Gunnuk Creek Hatchery saw its first return of four-year-olds.
- Deep Inlet was strong and had no cost recovery, 90% of the return went to commercial fisheries.
  - Returns to inner sound were so high that it prompted a cost recovery and commercial seine opening in Silver Bay.
- Fall egg takes were met, however the total male ratio of 67% at Medvejie proved to make this difficult, with egg take extending through early October.
- Crawfish Inlet had a modest return that allowed for Cost Recovery goals to be met plus additional commercial harvest.

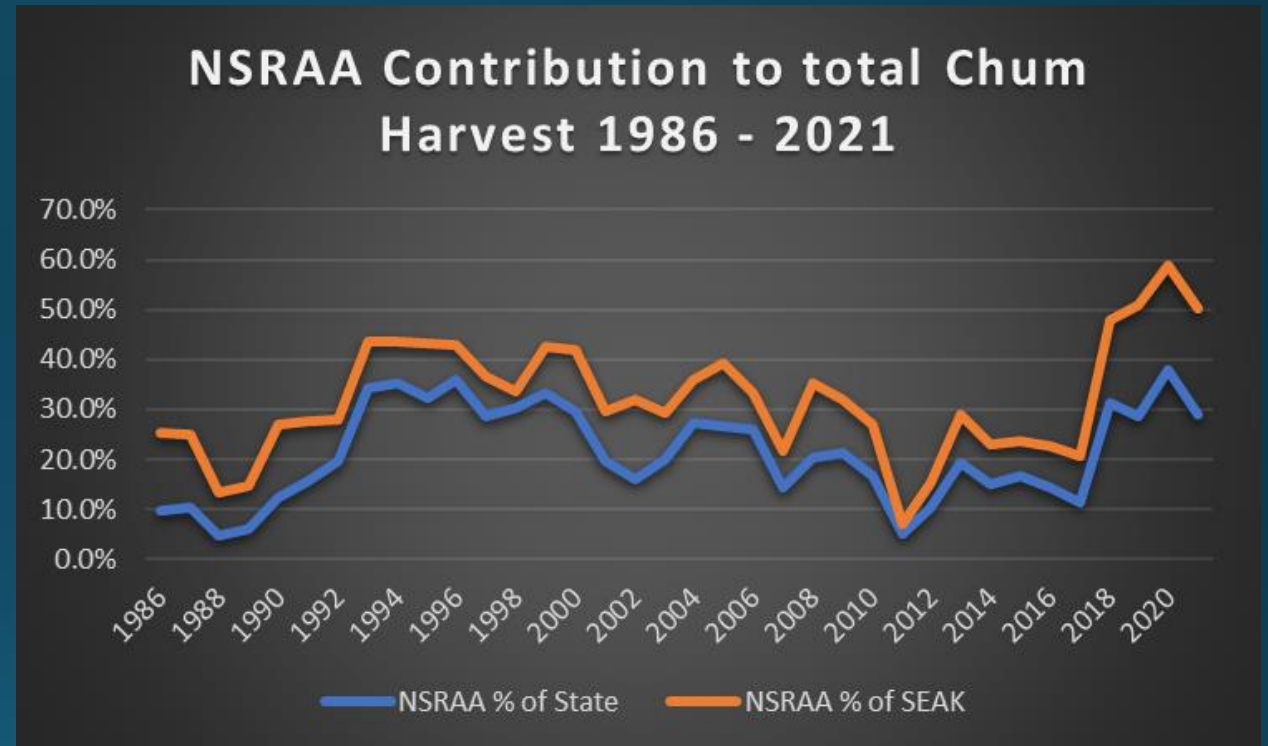
# 2021 Chum Returns – TOTAL HARVEST

- Better year than 2020
  - Still not great
- 2021 Total AK = 12.8 million
  - 24<sup>th</sup>/36 years
- 2021 Total SEAK = 7.4 million
  - 26<sup>th</sup>/36 years
- 2021 Total NSRAA = 3.7 million
  - 12<sup>th</sup>/36 years



# 2021 Chum Returns – TOTAL HARVEST

- Better year than 2020
  - Still not great
- NSRAA (3.7 m) = 29% of AK Harvest (12.8 m)
  - 10<sup>th</sup>/36 years
  - 2020 1<sup>st</sup>
- NSRAA (3.7 m) = 50% of SEAK Harvest (7.4 m)
  - 3<sup>rd</sup>/36 years
  - Top 4 years = 2018-2021



Year	AK Total	SE total	NSRAA total	NSRAA % of State	Rank of 36	NSRAA % of SEAK	Rank of 36
2018	17,549,063	11,479,058	5,513,657	31.4%	7	48.0%	4
2019	16,628,170	9,357,462	4,759,621	28.6%	12	50.9%	2
2020	7,308,481	4,684,806	2,761,214	37.8%	1	58.9%	1
2021	12,837,156	7,365,613	3,701,510	28.8%	10	50.3%	3

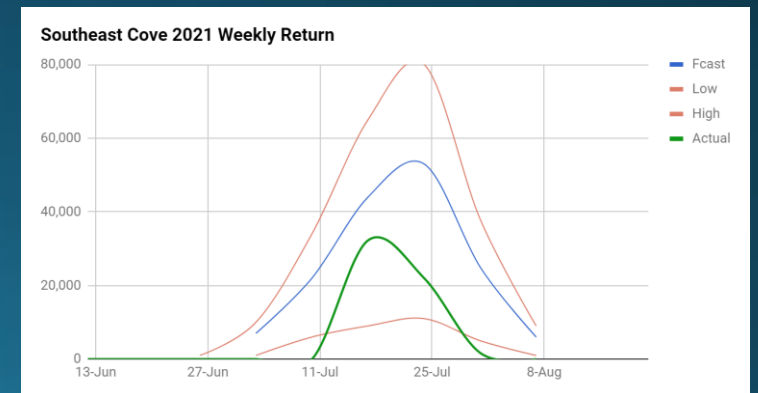
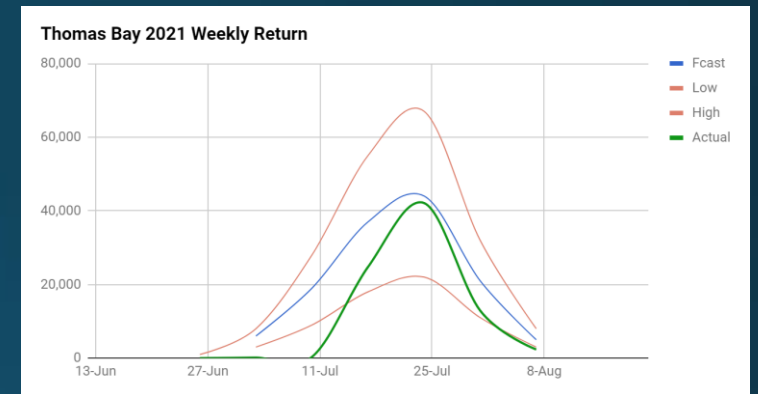
2021 data sources:

- AK Total 2021 Salmon Harvest Summary (1/1/2021)
- SE total ADFG Tag Lab Database 11/3/2021
- NSRAA total Final Catch estimates

# 2021 Chum Returns – SUMMER RUN

NSRAA came in at **66%** of forecast – **511,000 total**

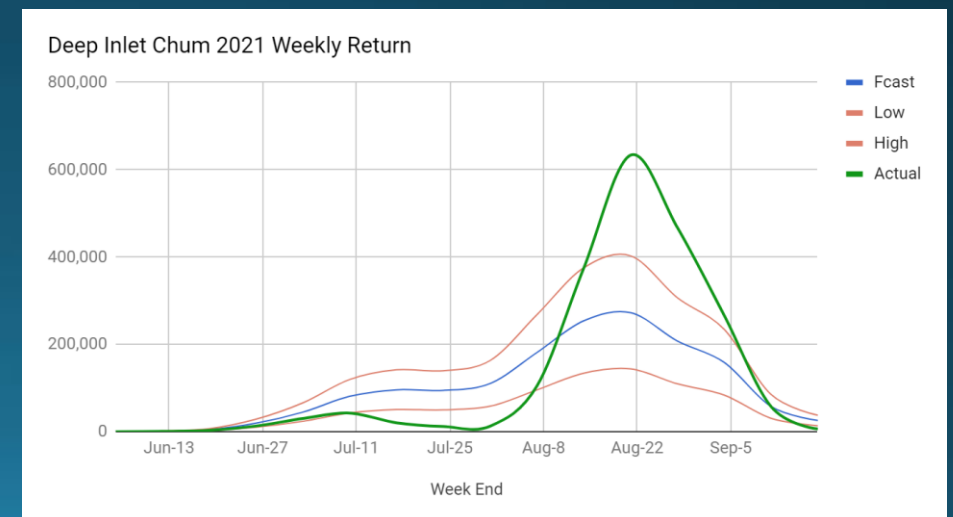
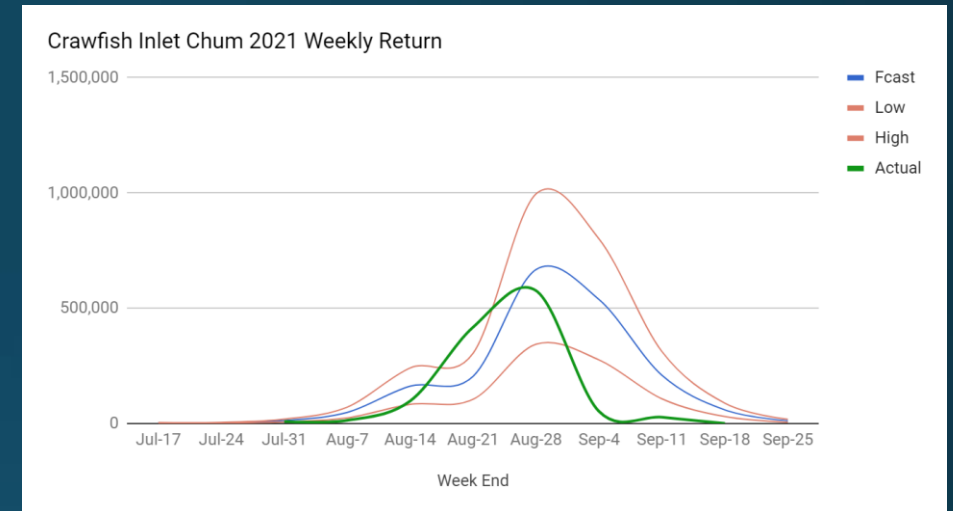
- Medvejie – poorest (120,000) – 31%
  - Deep Inlet SN catch = 60,000
- Gunnuk Creek – poor, first fours (33,000) – 43%
  - Exp Cost Rec
- Hidden Falls – least poor (222,000) – 78%
  - Exp Cost Rec
  - Not enough for Commercial opening
- Southeast Cove – poor (54,000) – 34%
- Thomas Bay – poor (82,000) – 62%



