

2024 ANNUAL MANAGEMENT PLAN
Port Graham Hatchery
Cook Inlet Aquaculture Association

1.0 Executive Summary

1.1 Introduction

This Annual Management Plan (AMP) is prepared to fulfill the requirements of 5 AAC 40.840. This plan must organize and guide the hatchery's operations regarding production goals, broodstock management, and harvest management of hatchery returns. The plan must be developed with consideration of the hatchery's production cycle. The production cycle begins with adult returns, that lead to egg takes and end with fish releases. Action may be taken outside of the management plan if allowed under the hatchery permit or modified by emergency order. In season assessments and project alterations by Cook Inlet Aquaculture Association (CIAA) or Alaska Department of Fish and Game (ADF&G) may result in changes to this AMP in order to reach or maintain program objectives. CIAA will notify the ADF&G private nonprofit (PNP) hatchery program coordinator in a timely manner of any departure from the AMP. The ADF&G PNP coordinator will advise as to whether an amendment, exception report, or other action is warranted. No variation or deviation will be implemented until an AMP amendment has been approved or waived by both the department and CIAA. This policy applies to all hatchery operations covered under the AMP.

1.2 New This Year: (production, harvest management, culture techniques, etc.)

1.2.1 Facility Changes

- No major modifications to the facility are anticipated this year.

1.2.2 Production Changes

- Port Graham Hatchery (PGH) operations were suspended in the fall of 2023 and will remain suspended in 2024 and 2025.

1.2.3 Fish Culture Changes

- No changes to fish culture are planned this year.

1.2.4 Evaluation Changes

- No changes to evaluation of programs are planned in 2024.

1.2.5 Projected Return and Cost-recovery Changes

- At a 3.2% fry-to-adult survival rate CIAA is expecting approximately 454,523 adult pink salmon to return to Port Graham Bay. CIAA anticipates a cost recovery harvest from Port Graham SHA to occur.

1.3 Permit Alteration Requests (PARs) submitted and Fish Transport Permits (FTP) and amendments needed this year

A PAR is being reviewed and processed this year for PGH. If approved, drift gillnet gear would be added to the PNP permit as allowable gear for cost recovery harvest in the Port Graham SHA, as decided by the commissioner.

No new FTPs or amendments needed this year.

1.4 Expected Return

To estimate adult pink salmon production from PGH projects, it is assumed there is 80% green egg-to-fry survival and 3.2% fry-to-adult survival. These values are estimates only and are not based on current observed survival data. These survival rates may be adjusted as hatchery operations continue and data becomes available.

The 2024 projected adult production from PGH pink salmon enhancement project is:

Species	Stock	Return Site	Brood Year	Total Return	Enhanced Return	Natural Return	Cost Recovery	Broodstock /Escapement	Common Property Harvest
Pinks	Port Graham	Port Graham Bay	22	454,523	454,523	0	409,071	0	45,452
	Combined Age Classes			454,523	454,523	0	409,071	0	45,452
	% of Total				100%	0%	90%	0%	10%

1.5 Production Summary

2024

Port Graham Hatchery

Stock & Permit No.	Pink Salmon												current year												2025												2026					
	2023												2024												2025												2026					
	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J				
Port Graham River 14A-0062 14A-0071	BY23 No egg take @ PGH																																									

1.6 Permitted Capacity

PGH operates under Private Nonprofit Hatchery Permit #46 issued in 2014 and has a maximum permitted capacity of 125,000,000 pink salmon green eggs. CIAA recognizes that the current system and water availability limits the maximum production goal. Current capacity has been calculated at 84,000,000 pink salmon green eggs.

The FTPs under which CIAA operates PGH:

FTP #	Donor Stock/ Ancestral Stock	Egg take, transport, or release	Maximum #, Life Stage	Transport from To	Expires
14A-0062	Port Graham R/ Port Graham R	Egg take and release	84,000,000 eggs	PGH to Port Graham	6/30/2024
14A-0071	Port Graham R/ Port Graham R	Transfer	84,000,000 eggs	PGH to TBLH to PGH	7/31/2024

1.7 Project Evaluation

Adult pink salmon are expected to return from pink salmon releases that occurred in 2023 at Port Graham Bay.

Fish tickets submitted to ADFG as well as counts during egg take will be used to enumerate returns to the area.

All fish will be thermally marked.

CIAA will collect otoliths from adult pink salmon used as broodstock.

All species of adult salmon migrating into the Paint River system will be monitored with a video weir.

