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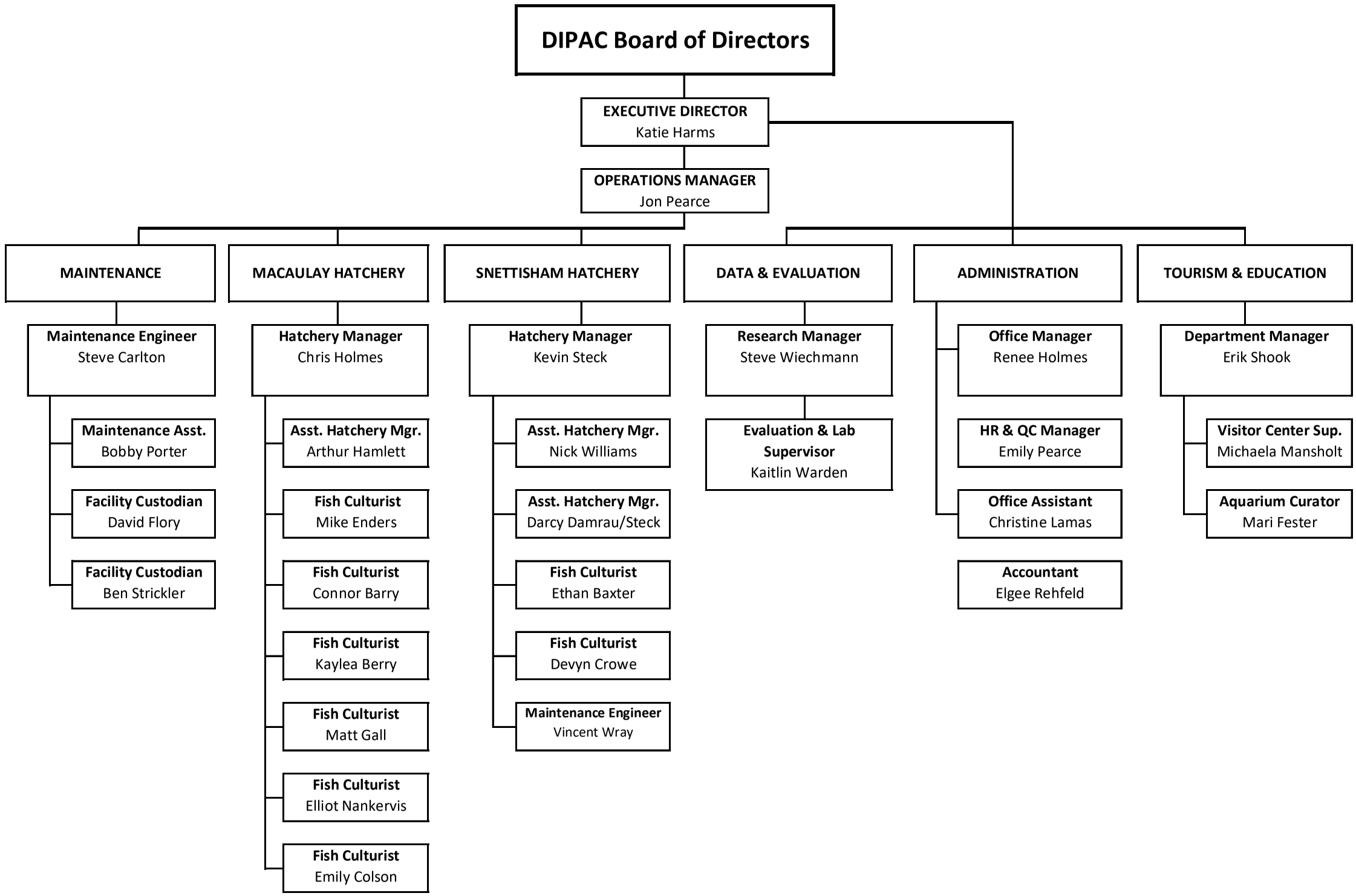
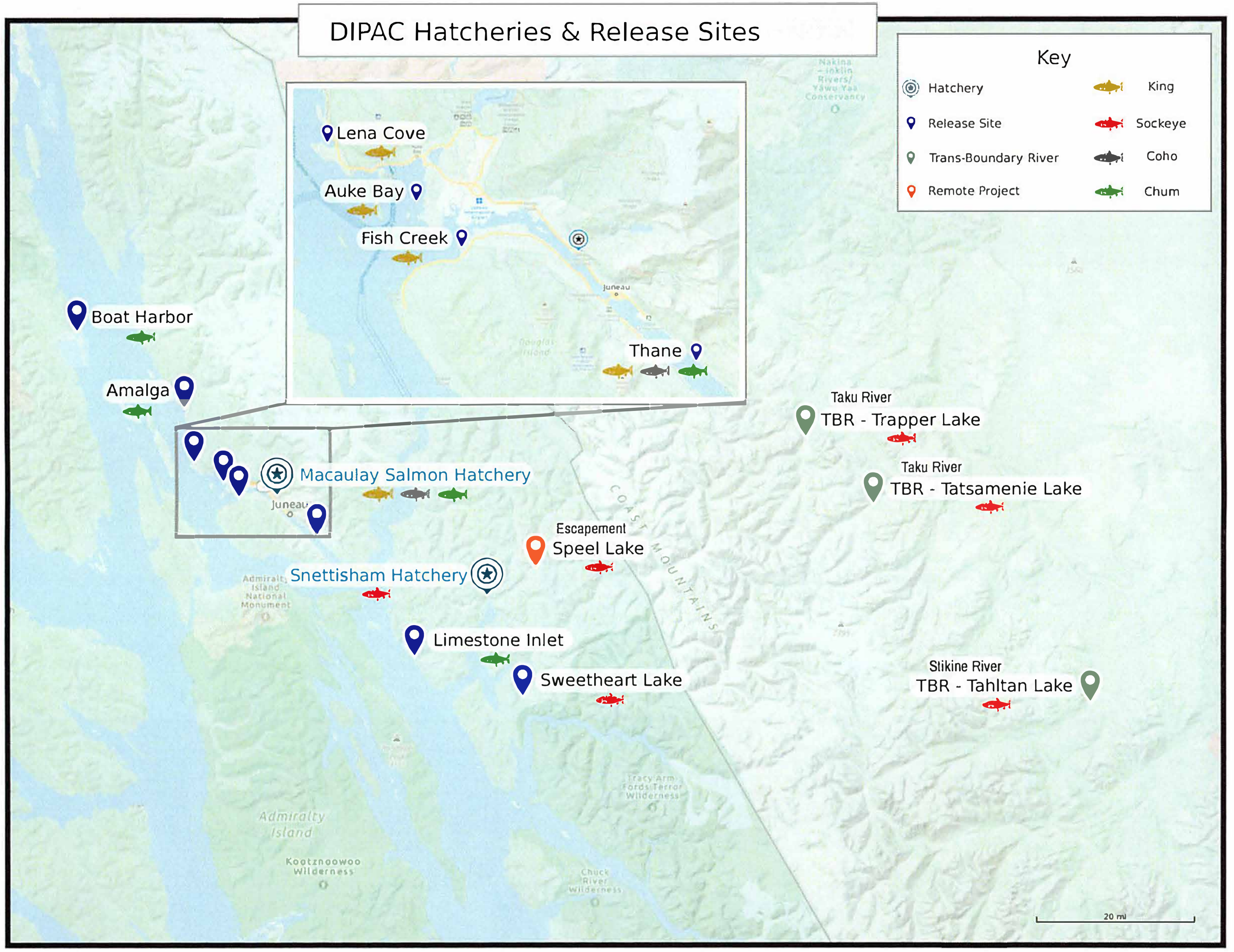
Douglas Island Pink and Chum, Inc.

