2023 ANNUAL MANAGEMENT PLAN
WALLY NOERENBERG HATCHERY
Prince William Sound Aquaculture Corporation

This Annual Management Plan (AMP) plan is prepared to fulfill the requirements of 5 AAC 40.840. This plan must organize and guide the hatchery's operations, for each calendar year, regarding production goals, broodstock development, and harvest management of hatchery returns. Egg -take through release details are included in planning for succeeding calendar years. In-season assessments and project alterations by Prince William Sound Aquaculture Corporation (PWSAC) or Alaska Department of Fish and Game (ADF&G) may result in changes to this AMP in order to reach or maintain program objectives. PWSAC 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 PWSAC. This policy applies to all hatchery operations covered under the AMP.

I. OPERATIONAL PLAN

1.1 Egg-Take Goals by Species

Chum Salmon: The chum salmon egg-take goal is 153 million (131 million plus 22 million permitted for AFK per section 1.8). Anticipated broodstock requirements to achieve the egg-take goal are approximately 119,000 females and 86,000 males, and 23,000 additional fish (to account for an assumed 10% loss to sea lion predation) for a total of 228,000 fish, assuming:

(a) Average fecundity of 1,816 eggs/female
(b) 58% historical 10-year average female %
(c) 15% holding mortality
(d) 15% green/over-mature spawners

Pink Salmon: The pink salmon egg-take goal is 148 million. Anticipated broodstock requirements to achieve the egg-take goal are approximately 169,000 females and 241,000 males, and 46,000 additional fish (to account for an assumed 10% loss to sea lion predation) for a total of 457,000 fish, assuming:

(a) Average fecundity of 1,229 eggs/female
(b) 41% historical 5-odd-year average female %
(c) 15% holding mortality
(d) 15% green/over-mature spawners

If the required broodstock for pink salmon egg-take goal at Wally Noerenberg Hatchery (WNH) is not available for returning fish to the hatchery, PWSAC will consult with ADF&G staff to implement broodstock collection in order to conduct an egg take at Armin F. Koernig Hatchery

(AFK) to collect up to 148 million additional green eggs in order to reach the WNH goal. After eyeing at AFK, eggs will be transferred to WNH for rearing and release.
If the required broodstock for pink salmon egg-take goal at AFK is not available for returning fish to the hatchery, PWSAC will consult with ADF&G staff to implement broodstock collection in order to conduct an egg take at WNH to collect up to 162 million additional green eggs in order to reach the AFK goal. After eyeing at WNH, eggs will be transferred to AFK for rearing and release.

Coho Salmon, WNH: The coho salmon egg-take goal is 3.9 million eggs. Anticipated broodstock requirements to achieve the egg-take goal are approximately 1,350 females and 1,350 males, assuming:
(a) Average fecundity of 4,100 eggs/female
(b) 1/1 female to male ratio
(c) 15% holding mortality
(d) 15% green/over-mature spawners

Coho Salmon, Cordova: The coho salmon egg-take goal is 133,000 eggs. Anticipated broodstock requirements to achieve the egg-take goal are approximately 43 females and 43 males, assuming:
(a) Average fecundity of 3,088 eggs/female
(b) 1/1 female to male ratio
(c) 0 % holding mortality
(d) 0% green/over-mature spawners

If the required broodstock for the coho salmon egg-take goal is not available from returning fish to Power Creek, Ibeck Creek, or the hatchery (Mile 18 stock at the hatchery), PWSAC will confer with VFDA on the feasibility of obtaining eggs or confer with ADF&G about conducting an egg take at the Mile-18 location (broodstock source) in Cordova or conduct an egg take at the remote release location in Cordova (Fleming Spit Pond) to make up the balance of the goal. Mile-18, Corbin, Power, and Ibeck Creek stocks will not be mixed at WNH.

1.2 Broodstock

The expected broodstock collection schedules for chum and pink salmon are derived from historic run timing curves for Wally Noerenberg Hatchery (WNH). The chum and pink salmon curves are an aggregate of all years (chum salmon 1987–2021; pink salmon 2007–2021 odd years) SHA hatchery harvests and Esther Subdistrict commercial fishery catch data from ADF&G Annual Management Reports and preliminary inseason estimates. The adult return summary includes the projected total return, hatchery escapement schedule, and fish available for common property fishery harvest (Table 3).

To ensure that run timing is proportionally represented in broodstock, a hatchery escapement schedule that includes the broodstock acquisition schedule will be implemented based on run timing percentages, by date, in the AMP tables to establish a hatchery escapement goal by week. These goals will be measured according to the total number of fish estimated in the hatchery SHAs.

If in-season catch data indicate the run is earlier or later than the historical run curve would suggest, then PWSAC must consult with the department prior to altering the hatchery escapement schedule, accordingly, to match the actual run.