# 2021 Chum Returns – FALL RUN

NSRAA came in at 102% of forecast – **3.1 Million total**

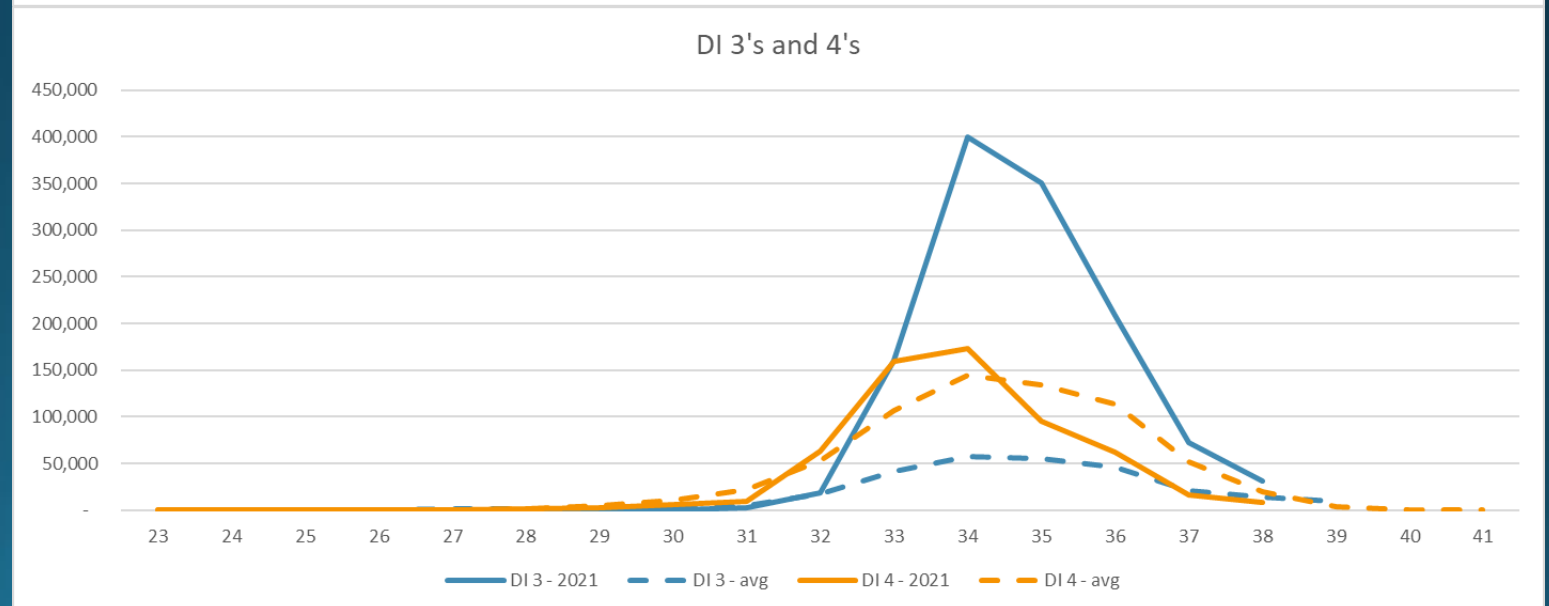
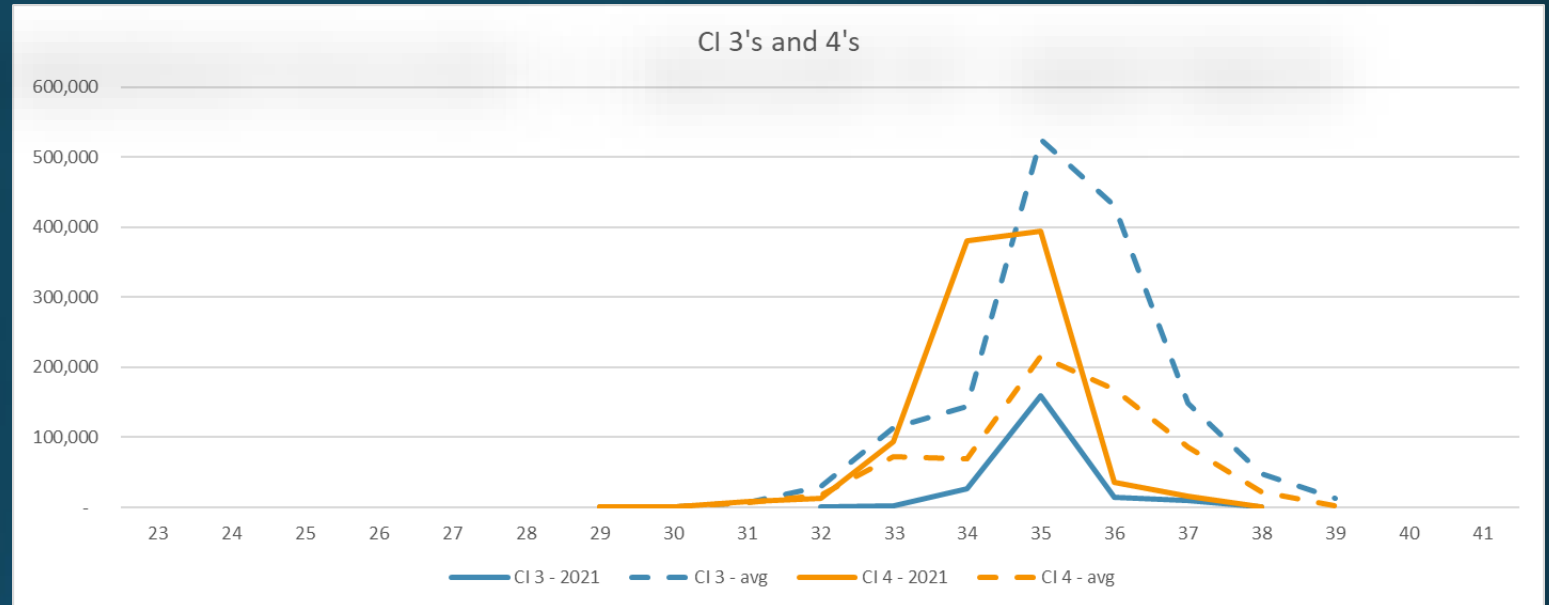
- Crawfish - moderate (1.3M)
  - 66% of forecast
  - 18% 3-year olds
  - Opened Aug 26<sup>th</sup>
    - SN catch = 381,000
- Deep Inlet - strong (1.9M)
  - 128% of forecast
  - 69% 3-year olds
  - SN catch = 0.9 million
    - Silver Bay opening = 30,000
    - Closed for brood stock 9/14





# 2021 Chum Returns – FALL RUN

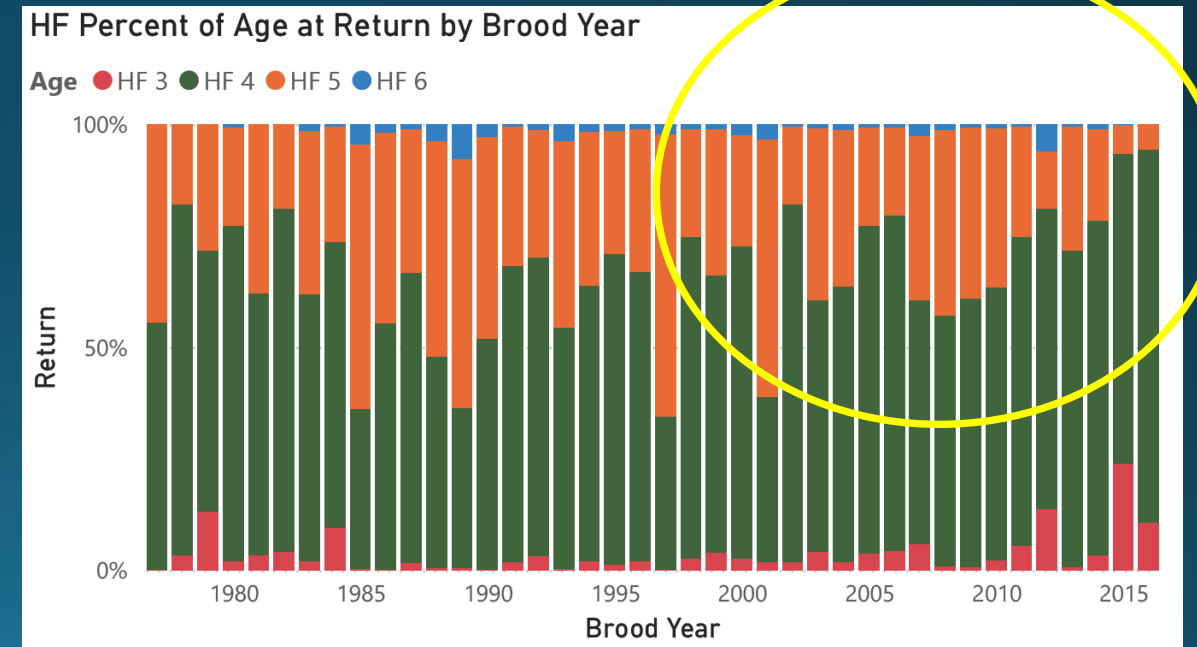
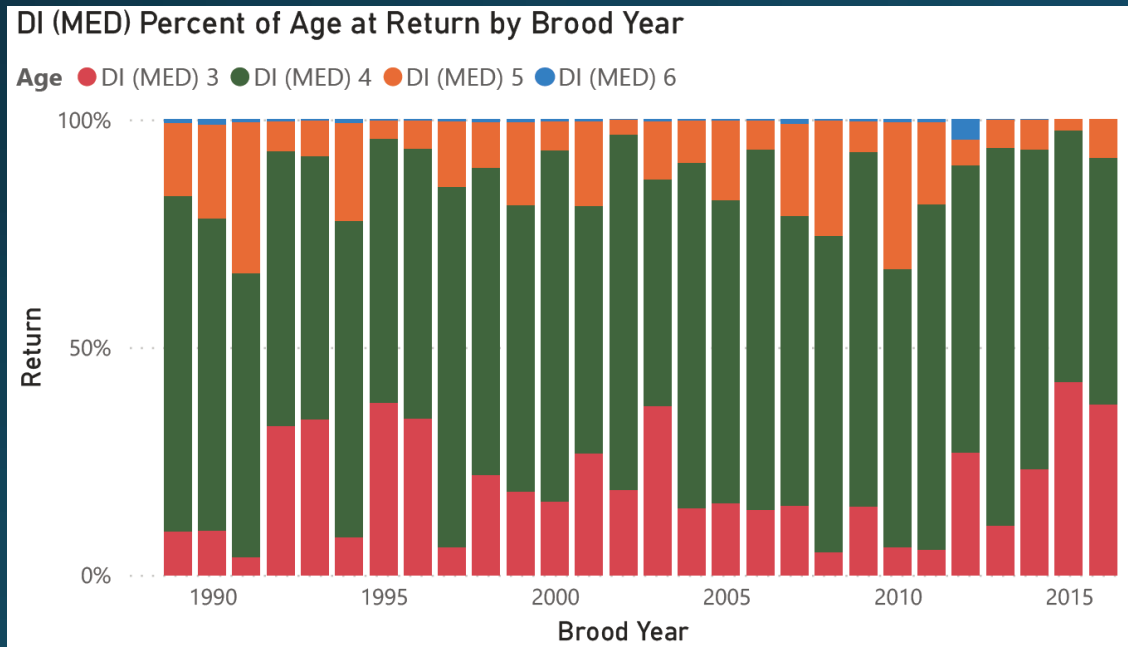
Sum of Contribution	Column Labels				
Row Labels	3	4	5	6	Grand Total
<b>CRAWFISH INLET</b>	<b>56.27%</b>	<b>42.54%</b>	<b>1.18%</b>	<b>0.01%</b>	<b>100.00%</b>
2017	98.41%	1.59%	0.00%	0.00%	100.00%
2018	85.84%	14.07%	0.06%	0.03%	100.00%
2019	25.06%	74.10%	0.85%	0.00%	100.00%
2020	59.14%	38.16%	2.70%	0.00%	100.00%
2021	17.88%	79.01%	3.11%	0.00%	100.00%
<b>DEEP INLET</b>	<b>33.54%</b>	<b>59.06%</b>	<b>7.01%</b>	<b>0.40%</b>	<b>100.00%</b>
2013	11.16%	78.87%	9.97%	0.00%	100.00%
2014	17.49%	73.06%	9.44%	0.00%	100.00%
2015	17.26%	76.55%	6.12%	0.07%	100.00%
2016	18.95%	54.80%	26.12%	0.14%	100.00%
2017	13.89%	82.34%	3.12%	0.65%	100.00%
2018	56.47%	34.49%	6.90%	2.14%	100.00%
2019	11.13%	85.66%	3.19%	0.02%	100.00%
2020	68.67%	25.71%	5.61%	0.01%	100.00%
2021	66.93%	31.59%	1.49%	0.00%	100.00%
<b>Grand Total</b>	<b>43.86%</b>	<b>51.55%</b>	<b>4.36%</b>	<b>0.23%</b>	<b>100.00%</b>