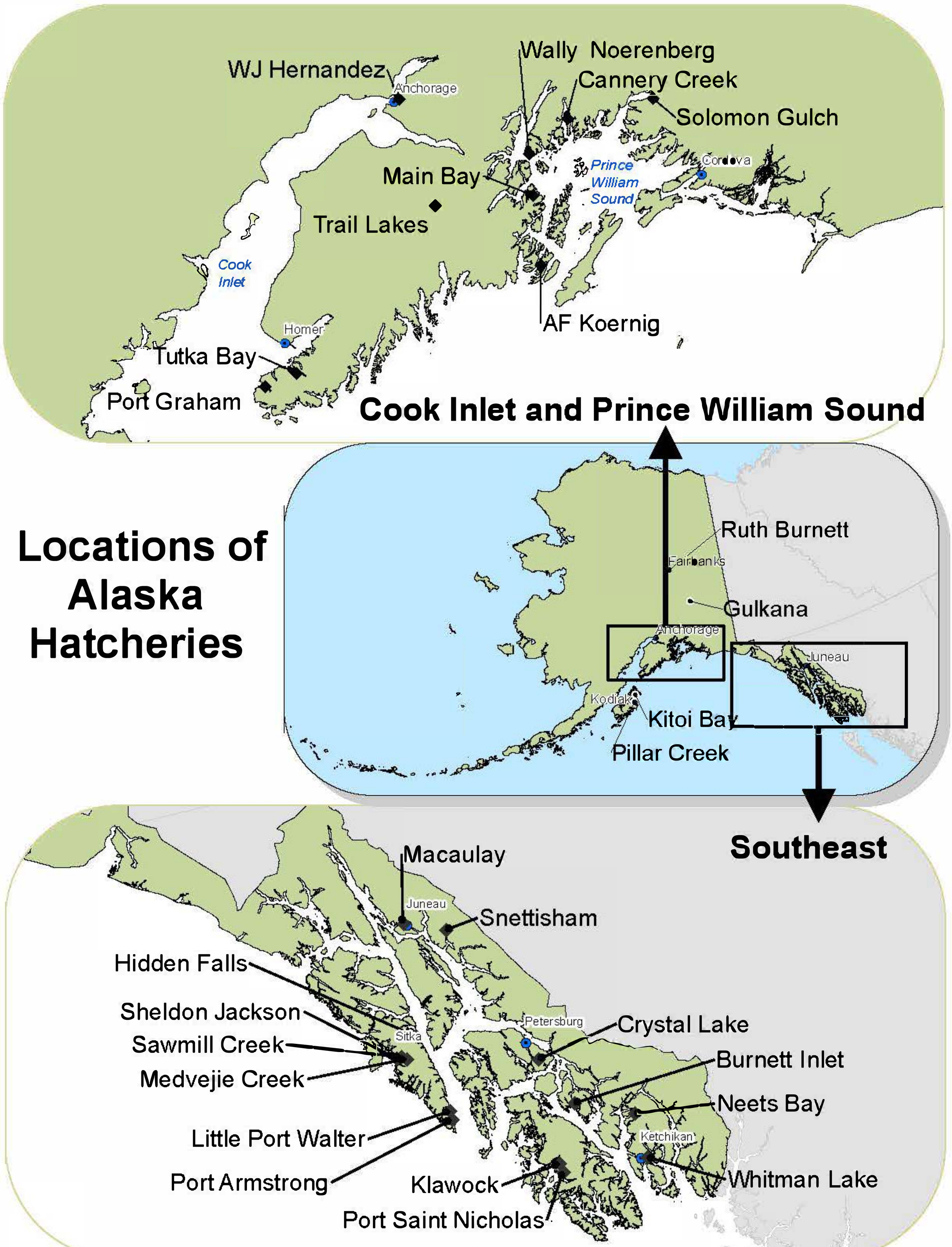
Organizational Chart December 2023



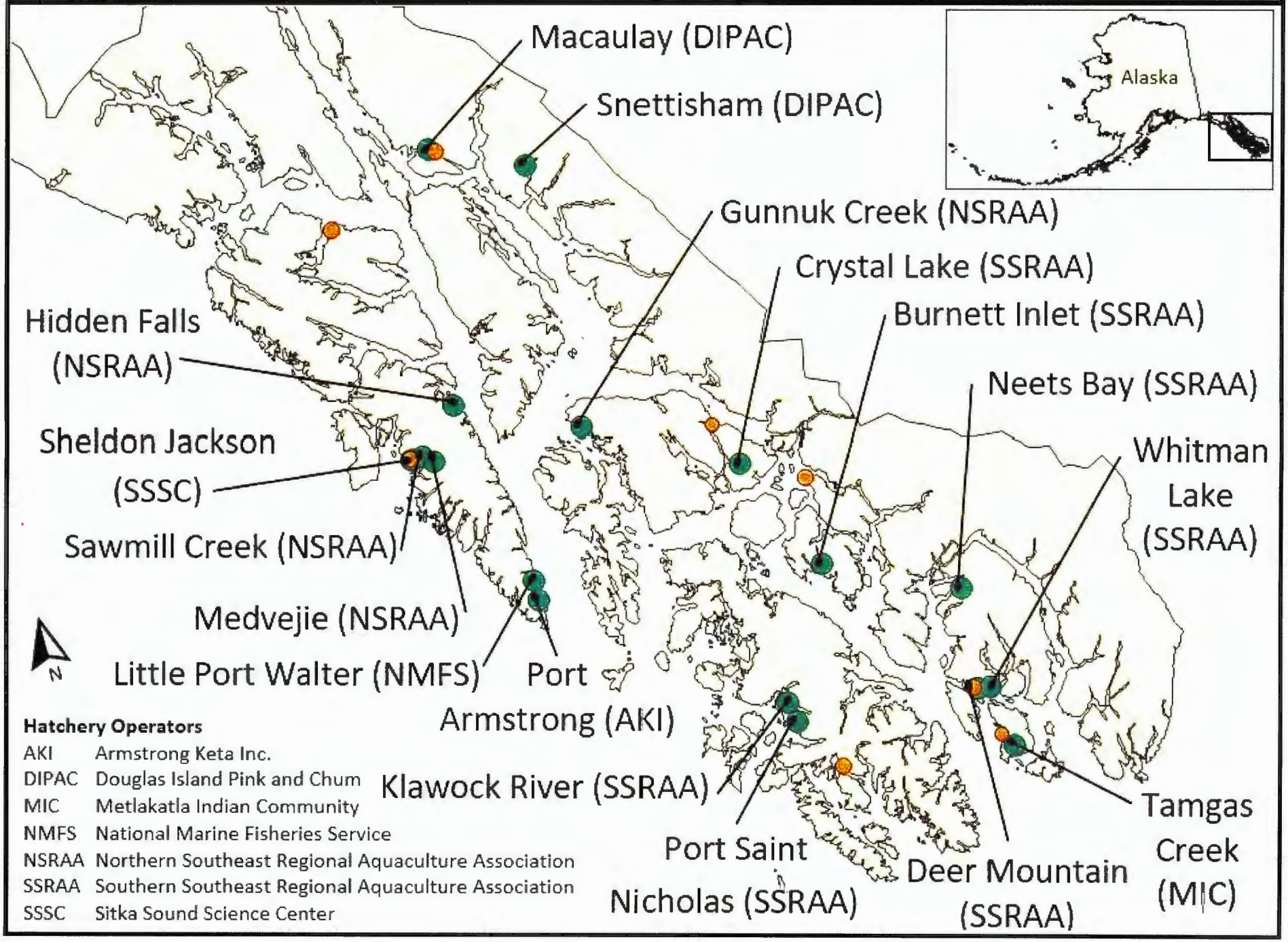
DIPAC Hatcheries & Release Sites



Locations of Alaska Hatcheries



Locations of Hatcheries within Southeast Alaska



Hatchery Operators

AKI	Armstrong Keta Inc.
DIPAC	Douglas Island Pink and Chum
MIC	Metlakatla Indian Community
NMFS	National Marine Fisheries Service
NSRAA	Northern Southeast Regional Aquaculture Association
SSRAA	Southern Southeast Regional Aquaculture Association
SSSC	Sitka Sound Science Center

MACAULAY SALMON HATCHERY REPORT

Chris Holmes – Hatchery Manager
December 2023

Overview

MSH had successful releases of chum, coho, and Chinook in May and June.

In June all of the rearing sites and associated infrastructure were demobilized and cleaned up. The fish ladder was turned on mid-month with all of the Chinook broodstock being secured by early July. The masses of chum were quick to follow and eggtake began on July 20th. Over 300,000 chum moved through the system this summer and both the Chinook and chum eggtake goals were easily achieved.

The summer of 2023 saw environmental conditions in line with Macaulay's historical averages. With water temperatures peaking at 11.3 degrees in mid-September, conditions facilitated successful eggtakes and good fertilities.

To date, chum incubation is looking good. The total number of chum eggs inventoried after pick was the highest number on record coming in above production goals at this stage. All chum have hatched.

Chinook pick was completed on October 24th. Survival was excellent and the eggs have currently finished hatching.

Coho broodstock recruitment fell significantly short at Macaulay this fall necessitating two remote eggtakes at Fish Creek, the original source of the stock. Three additional eggtakes were conducted at the hatchery with the limited amount of fish that managed to make it up the ladder. Eggs have let to be picked and enumerated as of writing this report.

See Table 1 for a summary of rearing releases and their respective numbers, dates, size at release, and overall survivals.

See Table 2 for a summary of eggtake numbers, dates, and survivals.

Chum

BY22 Saltwater Rearing and Release Update

Chum rearing conditions were almost identical to last year with saltwater temperatures staying cool for the majority of the rearing season. These conditions resulted in steady but relatively modest growth. Fry losses at the rearing sites were minimal and overall saltwater survival ended up at 95.9%. Both the early and the late release groups at all sites were held as long as possible to achieve maximum growth while still ensuring optimal health at the time of release. All site specific size goals were achieved and many were surpassed significantly. This season's total

release of 114,438,000 chum constitutes the second largest release since the permit was expanded to 135M eggs in 2017.

BY23 Eggtake & Incubation Update

Hatchery staff took a total of 134.6M green eggs this year. Eyed egg survival came in at 96.5% which is significantly higher than the ten-year average of 92.8%.

Currently, the chum alevin are very similar developmentally to where they were in November of last year. The most recently analyzed CTU data points to a ponding season beginning in early to mid-February of 2024. In many ways, this is the ideal timeframe to start ponding as it allows for a rearing season that is long enough to ensure size goals are met at all sites. The first chum feed order has already been submitted and the first container vans are scheduled to arrive in Juneau in mid-December. To date, the incubation room is looking great and very little mortality has been observed.

Chinook

BY21 Saltwater Rearing & Release Update

The BY21 Chinook salmon release totaled 774,000 smolts at an average of 27.1g from Fish Creek, Lena Cove, MSH, and Thane. While well short of the 1M release goal due to a shortfall of adult Chinook returning to the hatchery in the summer of 2021, saltwater survivals among the smolts were outstanding with an average of 99.9% across all four sites. This is the first broodyear of Chinook in the water with a 100% adipose fin clip.

BY22 Freshwater Rearing Update

The BY22 Chinook were ponded to freshwater raceways on March 16th. The cumulative population in the raceways and round ponds currently stands at 956,700. Rearing mortality has been very low thus far and the fish are currently slightly above the historical size average going into winter. With water temperatures dropping and the photoperiod declining, the Chinook are transitioning onto a maintenance feeding strategy until spring.

The tagging trailer, now in its third season of operation, once again proved its efficiency and effectiveness. The process of tagging 20% and marking 100% of the BY22 Chinook completed on October 10th.

BY23 Eggtake & Incubation Update

Unlike the summers of 2021 and 2022, there was no shortfall of chinook broodstock at the hatchery this year. During the week of July 2nd, MSH staff witnessed an unusual event with hundreds of adult Chinook salmon moving up the ladder and into the ISA all at once. This enabled the entirety of the required Chinook broodstock to be collected within a matter of days.

Over the course of three eggtakes conducted in August, a total of 1.2M eggs were taken. Green to eye survival was 98.2% and the current chinook inventory stands at 1.19M.

After securing the necessary number of eggs for the Macaulay program, efforts were made to assist SSRAA and NSRAA with broodstock needs. In the end, around 240K eggs were sent to Medvejie in Sitka.