The hatchery escapement exclusion zone (HEEZ), outlined in section 3.4, protects potential broodstock fish staging directly in front of the hatchery from being harvested in common property fisheries. These fish include those that will eventually become broodstock along with those needed to ensure a high quality, efficient, and successful egg collection process.

Any fish collected beyond those utilized as broodstock will be sold for cost recovery to fund PWSAC's salmon fisheries enhancement program. Historically, PWSAC has carried forward revenues from the hatchery raceway fish sales and full-utilization programs to the following year as a reduction in the cost recovery revenue goal calculation. This provides benefits to the commercial common property fisheries (CCPF) with an increased PWSAC salmon harvest and, potentially, an earlier timed CCPF.

A portion of the SHA hatchery escapement is kept separate by means of a barrier net near the mouth of Esther Creek. Brood fish will be collected by volitional entry through the fishway leading to the brood holding pond.

1.3 Egg-take Schedule and Data Reporting

Ultimately, the egg-take schedule depends upon broodstock recruitment and maturation rate of the broodstock in salt and fresh water. The table below summarizes an anticipated egg-take schedule based on the average historical egg-take percent completion 1996–2022. All data associated with egg take and broodstock collection will be provided to the department by November 1 each year. Data will be provided in electronic format (Excel file) and include all the categories presented in the template attached as Table 7. Data to be collected specifically includes the numbers of green and over-ripe females from the broodstock and associated cost recovery.

Anticipated Egg-take Schedule

Percent Complete	Chum Salmon	Pink Salmon	Coho Salmon
25%	July 7	August 29	October 19
50%	July 13	September 3	October 27
75%	July 18	September 7	November 4
100%	July 27	September 15	November 11

For a complete listing of PWSAC hatchery egg-take schedules, see Table 4. For a complete listing of PWSAC's egg-take goals, see Table 2.

1.4 Egg Transport and Carcass Disposal Plans

Approximately 22 million green chum salmon eggs will be allowed to develop to the eyed-egg stage, and then transported off-station to Armin F. Koernig Hatchery (AFK) for incubation, rearing, and release.

If the required broodstock for pink salmon egg-take goal at Wally Noerenberg Hatchery (WNH) is not available for returning fish to the hatchery, PWSAC will consult with ADF&G staff to implement broodstock collection in order to conduct an egg take at AFK to collect up to 148 million additional green eggs in order to reach the WNH goal. After eyeing at AFK, eggs will be transferred to WNH for rearing and release.

If the required broodstock for pink salmon egg-take goal at AFK is not available for returning fish to the hatchery, PWSAC will consult with ADF&G staff to implement broodstock collection in order to conduct an egg take at WNH to collect up to 162 million additional green eggs in order to reach the AFK goal. After eyeing at WNH, eggs will be transferred to AFK for rearing and release.

Approximately 50,000 BY23 king salmon eyed eggs will be transferred from the William Jack Hernandez Sport Fish Hatchery to WNH to complete the incubation cycle. The resultant fry will emerge volitionally into a freshwater raceway and reared at WNH. In May 2025, the smolt will be transported to saltwater net pens in Chenega Cove on the south end of Chenega Island. The king salmon smolt will be reared for approximately two weeks and released.

During egg-take PWSAC may sell broodstock carcasses and inviable eggs if a market is available. The carcass of a salmon from which milt or eggs are extracted for lawful use as broodstock may be disposed of in accordance with Alaska Department of Environmental Conservation (DEC) requirements. If carcasses are not sold, inviable eggs and carcasses will be disposed of in accordance with Alaska DEC requirements. If an additional broodstock carcass disposal log is required by ADF&G, all disposals will be logged on the carcass disposal form and reported to the department within 30 days after egg take and disposals are completed.

1.5 Incubation Plans

The following tables contain egg take goals, incubation plans, and estimated releases for brood year 2023 (BY23) chum salmon, pink salmon, and coho salmon.

Chum Salmon Production Summary

Program Name	Egg Take Site	Current Year Green Egg/Fry Goal	Eyed Eggs	Fry/Smolt Released[1]	Permitted Maximum
WNH Chum Salmon	WNH	84,000,000	76,500,000	73,000,000	111 million green eggs
Port Chalmers Chum Salmon	WNH	47,000,000	42,400,000	40,500,000	41 million fry
AFKH Chum Salmon[2]	WNH	22,000,000	20,000,000	– [3]	34 million green eggs

[1] Release goals assume that egg-take goals and standard survivals are achieved. If egg-take goals are not achieved or survivals are lower than anticipated, remote release transport and rearing logistics may be impacted, and release goals may be altered through an amendment to this plan.

[2] Approximately 20 million chum salmon will be transferred to the AFK hatchery at the eyed-egg developmental stage.