# 2021 Chum Returns – AGE SHIFT

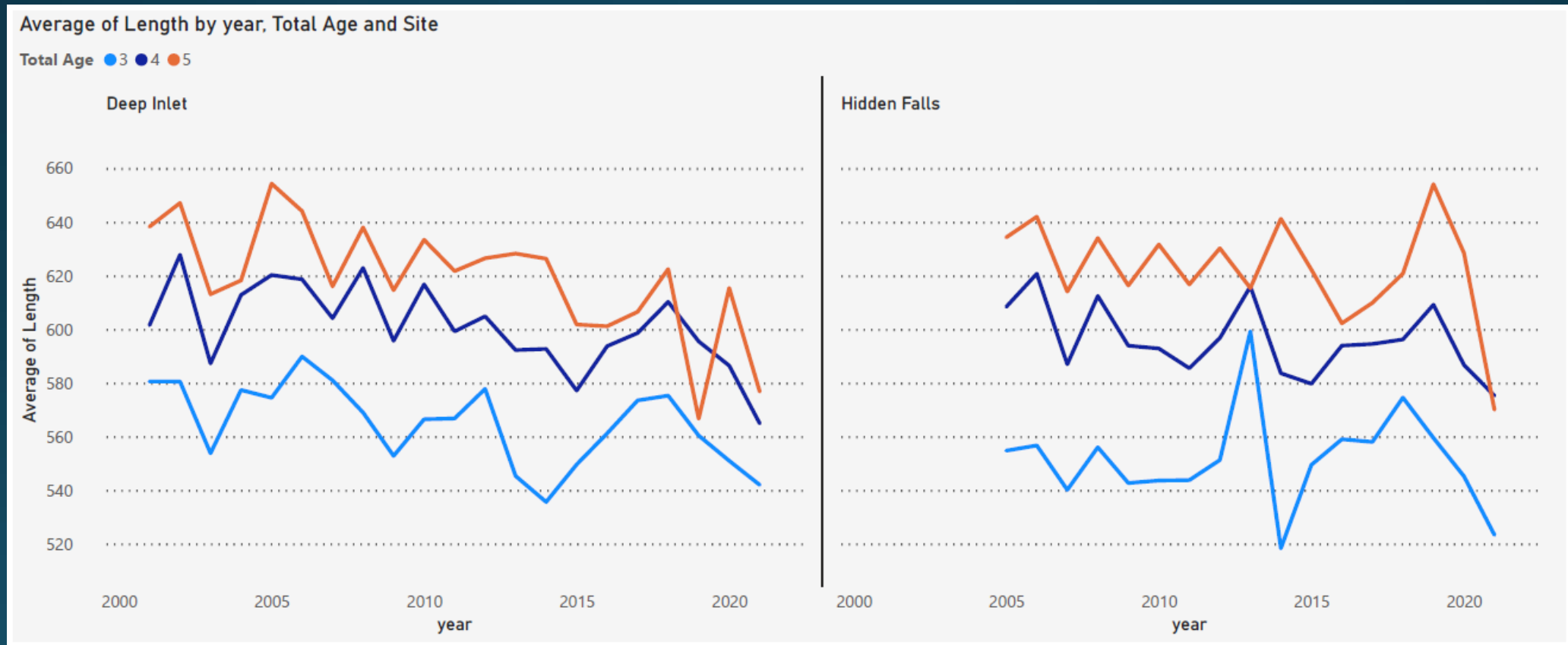
- Recent trends for both long term stocks
  - Fewer older fish, **more younger fish**

2021 Return Year Age Composition				
SITE	3	4	5	6
HIDDEN FALLS	10%	86%	3%	0%
HIDDEN FALLS (SEC)	15%	69%	15%	1%
GUNNUK CREEK	4%	96%	0%	0%
HIDDEN FALLS (TB)	3%	92%	4%	0%
MEDVEJIE (HF)	0%	91%	9%	0%
MEDVEJIE (MED)	69%	30%	1%	0%
CRAWFISH INLET	18%	79%	3%	0%



# 2021 Chum Returns – SIZE

- Size reduction over time across all ages and gender



# 2021 Salmon Returns

-Chinook

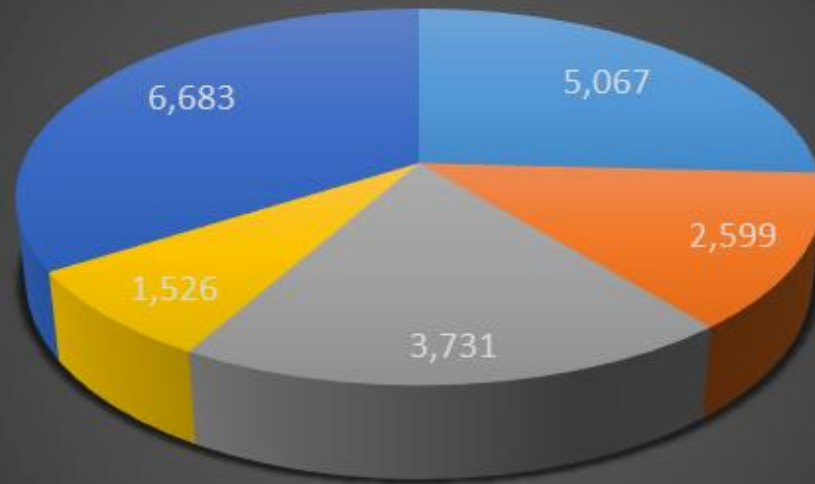


# 2021 Chinook - HIGHLIGHTS

- NSRAA's Chinook came in near forecast at Bear Cove (96%) but below forecast at Hidden Falls (40%).
- Deep Inlet's THA Chinook catch was 6,628 which is 125% of the previous 5-year average.
- Gunnuk Creek Hatchery saw its first return of adult (3-ocean) Chinook released from the site.