Coho

BY21 Saltwater Rearing & Release Update

The BY21 coho release totaled 1.35M smolts at an average of 20.0g from MSH and Thane. This unusually large release of coho was in response to the above mentioned shortage of BY21 Chinook smolts and an effort to maximize fishing opportunities in the future. Saltwater survivals among the coho smolts were good with an average of 98.6% across both sites (Macaulay & Thane).

BY22 Freshwater Rearing Update

The BY22 coho were ponded to freshwater on April 25th. The cumulative population in the raceways currently stands at 1.29M. Mortality has been very low thus far. Although slightly below the historical size for this time of year, the coho are healthy and continue to exhibit a vigorous feed response even as temperatures decline.

A total of 7% of the BY22 coho were marked and tagged over the course of three days. Tagging was finished on October 13th.

BY23 Eggtake & Incubation Update

As anticipated, the small release of coho smolts in 2022 resulted in an extremely poor showing of adults at MSH. By mid-September it became apparent that the return to the hatchery was going to be insufficient to enable the collection of enough eggs to ensure the continued success of the program. In response, MSH staff began sorting out the logistics and acquiring the supplies necessary to complete remote eggtakes at Fish Creek, a tributary of the Taku River. Fortunately, administrative staff had preemptively applied for and obtained a collection permit for Fish Creek.

Utilizing float planes and helicopters to transport gear and staff upriver, two remote eggtakes were completed at Fish Creek yielding a total of 298,610 eggs. Three small eggtakes were also conducted at Macaulay where a total of 133,825 eggs were obtained. The current total BY23 coho inventory now stands at 432,435. Although this number is far from the goal of 1.2 million eggs, the total should be enough to make the program self-sustaining in the future, assuming average marine survivals.

Exact enumeration of these eggs will take place in a few weeks following BKD culling and eyed egg processing.

Site Projects

Efforts are underway to make operations more efficient, better for the fish health, and to decrease the physical wear and tear on the staff. Among projects already completed include an auto egg rinser, that was utilized during the chum eggtake, and an airlift system that was employed during egg pick.

The auto egg rinser eliminated the monotonous task of hand rinsing buckets of eggs during egg take, and reduced the number of employees needed in the incubation room. The airlift system reduced staffing needs as well and significantly decreased the frequency that buckets of eggs had to be manually lifted. Both of these systems were closely monitored to make sure eggs were handled with care and overall incubation survival was improved; not hindered.

The new fish tanker truck arrived this fall, and staff are currently outfitting it for use this upcoming ponding season.

Table 1. 2023 MSH RELEASES

Program Brood Year/Stock	Release Site	Release Date	Number Released	Average Size at Release (g)	Spring Rearing Survival
Chum					
BY22	**MSH**	21-May	6,115,000	3.0	
		5-Jun	5,617,000	4.2	
			11,732,000		**99.3%**
	Thane	19-May	11,473,000	3.1	
		4-Jun	10,822,000	5.6	
			22,295,000		**95.9%**
	Amalga Harbor	23-May	23,692,000	3.1	
		7-Jun	19,719,000	5.0	
			43,411,000		**93.1%**
	Boat Harbor	29-May	11,282,000	2.5	
		9-Jun	11,398,000	3.6	
			22,680,000		**98.0%**
	Limestone Inlet	26-May	7,117,000	2.6	
		7-Jun	7,203,000	4.2	
			14,320,000		**99.1%**
		Total Regular Release	**59,679,000**		
		Total Large Release	**54,759,000**	**Green Egg to Release Survival**	
		Total BY22 Chum Released	**114,438,000**	**84.7%**	

Table 1. 2023 MSH RELEASES (continued)

Program Brood Year/Stock	Release Site	Release Date	Number Released	Average Size at Release (g)	Spring Rearing Survival
Coho					
BY21	MSH	31-May	245,100	19.4	99.7%
	Thane (Early)	2-May	275,000	19.3	96.8%
	Thane (Regular)	15-May	830,700	21.4	99.4%
		Total	**1,350,800**	**20.0**	**98.6%**
		All Coho	**1,350,800**	**Green Egg to Release Survival 91.7%**	
Chinook					
BY21	Fish Creek	18-Jun	249,600	23.7	99.9%
	Lena	18-Jun	199,900	31.5	99.9%
	MSH	13-Jun	217,800	26.2	100.0%
	Thane	13-Jun	106,700	27.1	99.9%
		Total	**774,000**	**27.1**	**99.9%**
		All Chinook	**774,000**	**Green Egg to Release Survival 86.3%**	
		Total Smolts Released:	**2,124,800**		

Table 2. MSH 2023 EGGTAKES

Species	Eggs Taken/Shipped	Eyed Eggs	Green to Eye Survival	BKD / Culled	Current Inventory	Survival to Date
Chum	134,597,000	130,081,000	96.6%	0	128,433,000	**95.4%**
Chinook						
MSH	1,212,000	1,190,000	98.2%	0	1,190,000	**98.2%**
MCIF	240,812					
Coho						
MSH	131,200	TBD	TBD	TBD	131,200	N/A
Fish Creek	298,600	TBD	TBD	TBD	298,600	
Total	**136,479,612**	**131,271,000**			**130,052,800**	

SNETTISHAM HATCHERY REPORT

Kevin Steck – Hatchery Manager
December 2023

Overview

Early May at Snettisham Hatchery is the start to a flurry of activity of different releases which commonly occur simultaneously. First releases to occur are the fry that are dedicated to the Trans-Boundary River Program (TBR) and the Sweetheart Lake Program. There was a total of 5.8M fry were transported back to these respective lakes.

By late May, staff also released a total of 9.0M BY21 smolt dedicated for the Snettisham Smolt Release Program. The hatchery is currently rearing slightly under a full complement of BY22 Snettisham stock pre-smolt in raceways and are on track for releases in spring of 2024.

The 2023 Speel Lake weir operations remained unchanged and followed parameters as per the agreement between DIPAC and ADF&G.

The 2023 eggtake goals for the Snettisham stock smolt and Sweetheart Lake programs remained unchanged with a total goal of 11.9M eggs collected. Eggtake crews located at Tahltan, Tastamenie and Trapper Lake delivered a combined estimated 5.8M eggs allocated for the TBR Program.

See **Table 1** for a summary of BY22 fry transports, **Table 2** for a summary of BY21 smolt releases, and **Table 3** for a summary of BY23 eggtakes.

Domestic Smolt Program

BY21 Snettisham Smolt Saltwater Releases

A final total of 9M BY20 Snettisham stock smolt were released from the hatchery this past spring. Smolt releases occurred between May 28th and June 7th. The 2023 releases followed the same parameters as those followed in 2022.

BY22 Snettisham Smolt Freshwater Rearing Program

The scheduled release of 9M 10g smolt will not be met as a result of IHNV losses. A total of 2 incubators and 3 start tanks were confirmed positive for IHNV and subsequently destroyed. Since the culling of these incubators and start tank in early spring, there have been no further issues or concerns to report at this time. Transfer of the remaining 8.8M pre-smolt to raceways for final

grow-out occurred in late July and early August. Releases are scheduled to occur in the spring of 2024 as they have in the past.

BY23 Snettisham Stock Eggtakes

The eggtake season began on September 23rd and ended October 12th. In total 11.9M eggs were collected for the Snettisham programs over sixteen eggtakes. An estimated 11.4M of this production are allocated for the onsite smolt release program and 530,000 for the Sweetheart Lake fry program.

Lake Stocking Programs

BY22 TBR and Sweetheart Lake Fry Transports

The 2023 fry transport season included a total of 4.0M fry transported back to Tahltan, Tatsamenie, Trapper and Sweetheart Lakes between May 22nd and June 1st. See Table 1 for a summary of BY22 fry transports. IHNV losses in the TBR fry programs was limited to the confirmation and destruction of one Tatsamenie lake stock incubator of 192,600 post emergent fry.

BY23 TBR Stock Eggtakes

The Transboundary Rivers Program for 2023 consisted of receiving eggs from Tahltan, Tatsamenie and Trapper Lakes. With eggpick not yet complete on Tatsamenie Lake stock, eggs received at the hatchery are an estimated total. However, Trapper and Tahltan Lake stock eggpick has been completed so all egg numbers and survivals provided are actual.

A total of 2.5M Tahltan Lake eggs were received at the hatchery in six lots. Eggtakes occurred on September 12th through September 23rd. Poor weather conditions delayed delivery of four out of the six total lots delivered to the hatchery.

An estimated 2.4M Tatsamenie Lake eggs were delivered to the hatchery in five lots. Eggtakes occurred between September 20th and October 10th. Poor weather conditions delayed delivery of four out of the five total lots delivered to the hatchery.

A total of 997,400 Trapper Lake eggs were delivered to the hatchery in three lots. Eggtakes occurred on September 2nd through September 12th. Poor weather conditions delayed delivery of two out of the three total lots delivered to the hatchery. See Table 3 for a summary of BY23 Trans-Boundary River stock eggtakes.

2023 Speel Lake Weir- Adult Sockeye Enumeration

Weir operations occurred between July 13th and September 21st. Over this period, staff passed 3,556 sockeye adults through the weir and into the lake. This is under the lower bound of the escapement goal of 4,000 sockeye. Daily in-season data from weir counts and creek surveys were again passed onto ADF&G as it has in the past.

Snettisham Hatchery Maintenance Summary

Besides the routine duties that comes with the maintenance of a remote hatchery, there were a few larger projects completed worth noting. A new Oxygen Generation System has been installed and is currently operational. This replaces the original system installed in 1991 which was failing and becoming increasingly expensive to operate due to the cost of parts and maintenance. Another notable item was the automation of crucial valves on the chillers which has proven to allow the system to operate more efficiently and increase overall chilling capacity.