2.0 Port Graham Pink Salmon

2.1 Purpose and History

PGH began production in 1992, primarily focusing on pink salmon production. In 1998, a fire destroyed the original hatchery building, including incubation modules containing pink and sockeye salmon eggs collected the previous year. A separate building that housed the empty coho salmon module was undamaged. This building was converted to pink and sockeye salmon production to allow for incubation of eggs collected during the upcoming summer. In 2006, the loss of a hatchery manager, combined with financial limitations, resulted in pink and sockeye salmon releases ending in 2006 and 2007 respectively. Consequently, in 2007 the Port Graham Hatchery Corporation (PGHC) contracted with CIAA to assist with the collection of 510,000 sockeye salmon eggs from returning English Bay Lakes adult salmon. Eggs were incubated at Trail Lakes Hatchery (TLH) and released as presmolt to English Bay Lakes and as smolt to Port Graham Bay. In 2010, the PGHC approached CIAA to take over the sockeye salmon program and resume operations of PGH for pink salmon production.

CIAA received Hatchery PNP Permit #46 for the operation of Port Graham Hatchery and undertook a major renovation of the facility in 2014. The majority of this renovation is complete and CIAA put the first eggs into the renovated facility in 2015.

2.2 Operational Plan

2.2.1 Egg-take Goal/Brood Sources

Port Graham operations will remain suspended in 2024. No egg take will occur in 2024.

Table 1. Port Graham River pink salmon donor broodstock removal based on the current escapement goal.

Total Number of Port Graham River Pinks Returning:	Escapement allowed into Port Graham River:	Escapement utilized for Hatchery Broodstock:
Less than 7,700	100%	0
7,700–33,000	First 7,700, plus 50% of fish in excess of 7,700, until 20,000 fish total escapement is reached	50% of fish in excess of 7,700
More than 33,000	20,000	Remainder

CIAA Broodstock Requirements		
		Port Graham
Stock		Pinks
Species		Pinks
# Green Eggs		0
Fecundity		0
F:M Ratio		0
Inviability	0%	0%
Excess Males/Roe Recovery	0%	
Mortalities	0%	
# Females		0
# Males		0
Total Broodstock		0

2.2.2 Egg Take, Transport of Eggs

CIAA will not collect eggs from pink salmon returning to Port Graham in 2024.

2.2.3 Incubation Plans

CIAA will not collect eggs from pink salmon returning to Port Graham in 2024.

2.2.4 Rearing and Release Plans

No planned release for 2024.

Insufficient broodstock in 2023 resulted in no egg take for BY23.

2.3 Donor Stock Management

2.3.1 Management Strategies

The SHA shall be opened and closed to commercial fishing by emergency order (EO). Sport fisheries will be managed in accordance with regulations as provide in 5 AAC 47-5 AAC 75. Emergency orders may be issued to liberalize or restrict sport fisheries based on achievement of broodstock goals. In case of low wild stock returns for pink and chum salmon to Port Graham River, it may be necessary to limit fishing pressure in the SHA by reducing time or boundaries of the SHA.

2.4 Evaluation Plans

CIAA may assist ADF&G staff in collecting otoliths from cost recovery harvest.

3.0 Paint River Stocking Program

3.1 Purpose and History

The Paint River system, which enters Akjemguiga Cove in Kamishak Bay over a forty-foot waterfall at tidewater, has never had a self-sustaining run of salmon, but has long been recognized by ADF&G and CIAA as having significant salmon production potential. A fish ladder was completed in 1991. The next phase of this project is to develop salmon runs to Paint River.

In spring 2011, the fish ladder was opened to allow migration of adult salmon to the system and natural colonization of the watershed. The first anadromous fish (coho salmon) were documented in the system in 2014. In 2015, chum salmon were also documented in and above the ladder.

In 2018, CIAA released 305,000 pink salmon fry from Bruin Bay into the Paint River system. Broodstock will not be collected from Bruin Bay in 2024. The fish ladder will be open between June and September to allow for any possible natural colonization of the watershed. A video camera will be installed to document the returns through the fish ladder.

3.2 Operational Plan

3.2.1 Egg-take Goal/Brood Sources

CIAA will not collect eggs from pink salmon returning to Bruin River in 2024.

3.3 Evaluation Plans

A video camera will be installed to document all adult returns through the fish ladder at Paint River.

4.0 Harvest Management

4.1 Cost-recovery Plan

CIAA funds the cost of operating TLH, TBLH, PGH, and Eklutna Salmon Hatchery (ESH) and associated field projects by licensing for harvest a portion of the fish returning to the hatchery's release sites. CIAA will begin cost recovery in Resurrection Bay/Bear Lake followed by Leisure/Hazel Lake sockeye, Kirschner Lake sockeye, Tutka Bay Lagoon sockeye and pink salmon, and Port Graham Bay pink salmon until the cost recovery goal is met. The table below describes anticipated returns and revenue to the special harvest areas (SHAs) in which cost recovery licensing is possible in 2024.