# 2021 Chinook - DEEP INLET

2021 NSRAA Chinook

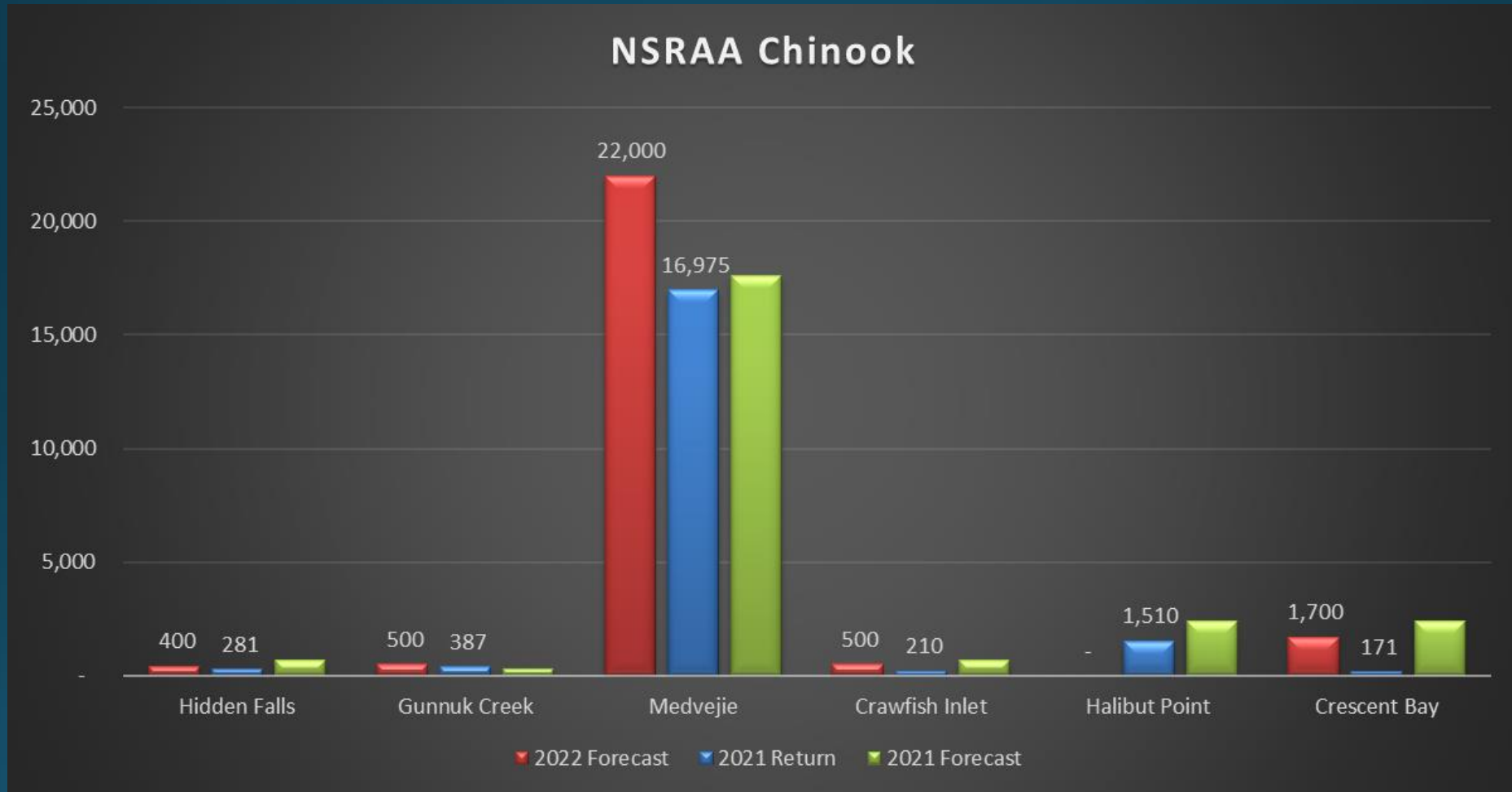


■ Troll ■ Seine ■ Gillnet ■ Sport ■ Hatchery

2021 NSRAA Chinook

- SN: 2,736
- GN: 3,869
- TR: 23 (THA) – 5,067 Tot

# 2021 Chinook



# 2021 Salmon Returns

-Coho



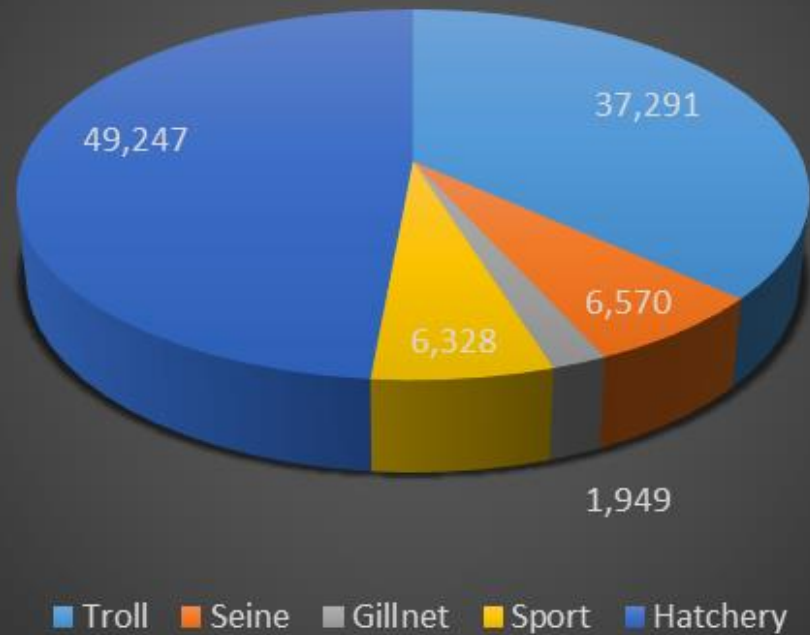


# 2021 Coho - HIGHLIGHTS

- NSRAA's coho returns showed **relatively poor marine survival at all sites, except for Bear Cove (6.0% m.s.)**. Deer Lake (2.0%) and Hidden Falls (1.1%) survivals were both down from a year ago. Deep Inlet (0.9%) grossly underperformed (18% of forecast).
- Terminal returns were again lower than expected; there was no harvest at Hidden Falls.

# 2021 Coho – GEAR SPLITS

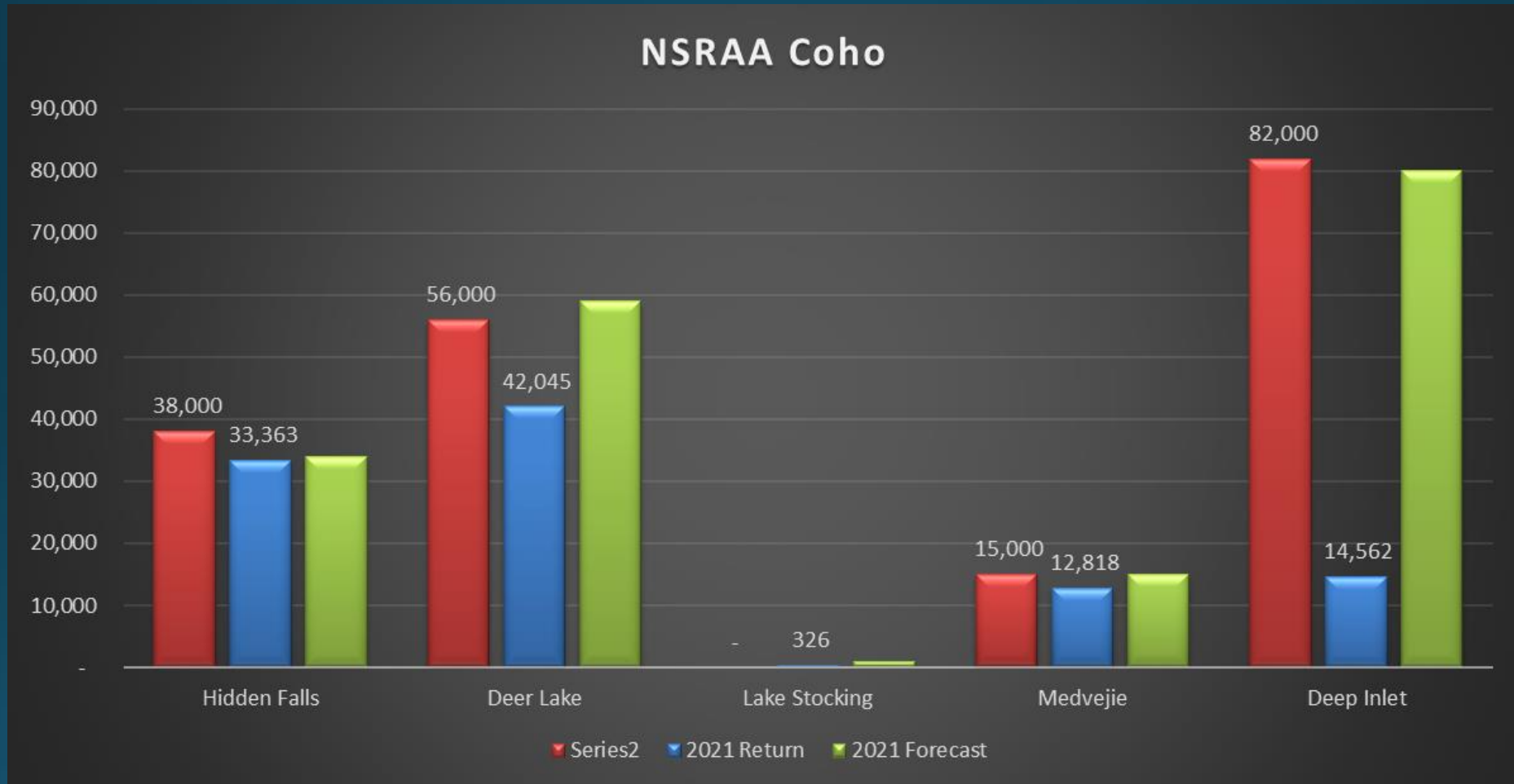
2021 NSRAA Coho



2021 NSRAA Chinook

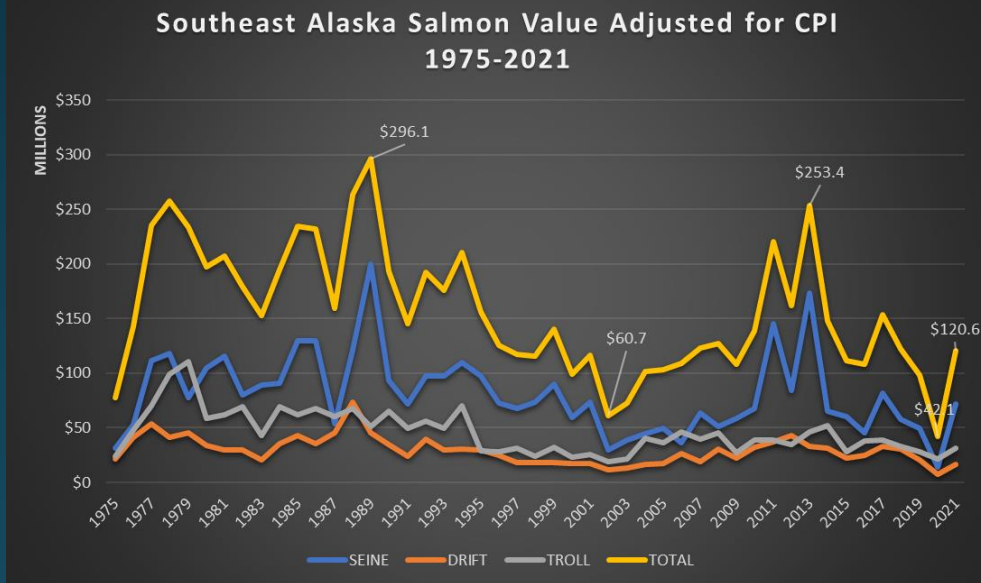
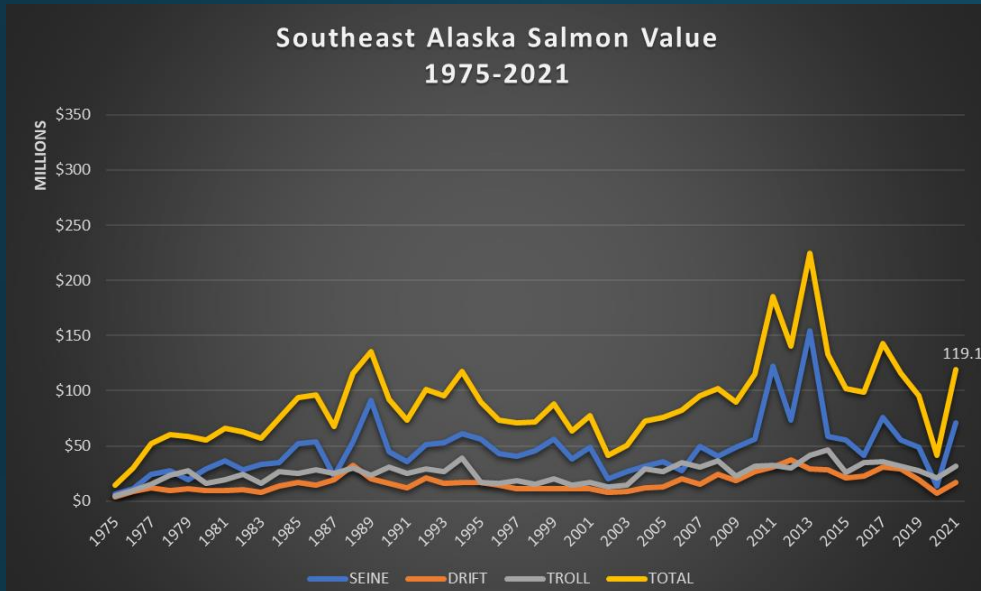
- SN: 6,570
- GN: 1,949
- TR: 37,291