Table 1

Snettisham Hatchery Fry Transports
Brood Year 2022

Brood Stock	System Stocked	Green Eggs	Eyed Eggs	Green to Eyed Survival	Green to Transport Survival	Number of Trips	Number of Fry Transported
Tahltan L.	Tahltan L.	2,096,700	1,783,200	85.0%	79.3%	3	1,661,800
Tatsamenie L.	Tatsamenie. L.	2,254,700	1,754,900	77.8%	65.5%	4	1,477,000
Trapper L.	Trapper L.	994,900	518,800	52.1%	49.0%	1	487,300
Snettisham	Sweetheart L.	524,900	507,800	96.7%	90.0%	1	472,200
	AVE./TOTALS	**5,871,200**	**4,564,700**	**89.8%**	**69.8%**	**9**	**4,098,300**

Table 2

Snettisham Hatchery Smolt Releases
Brood Year 2021

Release Date	Release Location		Number Released	Release Size (g)
5/28 - 6/7/23	Direct Saltwater		9,037,600	10.6
		AVE./TOTALS	**9,037,600**	**10.6**

Table 3

Snettisham Hatchery Eggtakes - All Projects
Brood Year 2023

Eggtake Site	Fecundity	Total Green Eggs	% Survival to Date
Snettisham Stock / Smolt Program	3,400	11,369,600	95.7%
Snettisham Stock / Sweetheart Lake Release	3,400	530,400	91.7%
		11,900,000	
Tahltan Lake Stock	2,632	2,521,400	80.1%
Tatsamenie Lake Stock	4,226	2,421,400	74.9%
Trapper Lake Stock	3,271	997,700	53.7%
		5,940,500	
	TOTAL EGGS	**17,840,500**	

DIPAC 2023 HARVEST REPORT & 2024 FORECAST

Steve Wiechmann
December 2023

Overview

The 2023 return from DIPAC salmon enhancement programs were: 4.3M chum (154% of forecast), 7,400 large adult Chinook (158% of the forecast), 87,900 sockeye (58% of forecast), and 1,700 coho (26% of forecast).

This year's chum return totaled 4,311,000 fish, of which the common property fisheries harvested approximately 2.4 M DIPAC chum.

The return of 87,900 Snettisham sockeye (age-4/5) came in well below (58%) the pre-season forecast of 150,900. Despite this low return, YoY returns on DIPAC sockeye are up 31%. The common property contribution totaled 35,700 fish.

Large adult Chinook (age 5 – 7) totaled 7,400 fish, achieving 158% of the preseason forecast, which is above the 10-year average return of 4,400 Chinook.

An estimated 1,700 DIPAC adult coho returned in 2023 for a marine survival of 0.8%, causing broodstock concerns, no cost recovery, and dramatically reduced sport opportunity for shore-side anglers. The 2023 coho return was the lowest return and worst marine survival in DIPAC's history.

The ex-vessel value of this year's commercial harvest of DIPAC salmon totaled an estimated $7.6 M, bringing the cumulative ex-vessel total to $220 M and the cumulative salmon enhancement tax (S.E.T.) total to $6.6 M.

2024 **Preliminary** Forecasts: 3.6 M chum, 121,500 sockeye, 46,400 coho, and 1,300 Chinook.

2023 Return Information

2023 Chum Return

The return of 4.3 M DIPAC chum salmon in 2023 was 154% of the mid-point forecast (Table 1). Commercial gillnetters, seiners, and trollers collectively harvested 2,392,000 DIPAC chums this year (Table 2). The composition of the run was 6.0% age-3, 72.7% age-4, 21.2% age-5, and 0.1% age-6. Prior to the aberrant returns starting in 2018 the typical 10-year average run composition was: 1.9% age-3, 65.2% age-4, 31.6% age-5, and 1.3% age-6.

The statewide chum return in 2023 was 121% of forecast (19.4 M harvest), compared to 81% in 2022 (12.6 M harvest) (Figure 8). The DIPAC chum return showed continued improvement compared to the last 4 years, which has been a stretch of returns well below the average of 2.5 M chum. Although the number of fish returning was large, average size was down substantially

over historical average. DIPAC offered two seine openings at Amalga Harbor this summer which contributed 399,300 fish to the CP seine effort.

Table 1. Estimated return of DIPAC chum salmon in 2023 by district and age.

	Age-3	Age-4	Age-5	Age-6	**Total**
Taku/Stephens	65,300	440,600	94,100	2,000	**601,900**
Lynn Canal/Amalga	131,800	1,879,000	656,300	520	**2,668,000**
Actual Total	258,900	3,133,000	913,400	5,700	**4,311,000**
Projected	108,000	1,900,000	747,600	44,400	**2,800,000**
% of Projection	240%	165%	122%	13%	**154%**

Table 2. Total contribution and harvest shares of DIPAC chum salmon in 2023.

	CP Harvest	DIPAC Contribution	% DIPAC Contribution	Cost Recovery	Total Harvest	% CP Share	% DIPAC Share
Lynn Canal Gillnet	1,337,000	1,297,000	97%	971,400	2,268,000	57%	43%
Taku/Stephens Gillnet	617,800	601,900	97%	284,800	886,700	68%	32%
Homeshore Troll	12,300	9,000	73%		9000	100%	0%
Amalga-CP Seine	399,300	399,300	100%		399,300	100%	0%
District 12 Seine	157,600	74,600	47%		74,600	100%	0%
Misc. SEAK	11,200	11,200			11,200	100%	0%
Sport		5000			5000	100%	0%
Brood & Esc					457,000		
Total	**2,536,000**	**2,398,000**		**1,256,000**	**4,311,000**	**66%**	**34%**

Gillnetters caught the majority of DIPAC chum, 1,902,000, accounting for 79% of the total common property harvest of DIPAC chums followed by seine with 481,000 chum at 20% of the total and 9,100 troll caught chum at < 1% of the total. Cost recovery at Amalga Harbor this year was difficult to manage. There were plenty of fish, but low market conditions. In order to keep up with a large amount of chum returning to the SHA, two seine openers in July for a total seine catch of 399,300 chum. DIPAC conducted substantial cost recovery in Gastineau Channel for the first time since 2019. DIPAC did not meet its cost recovery goal due to poor market conditions.

When comparing the returns of Taku/Stephens with those from Lynn Canal, the overall marine survival of Taku/Stephens area had been in decline over the past 4 years. The 3-year average return to Taku/Steph jumped to 922,500, far ahead of the previous 10-year average of 632,000 chum. During this same time in Lynn Canal the 3-year average return was on-par with the prior 10-year average, both sitting at 1.7 M chum. It is more typical for Taku/Steph to comprise 34% of the run compared to this year's 41%. The downward trend in survival of Taku/Steph was less apparent this year, especially when looking at cost recovery efforts in the Gastineau Channel SHA. Cost recovery efforts in Gastineau totaled 483,000 chum, numbers not seen since the 2018 harvest. This number would have been higher if there was more interest from the processors.

A total of 1.3 M chum (6.0 M lbs) were harvested in cost recovery efforts, 77% of which came from Amalga Harbor, and the remaining chum were harvested in the Gastineau Channel SHA – 183,200 and at the MSH rack – 101,600 (not including broodstock).

Cumulatively, 3.7 M DIPAC chums, totaling 10.0 M pounds, returned this year to the CP & CR. With 2.4 M chums being harvested in common property fisheries, the harvest shares for 2023 were 66% common property and 34% cost recovery (not including broodstock) (Figure 1).

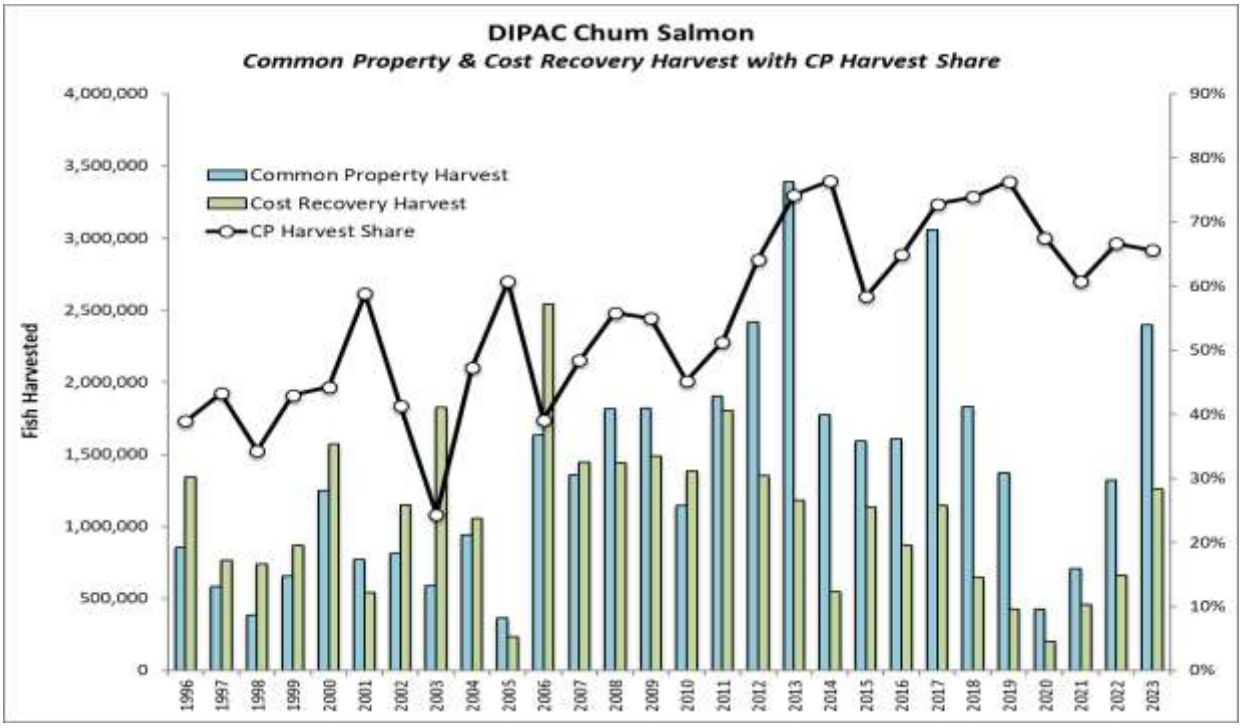


Figure 1. CR and CP harvest and harvest shares of DIPAC chum.