CIAA 2024 Cost Recovery Target SHA/AREA	Financial Target	
	Sockeye	Pink
Bear Lake/Resurrection Bay	1,100,000	N/A
Kirschner Lake	225,000	N/A
Tutka Bay	300,000	325,000
Leisure/Hazel	202,000	N/A
Port Graham	N/A	480,000

The Division of Commercial Fisheries Area Management Biologist (AMB), in consultation with the hatchery operator, will employ management strategies within waters of the Port Graham SHA that ensure achievement of broodstock and cost recovery licensing goals for CIAA, as well as to allow for an orderly common property fishery opportunity to harvest fish surplus to hatchery needs. Some reduction in the common property fishery opportunity in hatchery subdistricts may be necessary to ensure broodstock and cost recovery licensing objectives are met in a timely and orderly fashion. In addition to weekly updates providing current levels of CIAA brood and cost recovery harvests to the Homer ADF&G office, CIAA will submit written hatchery subdistrict management recommendations to the AMB with clear justifications as to how the recommendations support achieving cost recovery and/or broodstock collection goals. Recommendations will be submitted in the form of a brief email and will include, but not be limited to, current cost recovery and brood harvest data, SHA estimates of fish in the water, as well as actual and anticipated run entry, and actual and anticipated cost recovery and brood harvest progress. SHA estimates may also include the number of fish within the Port Graham Hatchery SHA outside of holding pens as well as Port Graham Bay outside of the SHA.

4.2 Special Harvest Areas

4.2.1 *Port Graham Special Harvest Area*

4.2.1.1 Area Definition

The Port Graham Special Harvest Area (SHA), as defined in 5AAC 21.377(b), consists of the marine waters of the Port Graham Subdistrict in the Southern District south of a line from the southern tip of Passage Island at 151° 53.08' W. long., 59° 22.00' N. lat., to a point offshore at 59° 20.83' N. lat., 151° 48.53' W. long. (Figure 1).

4.2.1.2 Fishery Management

ADF&G will be responsible for fishery management as it relates to sustainable escapement goals (SEGs) for Port Graham River pink and chum salmon. This includes common property and hatchery-related fisheries.

A cost-recovery harvest is anticipated in 2024 under the PGH permit.

The SHA shall be opened and closed to commercial fishing by EO. Areas within the SHA where hatchery harvest is permitted, as well as the SHA boundaries, may be adjusted by the department as needed based on wild stock escapement and hatchery returns. Sport fisheries will be managed in accordance with regulations as provided in 5 AAC 47–5 AAC 75. Emergency orders may be issued to liberalize or restrict sport fisheries based on achievement of broodstock goals.

5.0 Approval

Recommendation for Approval: Port Graham Hatchery Annual Management Plan, 2024:

Dean Day, Executive Director, Cook Inlet Aquaculture Association 5/13/2024

Matt Miller, Fish and Game Coordinator, Division of Sport Fish 5/15/2024

Glenn Hollowell, Area Management Biologist, Division of Commercial Fisheries 5/14/2024

Jason Dye, Regional Supervisor, Division of Sport Fish 5/15/2024

Bert Lewis, Regional Supervisor, Division of Commercial Fisheries 5/15/2024

Ethan Ford, Regional Resource Development Biologist, Division of Commercial Fisheries 5/15/2024

Lorraine Vercessi, PNP Hatchery Program Coordinator, Division of Commercial Fisheries 5/29/2024

The 2024 Port Graham Hatchery Management Plan is hereby approved:

Tom Taube, Deputy Director, Division of Sport Fish 5/30/2024

Forrest Bowers, Operations Manager, Division of Commercial Fisheries 5/29/2024

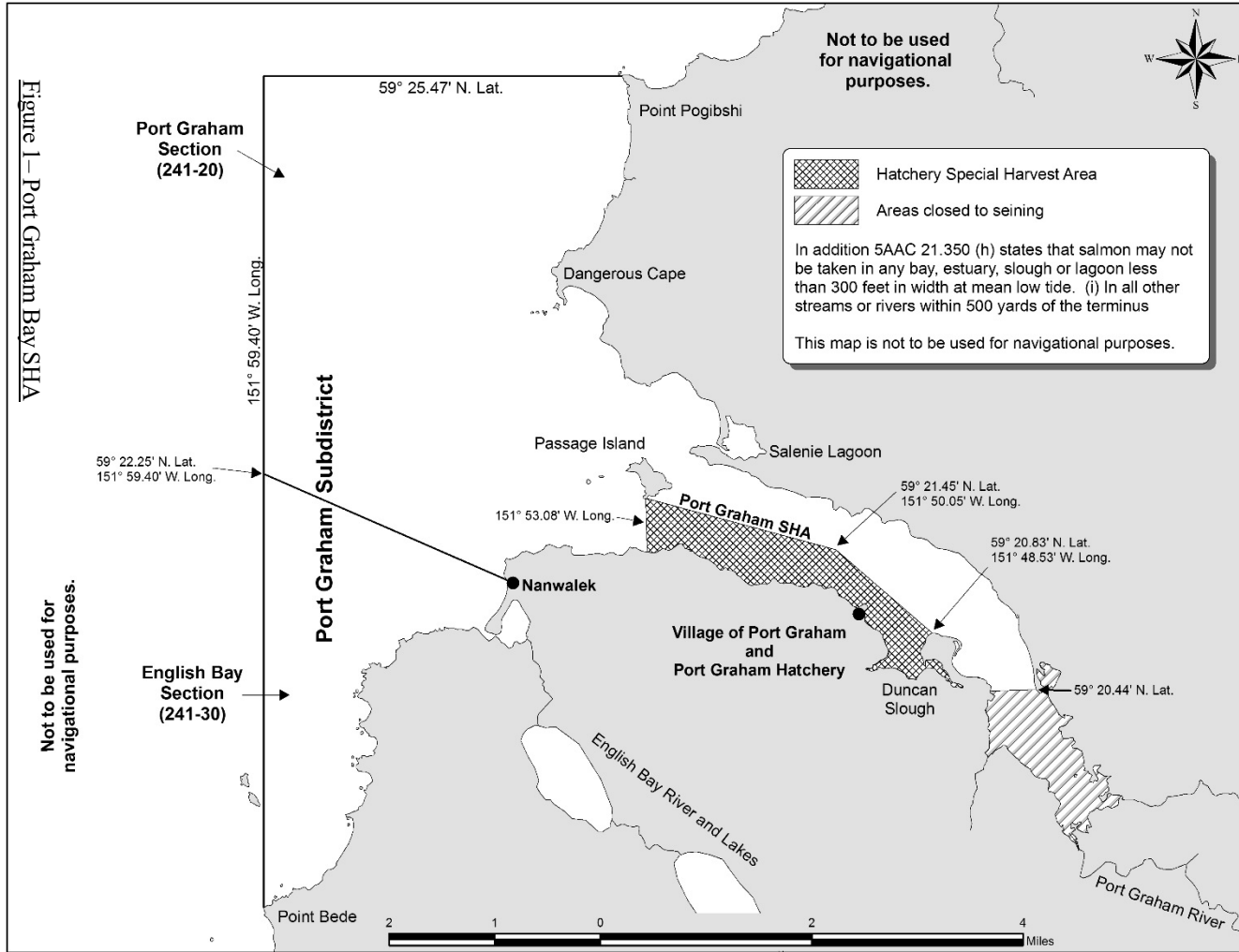


Figure 1 – Port Graham Bay SHA

Not to be used for navigational purposes.

7.0 Attachments

7.1 Port Graham Hatchery Production

Pink Salmon							
Brood Year	Green Eggs	Fry Released	Egg to Fry Survival	Adult Return	Fry to Adult Survival	Egg to Adult Survival	Comments
2014	3,195,649	2,205,000	69.00%	18,525	0.84%	0.58%	Eggs were incubated at TBLH due to renovation schedule. Fry were shipped unfed to PGH for short-term rearing in net pens before release
2015	2,248,000	1,310,800	58.31%	78,516	5.99%	3.49%	Broodstock survival was a challenge due to atypical environmental conditions
2016	9,076,400	6,060,000	66.77%	460,050	7.59%	5.07%	Large size of pink salmon >4.5 lb but low returns
2017	35,213,400	20,850,000	59.21%	17,469	0.08%	0.05%	
2018	18,385,026	10,144,850	55.18%	248,151	2.45%	1.35%	
2019	8,045,233	5,948,143	73.93%	27,958	0.47%	0.35%	
2020	34,853,545	22,362,661	64.16%	28,672	0.13%	0.08%	
2021	6,081,714	1,973,319	32.45%	2,000	0.10%	0.03%	
2022	21,179,087	12,986,358	61.32%				
2023	0	0	0.00%				Collected ~2,000 broodstock, poor return resulting in no eggtake for 2023, all collected fish were released.
Total	138,278,054	83,841,131	54.03%	881,341	2.21%	1.38%	

7.2

CIAA Enhancement Project Summary – 2024

Port Graham Hatchery BY2023 Production Data as of 3/26/24

BY	Species	Stock	Green	Eyed	Hatched	Fry/Smolt	Release Site *	Target Release #	Current or Release Size (g)	Released or Transferred	
23	Pink	Port Graham	0	0	0	-	Port Graham	0	-	-	-