# 2021 Coho



# 2021 Salmon Value

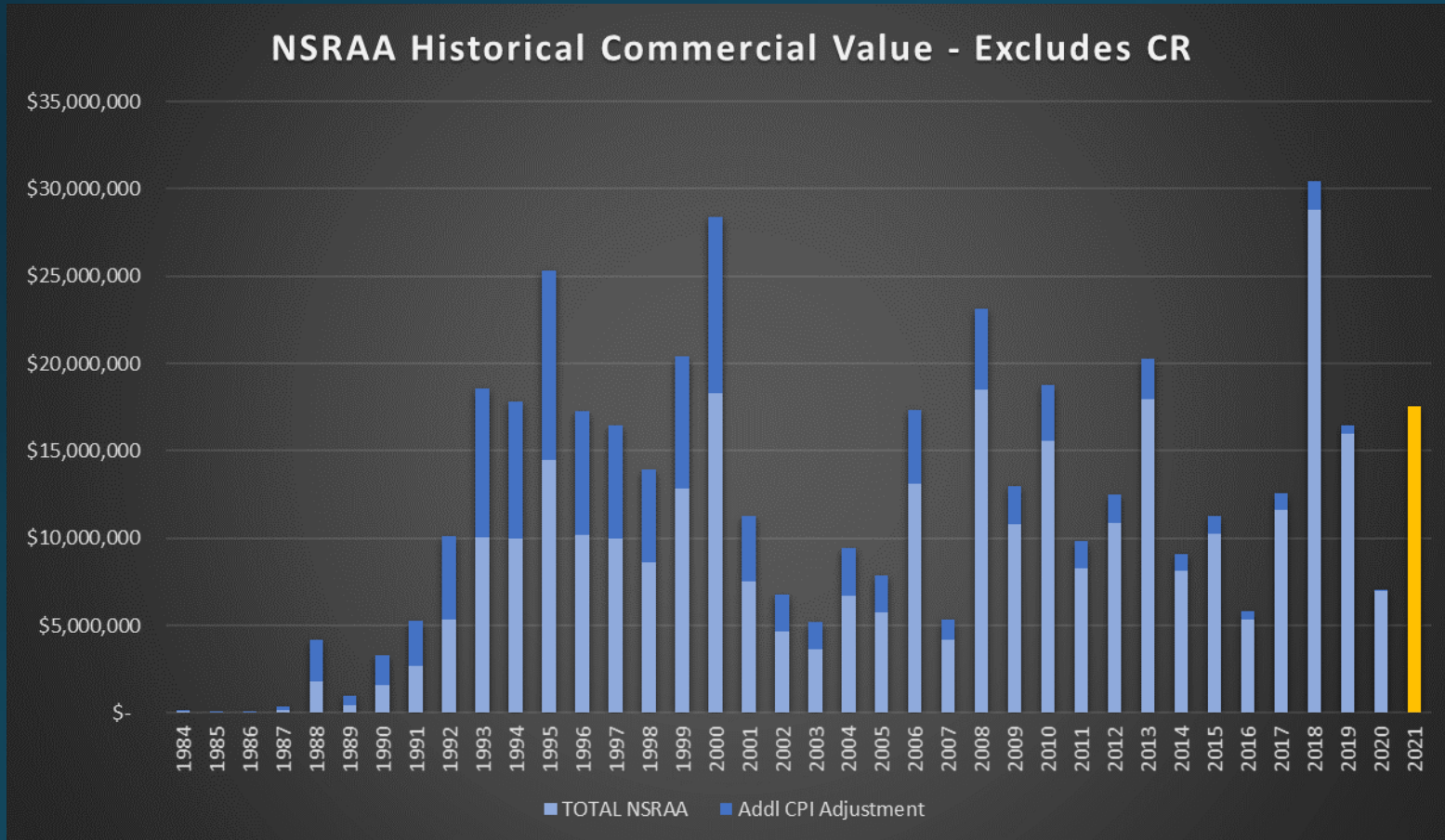
# 2021 All Species Commercial Value - SEAK



- 2021 SEAK Total Value = \$119 million
  - Excludes Cost Rec
  - Ranks 7/47 – Not adjusted
  - Ranks 32/47 – Adjusted for CPI
- NSRAA % of all SEAK Commercial Value
  - 2021 = 14.7%
    - Ranks 8/37
  - 10 year avg = 11.9%

# 2021 All Species - NSRAA Commercial Value

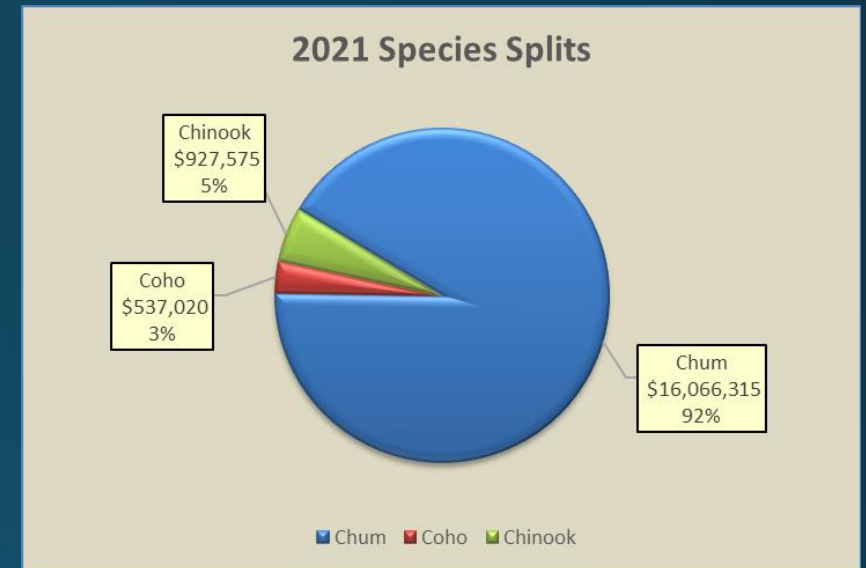
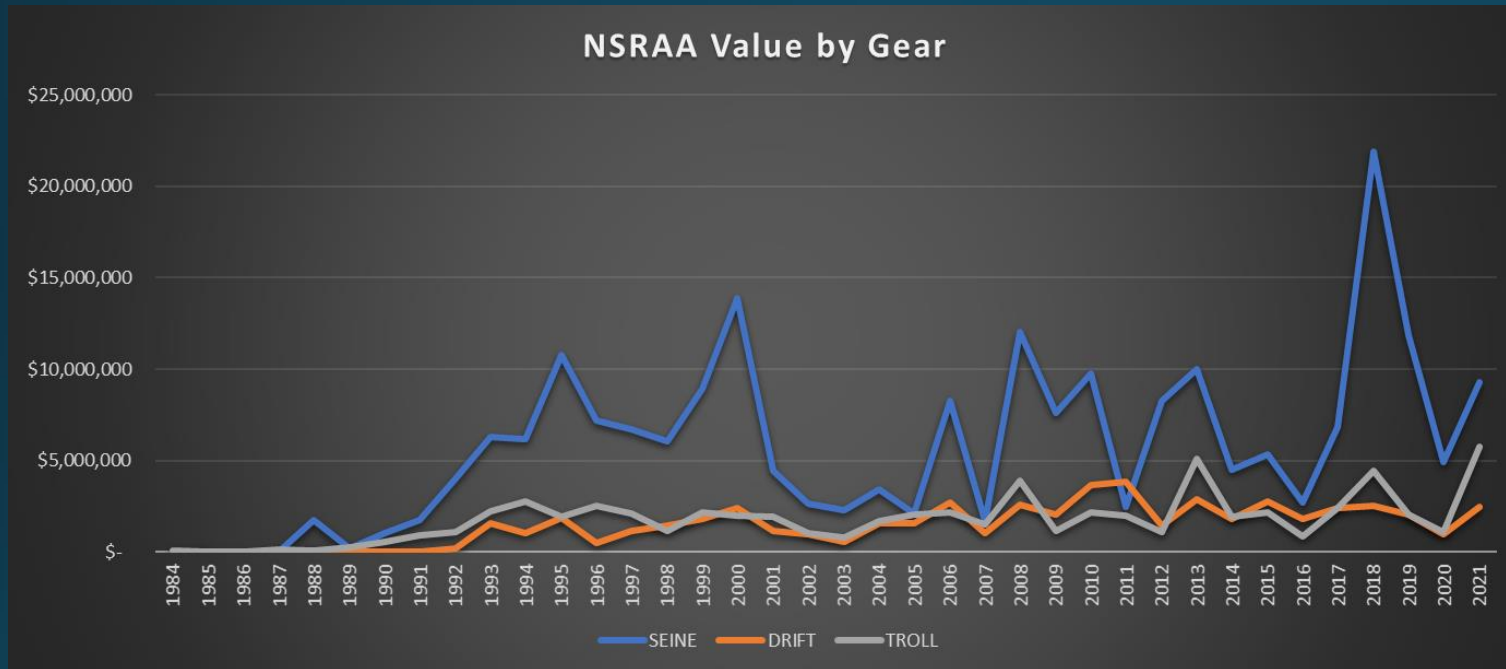
\$ 17,530,910



4th

10th with CPI adjustment

# 2021 NSRAA Commercial Value Splits



Gear	Chum	Coho	Chinook	Total	Record	Year
Troll	\$ 4,715,044	\$ 517,422	\$ 515,605	\$ 5,748,072	\$ 5,748,072	2021
Seine	\$ 9,124,407	\$ 11,380	\$ 156,915	\$ 9,292,702	\$ 21,620,375	2018
Gillnet	\$ 2,226,863	\$ 8,217	\$ 255,056	\$ 2,490,136	\$ 3,819,466	2011
Total	\$ 16,066,315	\$ 537,020	\$ 927,575	\$ 17,530,910	\$ 28,556,687	2018