2023 Sockeye Return

The 2023 return of 87,900 Snettisham sockeye (age-4/5) came in at 58% of the forecast (150,900). Common property harvest totaled 35,700 Snettisham sockeye, 87% of which were caught in the district 111 gillnet fishery. Snettisham cost recovery harvested 45,400 adult sockeye. See Table 3 for a complete summary of this year's adult sockeye return.

The personal use harvest of Sweetheart Lake sockeye in 2023 was estimated at 5,700 fish. This represents an average year for Sweetheart Lake compared to 2022, which saw a record high of 7,300 sockeye harvested. The 2023 sport/personal use harvest value is reported as an average of historical harvests, until the final values are reported next year (Table 4).

Table 3. Total Common Property harvest and contribution of Snettisham sockeye (age-4/5) in 2023. Broodstock value not shown but is included in the total.

	CP Harvest	DIPAC Contribution	Cost Recovery	Total Harvest	% CP Share	% DIPAC Share
District 11 Gillnet	81,600	28,700	45,400	74,100		
Other Gillnet	71,200	1,900		1,900		
Seine	37,000	5,200		5,200		
Total	**189,800**	**35,700**	**45,400**	**87,900**	**44%**	**56%**

Table 4. Total harvest and contribution of Sweetheart sockeye in 2023.

	CP Harvest	Total CP Contribution
District 11 Gillnet	81,600	860
Other Gillnet	71,200	30
Seine	37,000	400
Sport/Personal Use	4,400	4,400
Total	**194,200**	**5,700**

2023 Chinook Return

Approximately 150 (age 3 – 4) and 7400 large (age 5 – 7) Chinook salmon returned from DIPAC's Juneau enhancement projects in 2023, which was 158% of forecast for ages 5 – 7, 16% of forecast for ages 3 – 4, and 136% of forecast for all ages. Commercial gear groups harvested approximately 515 kings (Table 5).

Sport anglers in the Juneau area harvested an estimated 4,400 DIPAC Chinook, 1,100 in the marine boat fisheries and 3,300 in shoreline and freshwater areas. This was the second year of the Juneau Shoreside Hatchery Chinook Salmon Sport Harvest Survey conducted by the Alaska Department of Fish and Game. This work took place at Macaulay and at Fish Creek from June through August and should provide some much needed insight into how many DIPAC kings are being caught, the data from this year should be finalized by February.

2023 Coho Return

The 2023 return of approximately 1,700 DIPAC coho was 26% of the preseason forecast of 6,400. There were 1,200 adult coho landed in commercial fisheries, an estimated 30 caught in marine boat harvest, and a shore-side sport catch estimate of 30. MSH had 430 coho to the rack of which 350 were not suitable for broodstock and went towards cost recovery (Table 5). The coho return this year was the worst on record for both total number of fish and marine survival 0.8%. The poor recruitment to the hatchery was of particular concern and mitigation measures included waters closed to coho fishing and retention in the channel from just north of DIPAC to the Juneau-Douglas bridge. A wild egg take was also approved and conducted in late October to replenish broodstock.

Ex-Vessel Value

The total ex-vessel value of DIPAC salmon harvested in commercial fisheries this year was $7.6 M, bringing the cumulative total to $220 M. The ex-vessel chum revenues this year were approximately $7.3 M. The remainder was made up of sockeye ($227,900), coho ($9,200) and Chinook ($24,100) (Figure 2).

All commercially harvested salmon (wild and enhanced) landed in Southeast Alaska are subject to the 3% Salmon Enhancement Tax (S.E.T.). This tax revenue does not go to DIPAC since it is a non-regional corporation. The revenue generated from this tax is used to help fund enhancement programs in the region through NSRAA. The estimated S.E.T. revenue generated from the harvest and sale of DIPAC salmon in 2023 is $226,800, with a to-date cumulative total of $6.6 M (Figure 3 a & b).

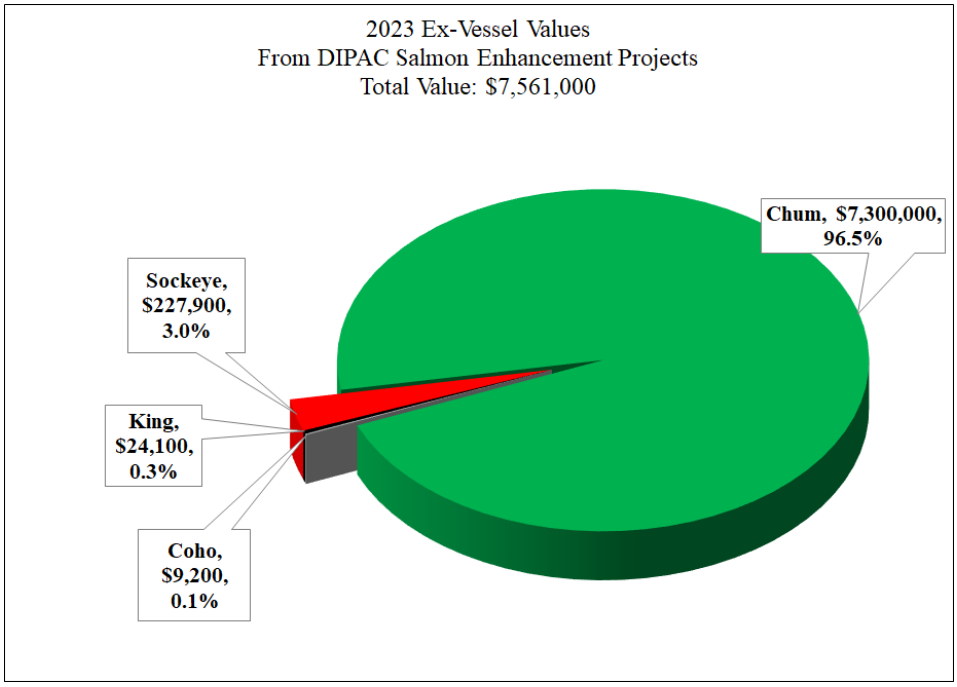
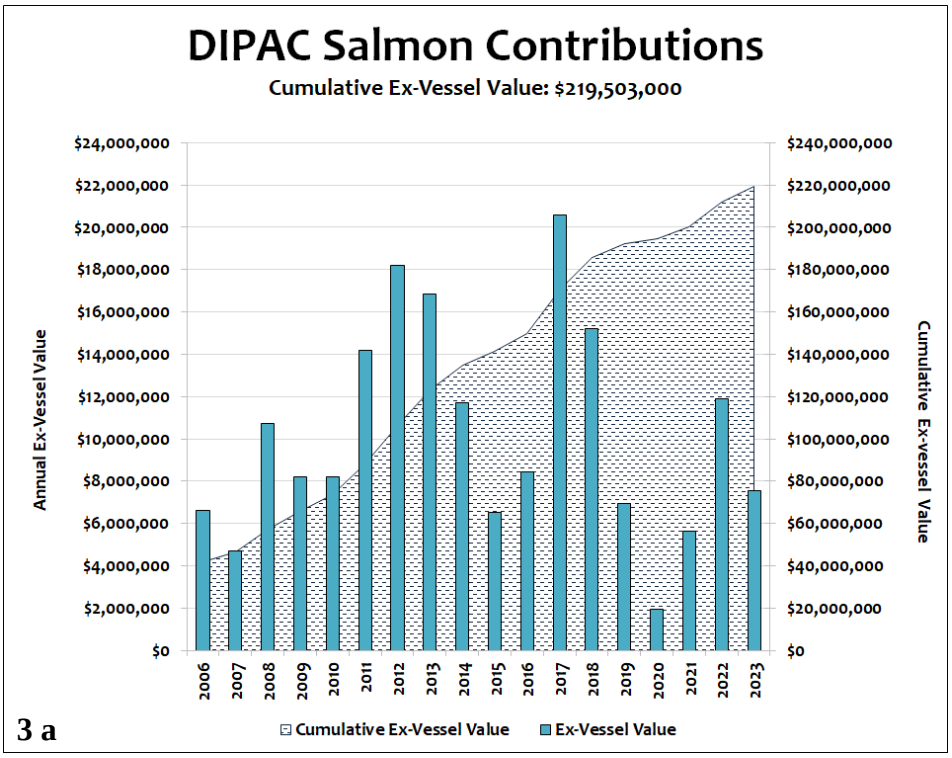


Figure 2. Estimated Ex Vessel Value of Salmon



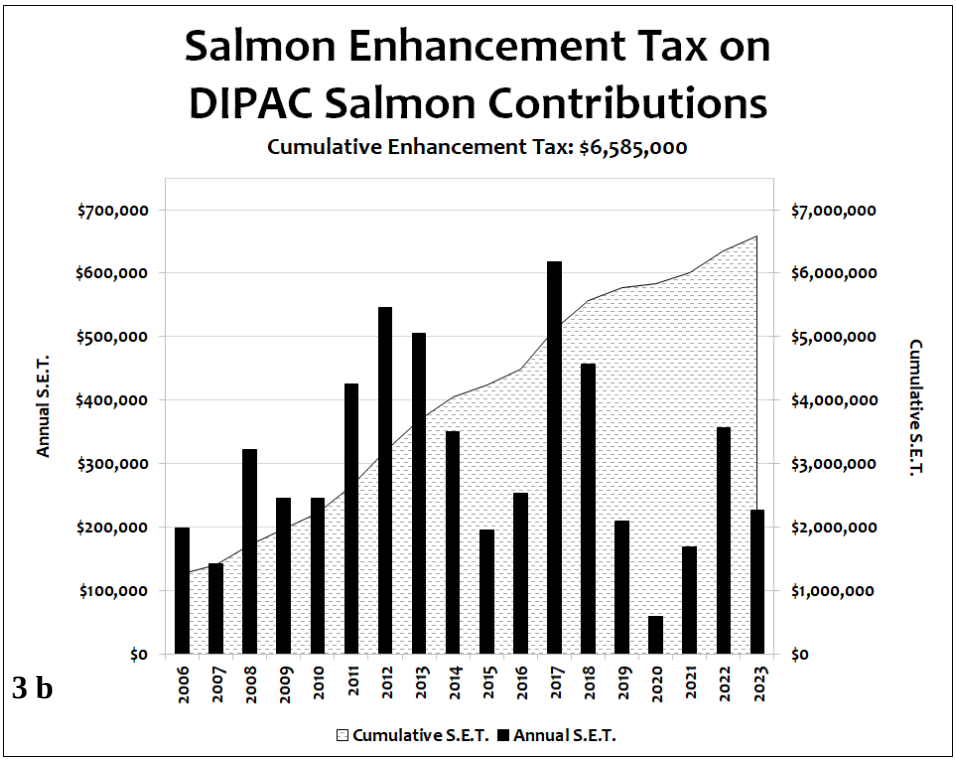


Figure 3. Annual and cumulative ex-vessel value (a) and S.E.T. (b) of DIPAC contributions.

2024 Preliminary Forecasts

2024 Chum Forecast

The preliminary projected return of DIPAC chum salmon in 2024 is 3.6 M (Table 5). The 10-year average return is 2.6 M chum (Figure 4). A preliminary midpoint forecast of 3.6 M should allow ample opportunity for cost recovery harvest in both the Channel and at Amalga.

Something that's become commonplace in recent years is abandoning all traditional chum forecast methods and adopting a blend of quantitative approaches to produce reasonable return estimates. The preliminary 2024 forecast was estimated using several methods for each age class that includes cumulative marine survivals, historical averages, and sibling regression but there may yet be more work done before finalizing the 2024 chum forecast.

Table 5. 2024 Chum Forecast

	Age 3	Age 4	Age 5	Age 6	Total
Lynn Canal	88,800	1,697,000	673,000	7,300	2,466,000
Taku-Stephens	58,900	796,400	309,000	12,100	1,550,000
					3,642,000
Total Less Broodstock					**3,452,000**

The preliminary 2024 chum forecast is composed of: 4% age-3, 68% age-4, 27% age-5, and 1% age-6. The 10-year average age compositions are: 5% age-3, 65% age-4, 29% age-5, and 1% age-6. Since the record low return in 2020 the chum returns have been gradually increasing, indicating that ocean conditions have become more favorable to chum production and survival.

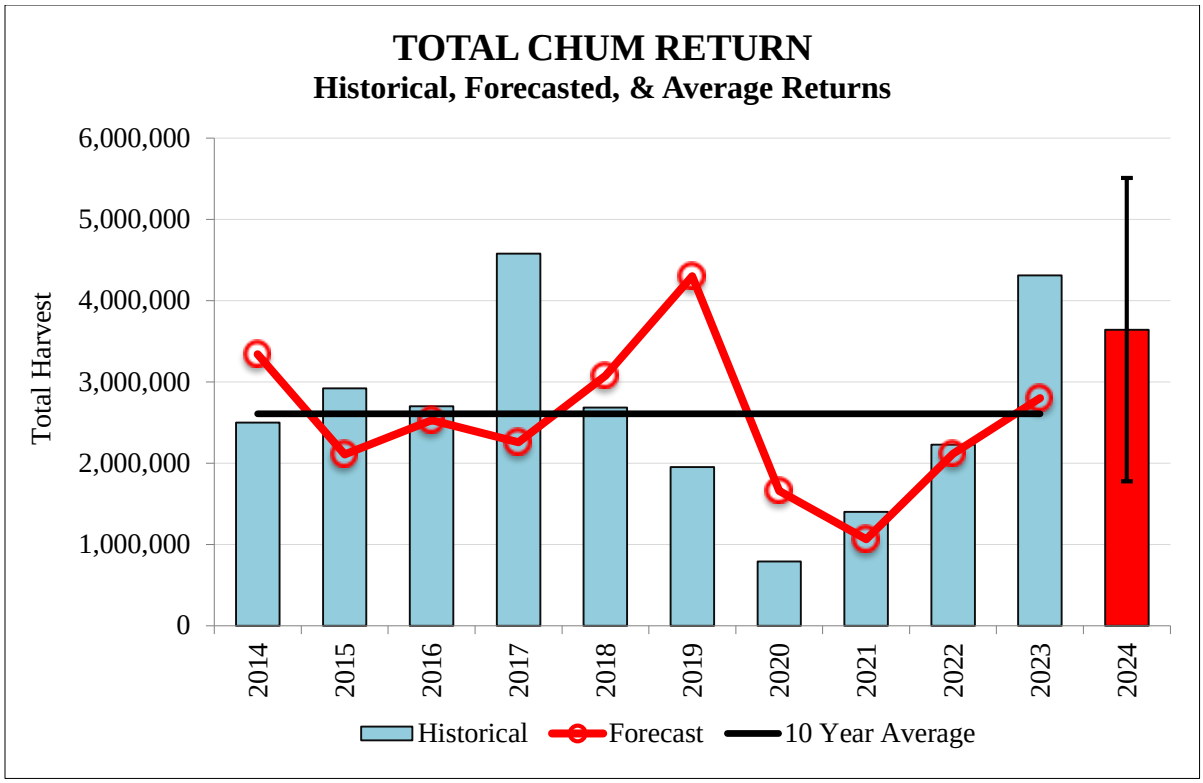


Figure 4. Historical and forecasted DIPAC chum salmon returns.

2024 Sockeye Forecast

The projected return of DIPAC sockeye in 2024 is 125,700 fish (age-4 and age-5) (Figure 5). The sockeye forecast is based on broodyear cumulative marine survival rates. The composition of the 2024 return is for 52,200 age-4 and 73,500 age-5 sockeye. The combined marine survival for the 2024 forecast is approximately 0.8% compared to the 10-year average of 2.0%.

The 2023 return was the first to not include any fish from BY17, who's cohort suffered from high IHN mortality. Age-4 and age-5 fish, which make up the majority of the return, therefore saw an increase in numbers compared to 2021 and 2022. Age-4 M.S. was 0.7% and age-5 M.S. was 0.2%. Both are significantly lower than the historical averages of 1.4% and 0.9%. Sockeye M.S. of this stock has been continuously decreasing over the past ten years and will be a research priority going forward.

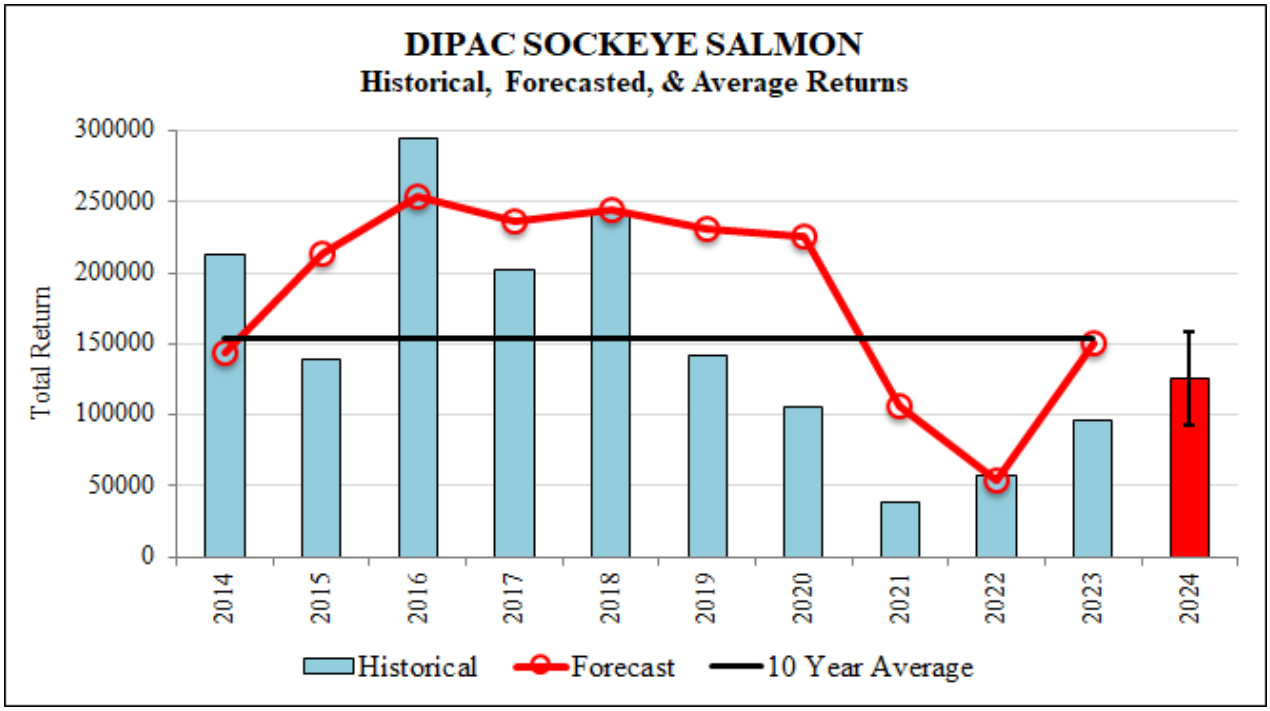


Figure 5. Historical and forecasted DIPAC sockeye returns.

2024 Chinook Forecast

The projected return of DIPAC produced Chinook salmon in 2024 is for 1300 large adults (ages 5 – 7). The forecast is based on cumulative returns, marine survival, and average age composition specific to each release site. This year's large adult return came in at 158% of the preseason forecast (Figure 6). The predominant age class was age-5 making up 79% of the return followed by age-6 at 18%. The percentage of the overall 2023 large adult return contribution from each site was: Auke Bay – 1%, Fish Creek – 40%, Lena Cove – 6%, MSH – 51%, and Thane – 3%.

The 2024 forecast estimates large adults to make up 38% of the return. This is due to the low expected return of age-5 fish that were entirely released as presmolt in December 2020 when AEL&P's salmon creek pipeline was severed.