**Record  
Troll Catch  
and Value**

# 2021 Allocation Estimates

(Enhanced Fisheries)

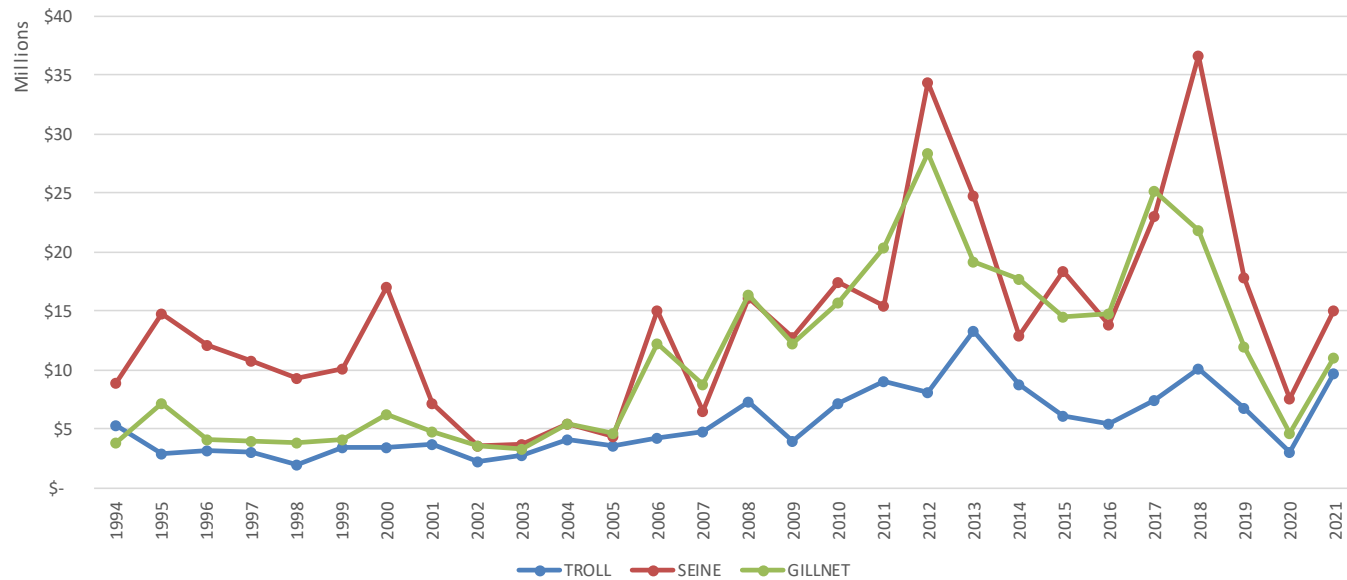


# 2021 SEAK (ENHANCED) Value - \$36.0 Million

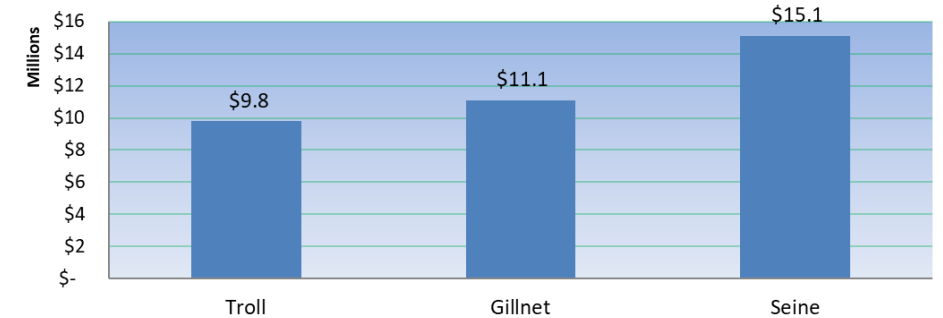
2021 data is very preliminary; values are from end-of-season (Nov ' 21) operator estimates from SSRAA, NSRAA, DIPAC, AKI.

(no AKI pink, partial AKI chum estimate)

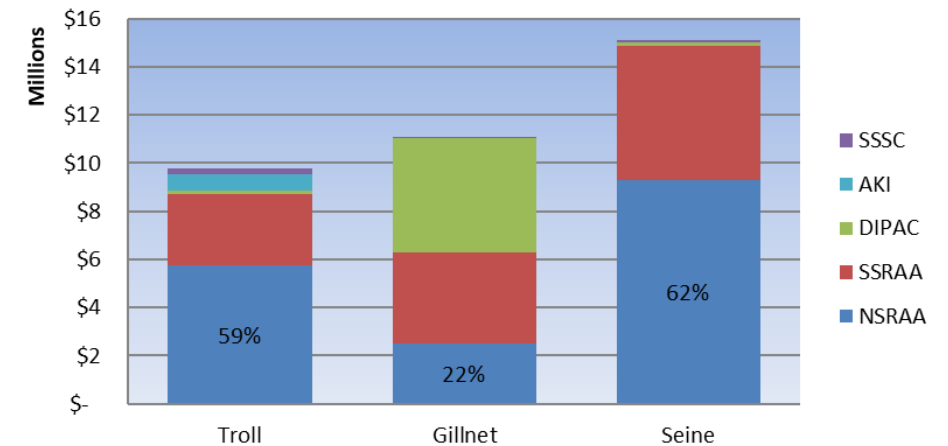
SE Alaska Enhanced Salmon Value  
Annual Estimates by Gear



Enhanced Value  
2021 Preliminary Estimates



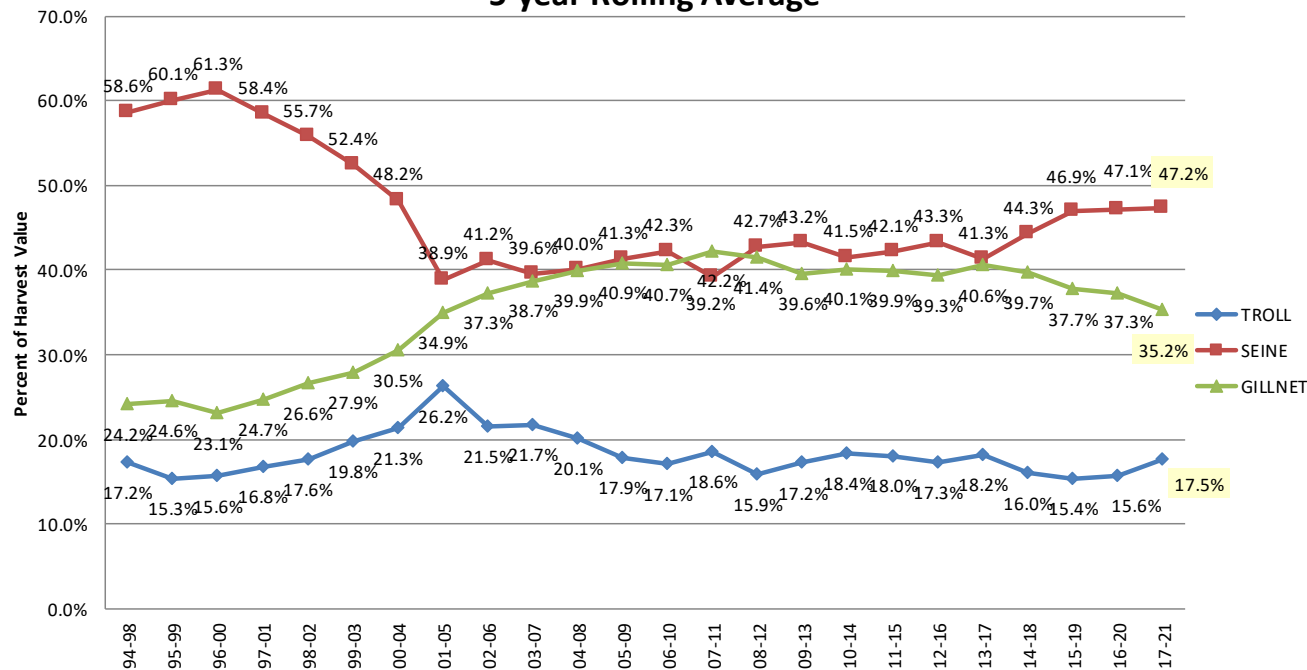
Enhanced Value by Agency  
2021 Preliminary Estimates



# 2021 Allocation Estimates

2021 data is very preliminary; values are from end-of-season (Nov ' 21)  
operator estimates from SSRAA, NSRAA, DIPAC, AKI.  
(no AKI pink, partial AKI chum estimate)

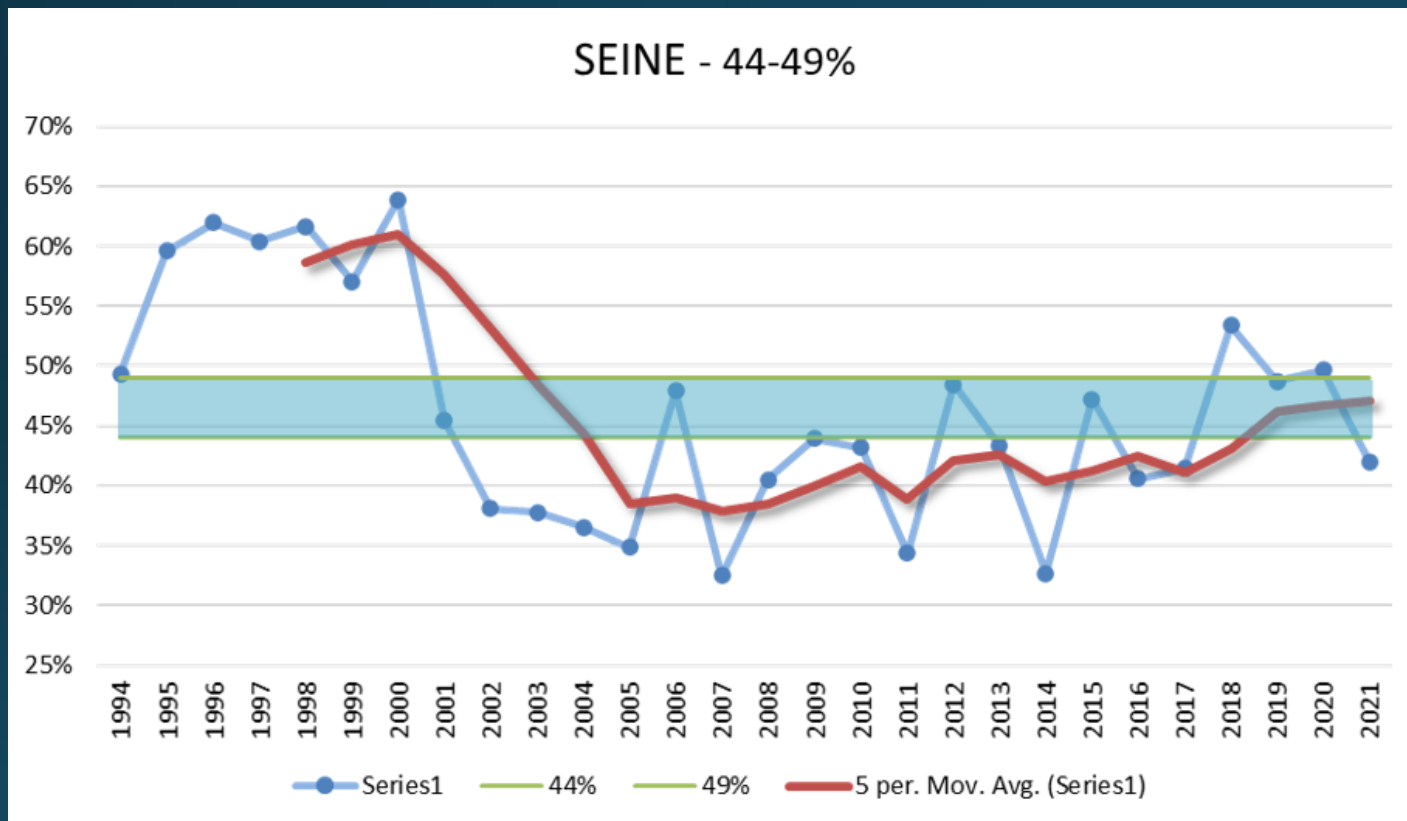
**SE Alaska Enhanced Salmon Value**  
**5-year Rolling Average**



- 5-year Rolling Avg

- SN – 47.2%
- GN – 35.2%
- TR – 17.5%

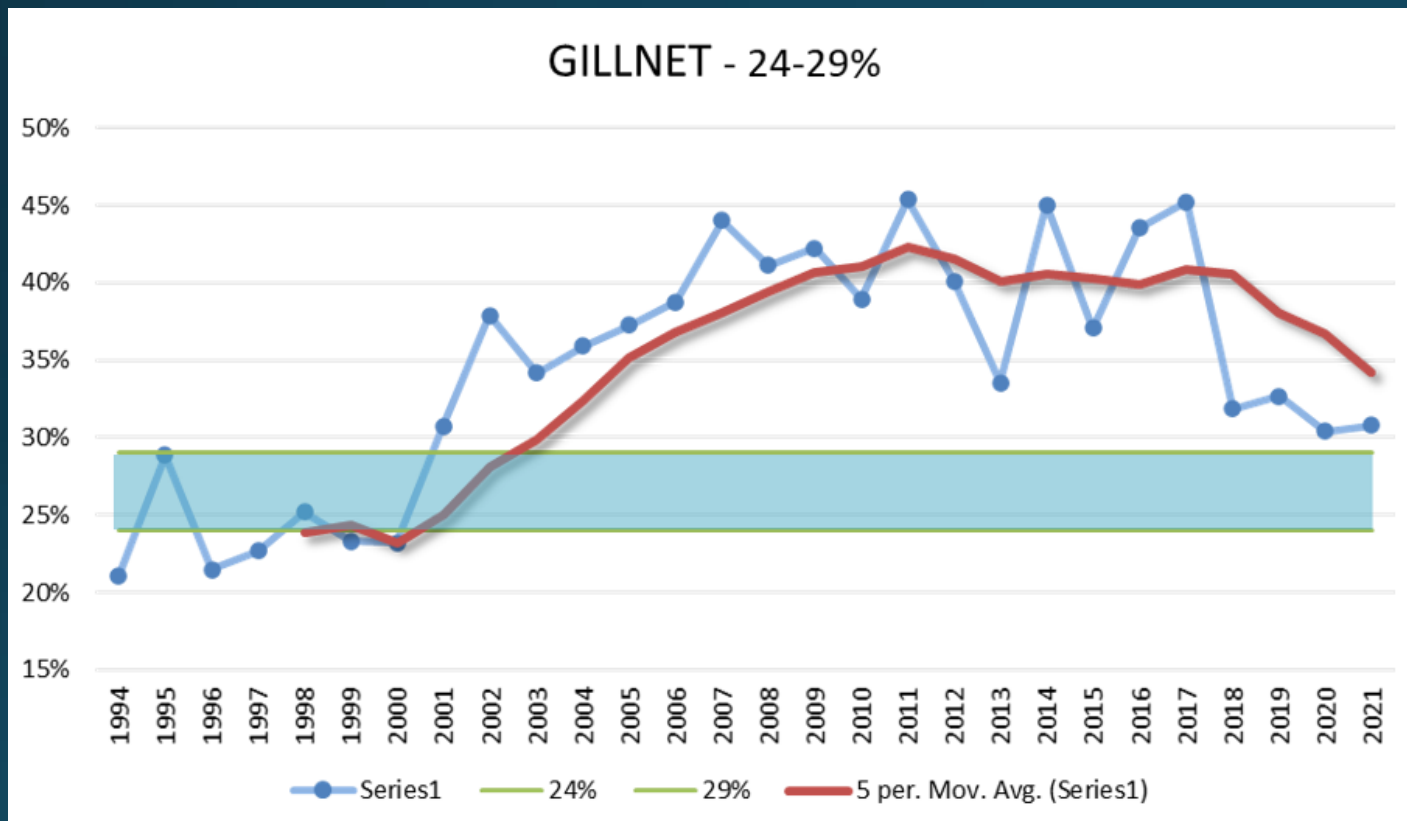
# 2021 Allocation Estimates - SEINE



- Seine - **WITHIN**

- Goal: 44-49%
- 5-year avg: 47.2%
- 2021: 42%

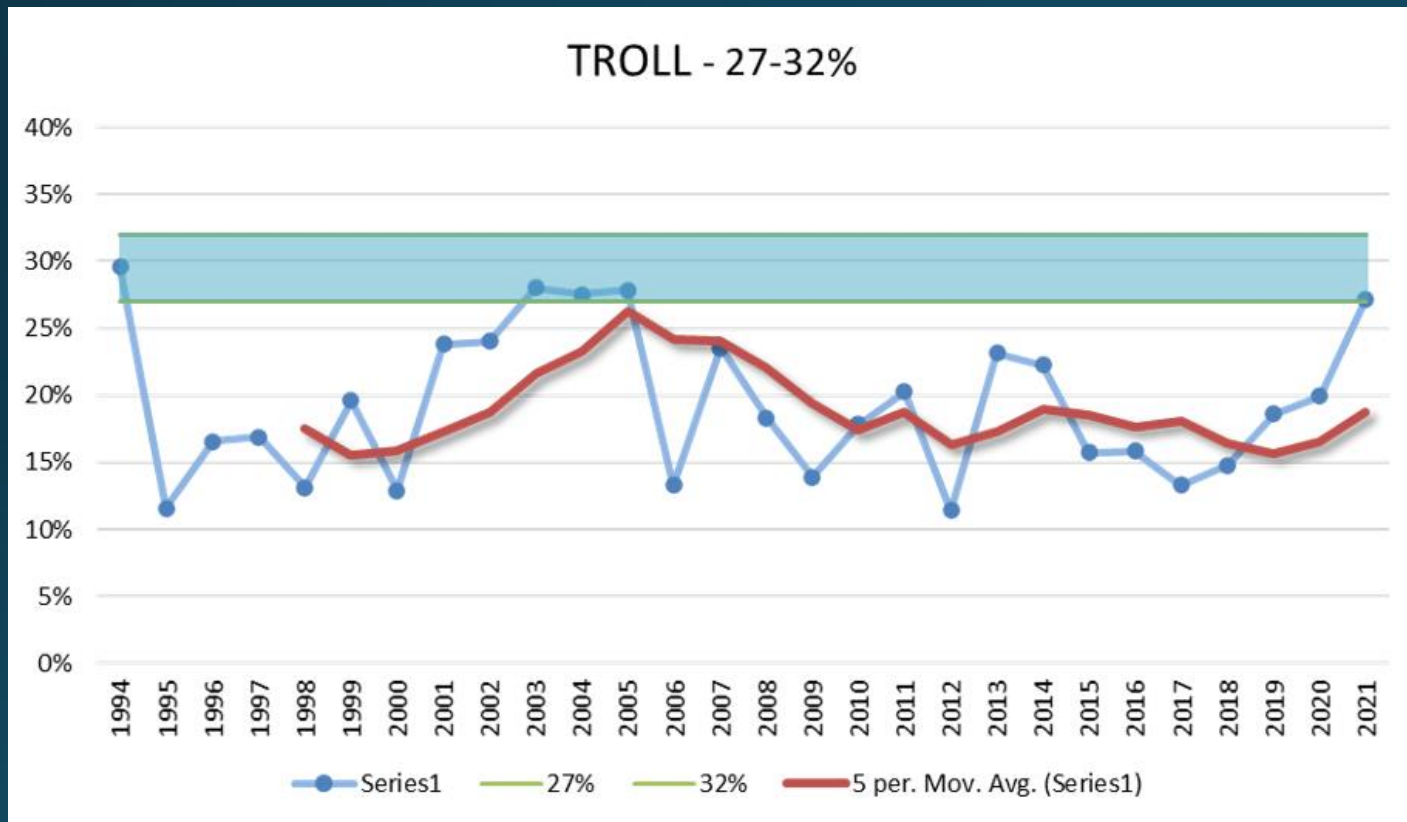
# 2021 Allocation Estimates - GILLNET



• Gillnet - **ABOVE**

- Goal: 24-29%
- 5-year avg: 35.2%
- 2021: 31%

# 2021 Allocation Estimates - TROLL



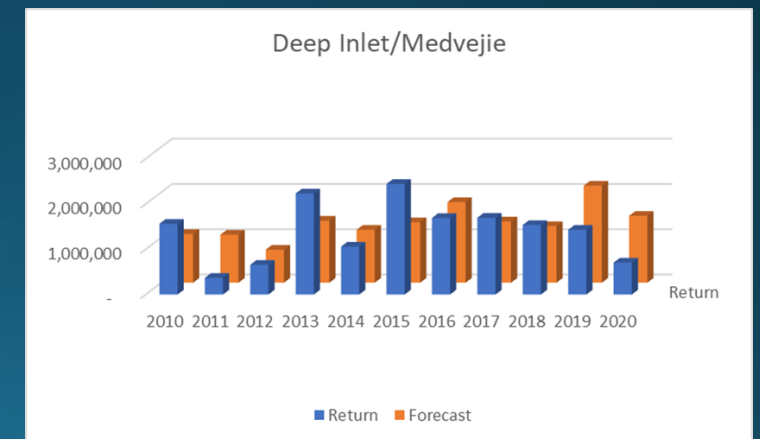
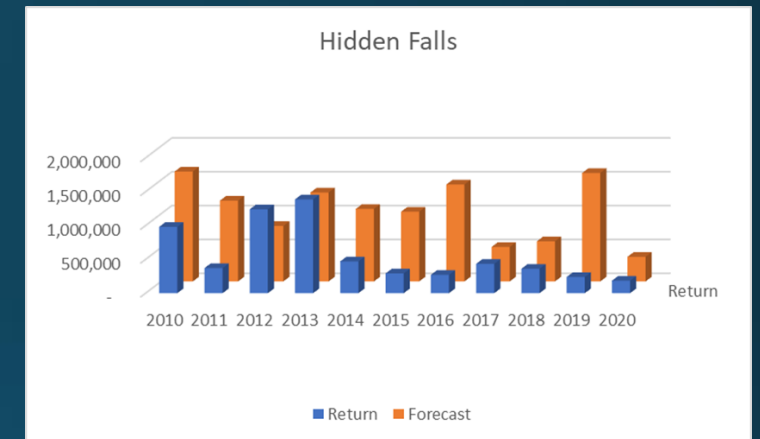
• Troll - **BELOW**