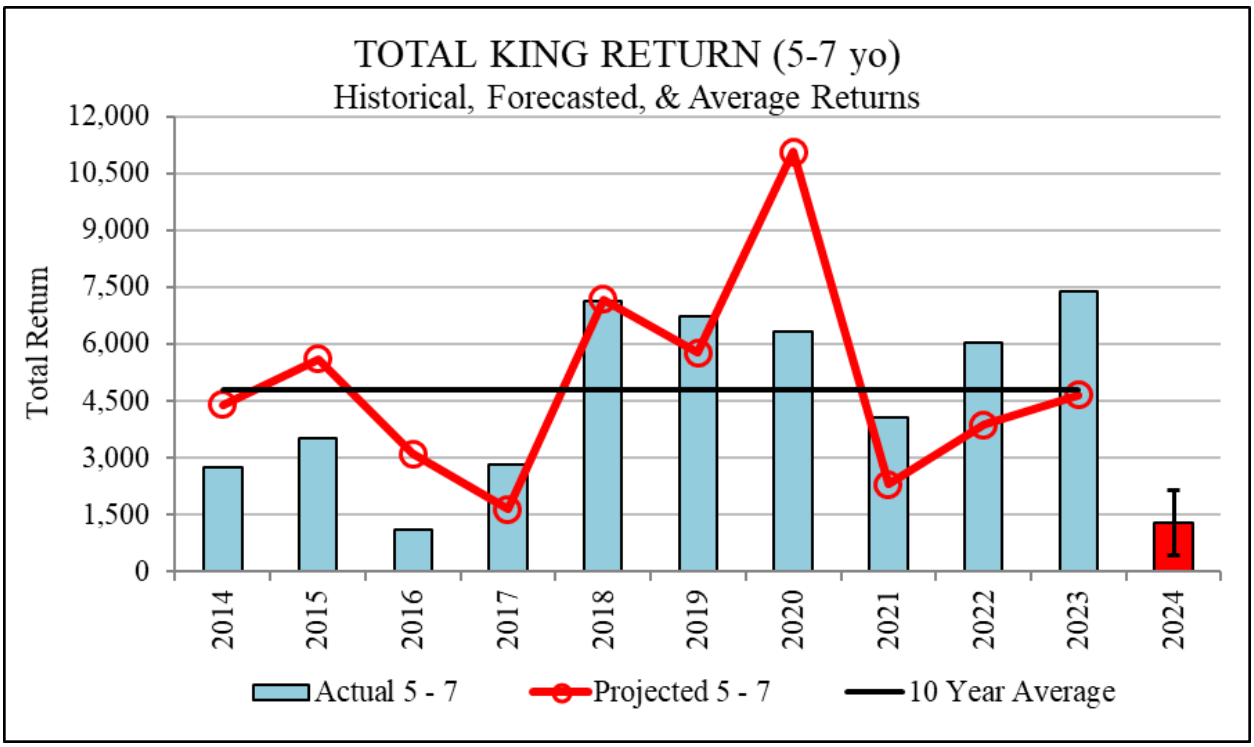


Figure 6. Historical and forecasted DIPAC king returns.

2024 Coho Forecast

The 2024 forecast was estimated using the most recent 3-year average of marine survival (excluding the BY20 fish which suffered gill damage in incubators) to get an estimated 46,400 DIPAC coho (3.4% marine survival) (Figure 7). This forecast is up significantly from the past two years due to a large release of smolts (1.4 M) for BY21.

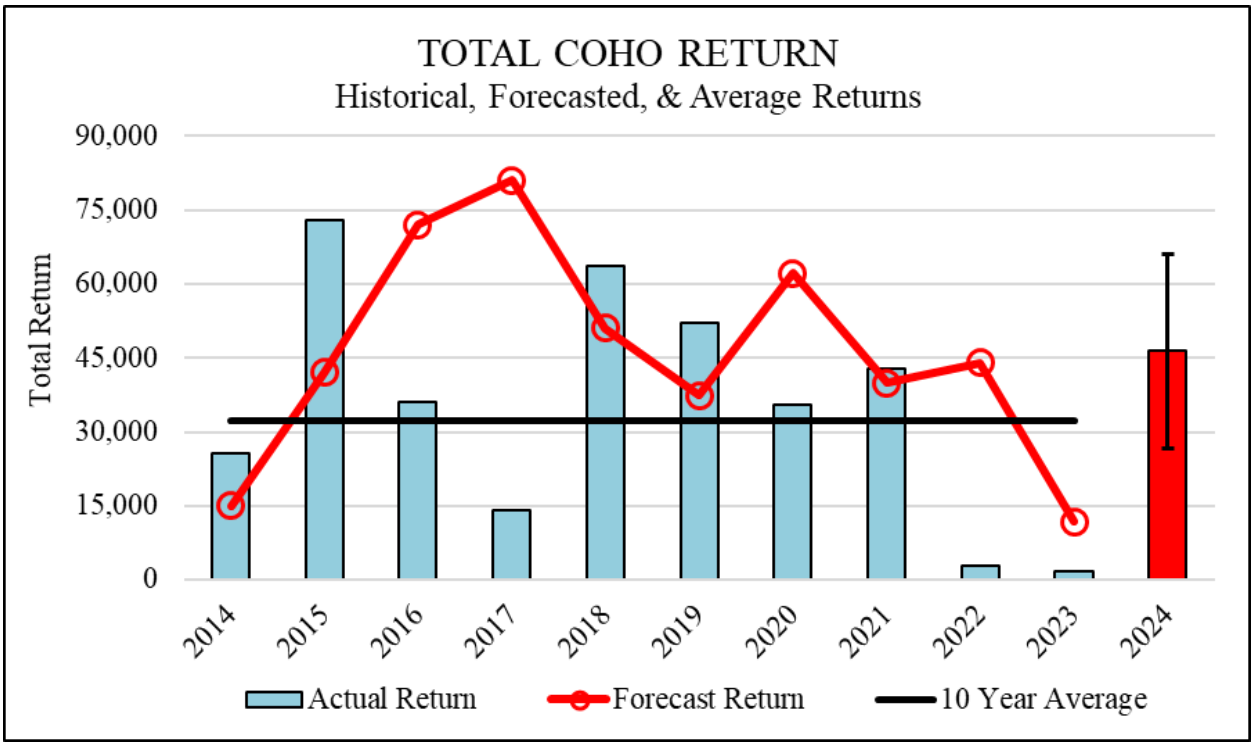


Figure 7. Historical and forecasted DIPAC Coho returns.

2022 Harvest v. Projection

(Thousand Fish)

	Harvest	Projection	% Realized
Sockeye	74,246	74,012	100%
Pink	64,500	67,225	96%
Keta	12,557	15,417	81%
Coho	1,100	3,588	31%
Chinook	247	310	80%
Total	**152,650**	**160,552**	**95%**

2023 Harvest vs. Projection

(Thousands of Fish)

	Harvest	Projection	% Realized
Sockeye	50,212	48,188	104%
Pink	147,633	122,213	121%
Keta	19,387	16,004	121%
Coho	1,760	2,960	59%
Chinook	182	242	75%
Total	**219,174**	**189,607**	**116%**

Figure 8. Alaska Seafood's statewide actual vs. projected harvest for 2022 and 2023.

Table 6: Total returns, hatchery returns and fishery contributions from DIPAC salmon enhancement programs in 2023.

		Common Property Contribution		Hatchery Returns			Total Return [1]
Species	**Fishery**	**Commercial**	**Sport**	**Cost Recovery**	**Broodstock**	**Other**	**Fish**
Chum	Lynn Canal Gillnet	1,297,000		971,400			
	Taku/Stephens Gillnet	601,900		284,800			
	Homeshore Troll	2,300					
	Amalga CP-Seine	399,337					
	Other Seine	81,523					
	Miscellaneaous SEAK[2]	11,200					
	Shoreside Sport		5,000				
	Hatchery Returns				200,039 [3]	457,028 [4]	
	Total Chum	**2,393,000**	**5,000**	**1,256,200**	**200,039**	**457,028**	**4,311,000**
	Estimated Value	**$7,300,000**					
Chinook	Southeast Troll	134					
	Southeast GN & SN	381					
	Marine Sport		1,014				
	Shoreside Sport		3,358				
	Donations						
	Hatchery Returns			1,970	626 [5]		
	Total Chinook	**515**	**4,400**	**1,970**	**626**	**-**	**7,500** [7]
	Estimated Value	**$24,100**					
Coho	Southeast Troll	196					
	Southeast Gillnet	1,019					
	Southeast Seine	-					
	Marine Sport		29				
	Shoreside Sport		30				
	Donations			-			
	Hatchery Returns			350	80	-	
	Total Coho	**1,215**	**59**	**350**	**80**	**-**	**1,700**
	Estimated Value	**$9,200**					
Sockeye[6]	District 11 Gillnet	28,669					
	Other Gillnet & Seine	7,025					
	Personal Use						
	Hatchery Returns			45,450	6,848	-	
	Total Sockeye	**35,694**	**-**	**45,450**	**6,848**	**-**	**87,900**
	Estimated Value	**$227,900**					
Grand Totals		**2,430,400**	**9,500**	**1,304,000**	**207,600**	**457,000**	**4,408,000**
Total Estimated Value		**$7,561,200**					

1) Totals may not match other report sums due to rounding.
2) DIPAC chum harvested in NSRAA & SSRAA fisheries
3) Includes spawned fish, carcass sales, and donations.
4) Estimate of inriver escapement in Juneau
5) Includes MSH brood, donations, & CR
6) Snettisham Sockeye (age 4 - 5)
7) Includes age-4 Chinook

TOURISM & EDUCATION DEPARTMENT REPORT

Erik Shook – Department Manager
December 2023

Overview

Cruise ship travel to Southeast Alaska has rebounded and surpassed pre-pandemic levels in the last year. A total of over 1.6 million cruise ship guests arrived in Juneau over the course of the 2023 tourism season, surpassing an expected return to 2019 counts by 300,000 passengers.

This summer The Ladd Macaulay Visitor Center welcomed more than 71,000 visitors which was roughly a 10% increase from 2022, and about 80% of our 2019 visitor count. Passenger spending saw a further increase this year in addition to the higher number of visitors. This resulted in the Visitor Center (VC) coming extremely close to breaking even at the end of fiscal year 2023, ending in a net loss of approximately $3000. We hope to continue this positive trend into next summer, and pursue further growth within the VC.

Community outreach and education in the VC were in full swing this year. Our fall salmon education program successfully brought in elementary students from the schools of Juneau throughout the month of October.

Tourism

Admissions Overview

The Ladd Macaulay Visitor Center welcomed just over 71,000 paying visitors in 2023. In looking at the history of the VC, this year's visitor counts were nearing 2018 numbers. We saw additional visitors from both large and small tour operators, with a significant shift in the number of visitors choosing small operators. With many companies struggling to adjust to the limited number of glacier permits, the hatchery received a large influx from these companies.

Large Operators

The two companies classified as large operators are Holland America Princess (HAP) and Alaska Coach Tours (ACT). Of our 71,000 visitors, almost 48,000 arrived to the hatchery via HAP or ACT. We saw an increase in visitors from both companies in comparison to 2022. While not as many tours included the hatchery as in years passed both HAP and ACT are looking for more opportunities to include us as a destination as we adjust to the increasing number of cruise ship passengers.

Small Operators

This past summer marked a significant increase in not only the number of small tour operator visitors, but the percentage of total visitors coming with these companies. The small businesses with which we have contracts are listed as follows (in order of most revenue): Juneau Tours, M&M Tours, Chum Fun, Alaska Galore Tours, Alaska Luxury Tours, Juneau Limousine and

Juneau Food Tours. Of our total visitor counts, 21% arrived via small tour operators. This is the highest percentage we have seen from small tour operators, even surpassing 2019 by 4%. A significant contributor to this was the rapid depletion of glacier permits, particularly with Juneau Tours and M&M Tours.

Walk-ins

Walk-in guests consist of those arriving via taxi, Uber/Lyft, city bus, and rental cars as well as local residents who pay for daily admissions or season passes. We had near 10,000 walk-in guests over the 2023 season and had almost 200 locals purchase season passes. In keeping track of visits via these passes, nearly an additional 1,500 visits were made in serving our local Juneau pass-holders.

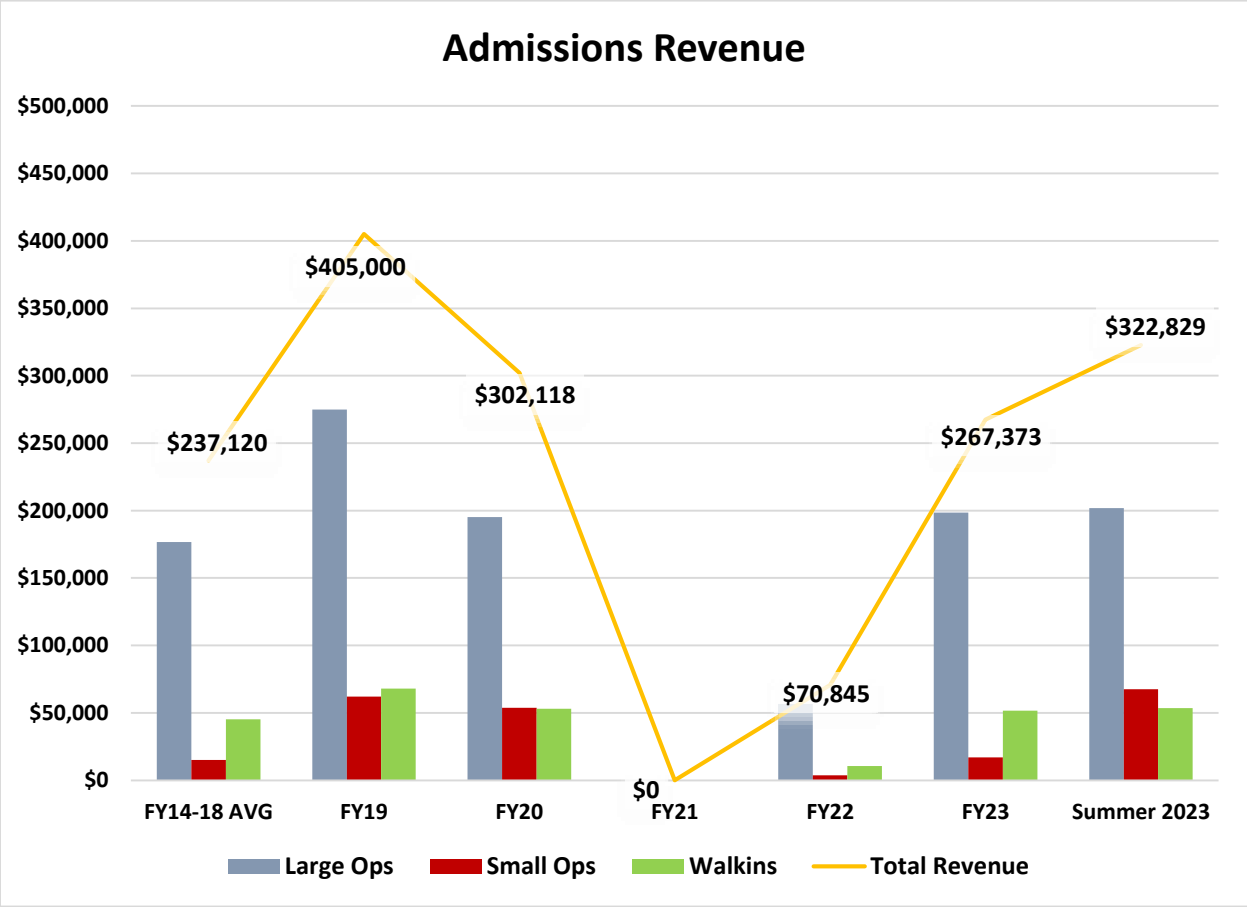


Figure 1: Admissions revenue broken down by group.

Concessions
With a growing number of visitors and passenger spending holding steady, we had a great sales year for our gift shop, surpassing past years. A few new items we added to our inventory were a hit. We'll be busy this winter ordering product for next summer, while also staying on the lookout for new products to offer.

Year	FY14-18 AVG	FY19	FY20	FY21	FY22	FY23	Summer 2023
Concessions Revenue	$198,500	$234,591	$160,497	$1,105	$77,240	$238,099	$233,686
Cost of Goods	$113,261	$130,655	$84,761	$4,207	$54,071	$96,582	$88,196
Gross Revenue	**$85,239**	**$103,936**	**$75,736**	**-$3,102**	**$23,169**	**$141,517**	**$145,490**

Table 2: Fiscal year comparisons for concessions revenue

Seasonal Staffing

This summer we welcomed back several returning seasonal staff and ended up with a great team. Most of our staff were in high school but with two college students as lead guides we were able to facilitate a reasonably well staffed summer. Staffing issues continue to arise in the early and late season as many of those working would have school to attend.

Education

So far in 2023, we have welcomed high school and college level Marine Biology and Fisheries classes as well as various Juneau summer camps. In addition to welcoming classes to DIPAC, department staff have taken part in community outreaches, including Discovery Southeast's shore side salmon lesson at Wayside Park. As the year continues, we expect to attend more outreaches including family and science nights within the school district.

Fall Field Trip
This year our Fall Field Trip programs began on September 27th, utilizing the shorter hours of operations at the end of the tourism season. This year, field trips ran through October 31st. A total of 35 classes signed up from the Juneau School District and various independent homeschool outfits. Almost 1,000 students and 200 adults (teachers and parent volunteers) participated in these programs.

Alaska Wild Salmon Day
This summer we celebrated *Alaska Wild Salmon Day* on August 10th. Alaska residents with a valid state or military ID enjoyed free admission to the VC. We offered behind the scenes tours every hour throughout the day. All salmon product was sold at 10% off and we plan to continue this tradition in the years to come.

Financial Outlook

With visitor numbers returning to pre-pandemic levels we saw the visitor center nearly break even in the past fiscal year. Moving forward with the growing tourism of Juneau we hope to see next year even higher.

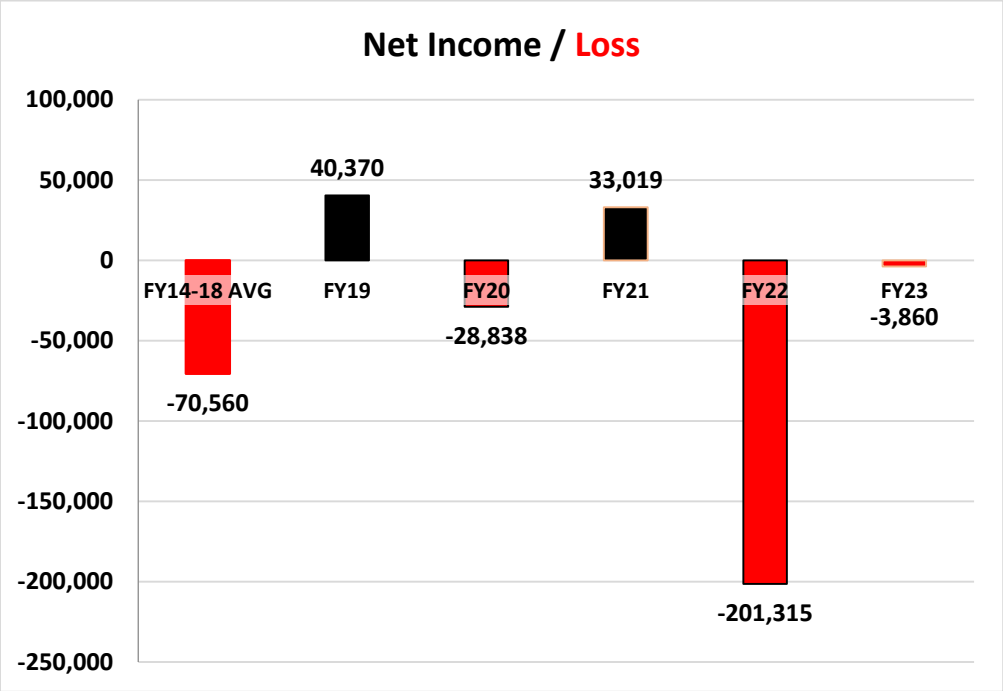


Figure 2: Net Income for the Tourism and Education Department. The first bar on the left is a 5-year average. FY21 shows a net income of $33,000 due to COVID-19 grants the department received.