- Goal: 27-32%
- 5-year avg: 17.5%
- 2021: 27%

# 2022 PRELIMINARY Forecasts

# 2022 PRELIMINARY Forecasts

- Problematic
  - Age shifts...
    - Can't base return estimates off historical data
  - Decreasing survival
    - Traditional methods used long-term average survivals... worsening survival makes for likely over forecasting
  - Otolith mark issues – DEEP INLET / BEAR COVE
    - Very large return of threes in 2021 – BY18 to-date survival 3.0% (BC) and 1.7% (DI) for discrete marks
    - Others released from both sites share a mark
      - How many threes came back from each??
      - Not knowing = hard to project return to Bear Cove/ Silver Bay
- Expect revised forecasts



# 2022 PRELIMINARY Forecasts

NSRAA 2022 PRELIMINARY Return Projections									
Site	Projected Return	Range		Commercial	Sport	Cost Recovery	Brood Stock	2021 Return	2021 Forecast
		Low	High						
<b>Chum</b>									
Hidden Falls	302,000	151,000	758,000	92,000	-	50,000	160,000	222,052	286,000
Medvejie/Deep Inlet*	1,505,000	579,000	2,772,000	1,365,000	-	-	140,000	2,050,263	1,608,000
Crawfish Inlet	1,482,000	495,000	2,576,000	782,000	-	700,000	-	1,260,023	1,920,000
Southeast Cove	112,000	55,000	193,000	112,000	-	-	-	54,206	158,000
Gunnuk Creek	11,000	5,000	16,000	-	-	-	10,000	33,457	77,000
Thomas Bay	85,000	43,000	128,000	85,000	-	-	-	81,509	132,000
Haines Projects	-	-	-	-	-	-	-	-	-
	<b>3,497,000</b>	1,328,000	6,443,000	2,436,000	-	750,000	310,000	<b>3,701,510</b>	<b>4,181,000</b>
<b>Chinook</b>									
Hidden Falls	400	200	800	-	-	-	400	281	710
Gunnuk Creek	500	200	800	400	100	-	-	387	312
Medvejie	22,000	11,000	36,000	11,880	1,100	4,420	4,600	16,975	17,600
Crawfish Inlet	500	200	700	125	25	350	-	210	700
Halibut Point	-	-	-	-	-	-	-	1,510	2,400
Crescent Bay	1,700	800	1,500	918	85	697	-	171	2,400
	<b>25,100</b>	12,400	39,800	12,405	1,225	5,467	5,000	<b>19,534</b>	<b>24,122</b>
<b>0-ck Chinook</b>									
Medvejie	200	100	300	108	10	82	-	84	120
Crawfish Inlet	500	200	700	270	25	205	-	355	309
	<b>700</b>	300	1,000	378	35	287	-	<b>439</b>	<b>429</b>
<b>Coho</b>									
Hidden Falls	38,000	19,100	76,500	15,200	4,000	8,800	10,000	33,363	34,000
Deer Lake	56,000	28,200	112,900	22,400	4,000	29,600	-	42,045	59,000
Lake Stocking	-	-	-	-	-	-	-	326	1,000
Medvejie	15,000	7,400	29,400	10,500	1,500	-	3,000	12,818	15,000
Deep Inlet	82,000	40,900	163,600	73,800	8,200	-	-	14,562	80,000
	<b>191,000</b>	95,600	382,400	121,900	17,700	38,400	13,000	<b>103,115</b>	<b>189,000</b>
<b>ALL SPECIES TOTALS:</b>	<b>3,713,800</b>	1,436,300	6,866,200	<b>2,570,683</b>	<b>18,960</b>	<b>794,154</b>	<b>328,000</b>	<b>3,824,598</b>	<b>4,394,551</b>

- Summer chum egg takes could be a challenge
  - GCH esp
  - BY18 summer egg shortage
    - No 4-yo returns to BC/DI
- Haines projects officially complete, no returns expected
- Projecting similar coho and Chinook returns to 2021 Forecast

\* Cooperative Project with SJH

NOTE: Projections for Medvejie/Deep Inlet are for total returns (NSRAA + SJH fish).

Chum cost recovery goals for 2022 have yet to be finalized

Coho projections are now based on 5-year-average marine survival, with ranges based on the the 5-year range.



# 2022 PRELIMINARY Forecasts

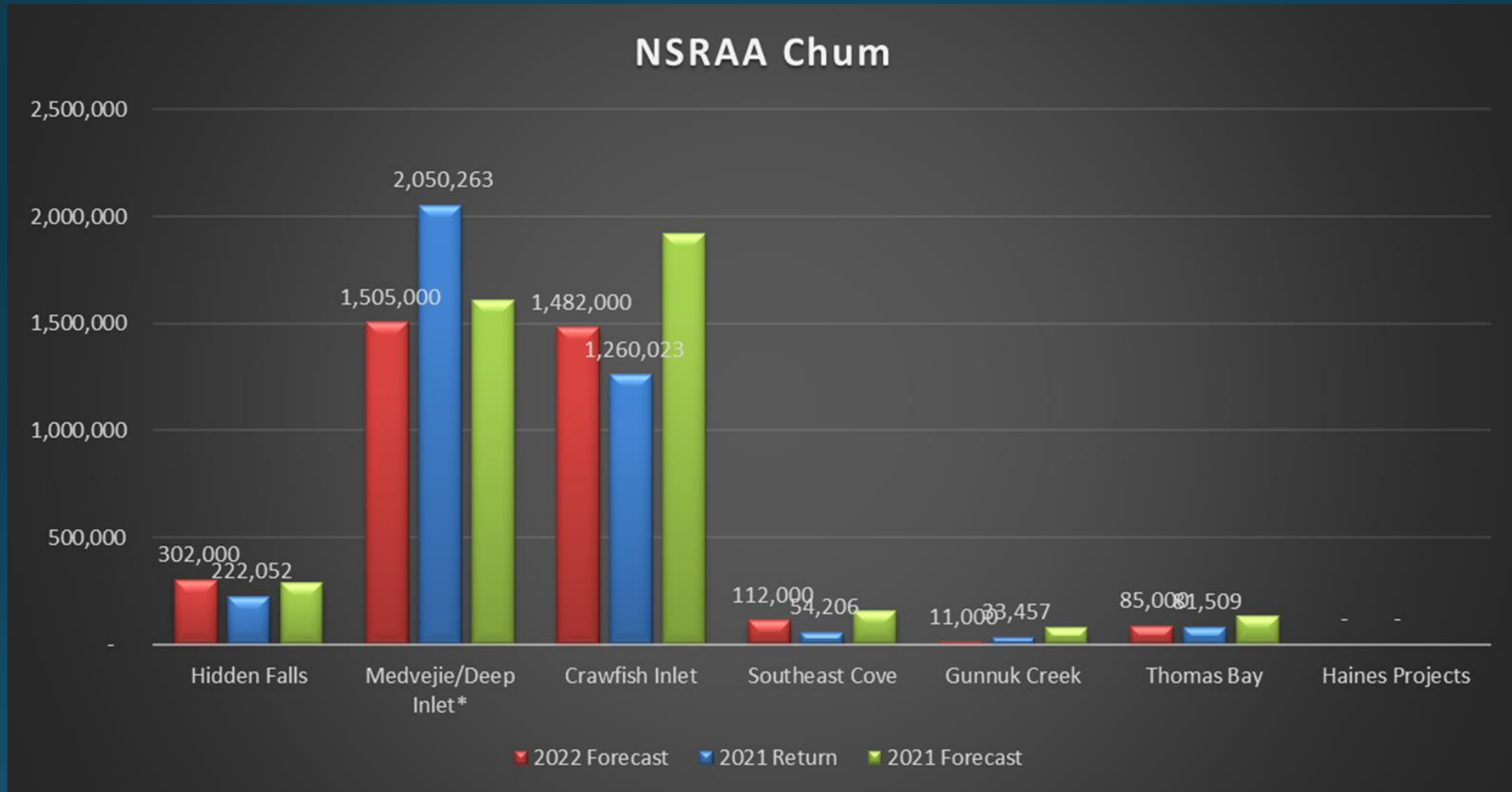
## Return splits for Medvejie/Deep Inlet:

	<u>Stock</u>				<u>Release Site</u>		
	<u>Forecast</u>	<u>Low</u>	<u>High</u>	<u>Percent</u>	<u>Bear Cove</u>	<u>Deep Inlet</u>	<u>Total</u>
Hidden Falls stock (early run)	93,000	35,000	152,000	6%	39,000	54,000	93,000
Medvejie stock (late run)	1,412,000	544,000	2,620,000	94%	676,000	736,000	1,412,000
	1,505,000	579,000	2,772,000		715,000	790,000	1,505,000
					48%	52%	100%

## NSRAA Chum split by area

	<u>Forecast</u>	<u>Low</u>	<u>High</u>	<u>Percent</u>
"WEST" = MEDVEJIE/ DEEP INLET/ CRAWFISH	2,987,000	1,074,000	5,348,000	85%
"EAST" = HIDDEN FALLS/ SE COVE/ THOMAS BAY/ GUNNUK	510,000	254,000	1,095,000	15%
	3,497,000	1,328,000	6,443,000	

# 2021 Chum



Questions?