[3] Fry release provided in AFK Hatchery AMP.

Pink Salmon Production Summary

Program Name	Egg Take Site	Current Year Green Egg/Fry Goal	Eyed Eggs	Fry/Smolt Released[1]	Permitted Maximum
WNH Pink Salmon	WNH	148,000,000	140,000,000	134,000,000	148 million green eggs
WNH Pink Salmon	AFKH[1]	0	140,000,000	134,000,000	148 million green eggs
AFKH Pink Salmon	WNH	162,000,000	153,000,000	_ [2]	162 million green eggs

[1] If the required broodstock for egg-take goals at WNH is not available, up to 148 million green eggs may be taken at AFKH and transferred to WNH at the eyed-egg development stage for release at Lake Bay.

[2] Fry release provided in AFK Hatchery AMP

Coho Salmon Production Summary

Program Name	Egg Take Site	Current Year Green Egg/Fry Goal	Eyed Eggs	Fry/Smolt Released	Permitted Maximum
WNH Coho Salmon	WNH	4,000,000	3,800,000	3,500,000	4,000,000 green eggs
Whittier Coho Salmon[b]	WNH	- [a]	- [a]	100,000	100,000 smolt
Chenega Cove Coho Salmon[b]	WNH	- [a]	- [a]	50,000	50,000 smolt
Fleming Spit Coho Salmon[c]	WNH	- [a]	- [a]	100,000	100,000 smolt

[a] Permitting allows for a total of 4 million green eggs at WNH with releases permitted for numbers of smolt.

[b] Permitting limits stock to Mile 18 Creek or Corbin Creek.

[c] Permitting limits stock to Mile 18 Creek, Ibeck Creek, or Power Creek.

The above tables were generated with the following assumptions:

(a) survival from green to eyed stage of:

94.5% for pink salmon
91.5% for chum salmon
95.0% for coho salmon

(b) survival from eyed stage to emergence of:

96.0% for pink, chum, and coho salmon

(c) survival from emergence to fed fry of:
99.5% for pink salmon
99.0% for chum salmon
97.0% for coho salmon

(d) survival from fed fry to smolt release of 99.5% for coho.

All eggs will be incubated at WNH. During the fall incubation period, 100% of pink, chum, Chinook, and coho salmon production will be thermally otolith-marked at the eyed-egg stage. See section 4.1 for more details.

1.6 Rearing and Release Plans

Pink Salmon: Pink salmon fry will emerge non-volitionally from incubators, pass via separate flume, and then enter into saltwater rearing pens. The saltwater net pen rearing complex consists of 16 12.2 m x 12.2 m x 3.0 m rearing pens. Maximum loading densities will be 11 kg/m^3.

Approximately 134.8 million pink salmon fry will be released in Lake Bay (WNH) in 2023. Based on the predicted outmigration curve and zooplankton bloom timing, the pink salmon fry will be reared for an average of six weeks and released in two groups into the zooplankton bloom.

Chum Salmon: Chum salmon fry destined to be released in Lake Bay will emerge non-volitionally from incubators, pass via separate flume, and then enter into saltwater rearing pens. The Lake Bay saltwater net pen rearing complex consists of 32 rearing pens that are 12.2 m x 12.2 m x 3.0 m. Maximum loading densities will be 11 kg/m^3.

Approximately 133 million chum salmon fry will be released in three locations in 2023. Approximately 72.8 million will be released at WNH, 40.7 million at Port Chalmers, and 19.5 million at AFK.

The AFK saltwater net pen rearing complex consists of ten 12.2 m x 12.2 m x 3.0 m rearing pens. Maximum loading densities will be 11 kg/m^3.

Based on the predicted outmigration curve and zooplankton bloom timing, the chum salmon fry will be reared for an average of 12 weeks in saltwater net pens and released in one group per release site at a target size of 1.8 grams.

Coho Salmon Releases: Approximately 3.0 million brood year 2021 (BY21) coho salmon smolt will be released in four locations in 2023. Approximately 2.8 million will be released at WNH, 100,000 at Whittier, 100,000 at Cordova and 50,000 at Chenega Cove. The coho salmon will be reared in raceways at WNH. At WNH, the smolt will be transferred to saltwater pens for 4 to 12 weeks prior to release. The smolt released at Whittier, Cordova, and Chenega Cove will receive at least 14 days of saltwater rearing at their release location. Maximum rearing densities will be 50 kg/m^3 in fresh water and 11 kg/m^3 in salt water. All coho salmon smolt will be released in mid-May with a target size of 15 grams.

Coho Salmon Rearing: Approximately 1.1 million BY22 coho salmon fry will begin feeding in the raceways in mid-June 2023 and approximately 500,000 will remain there until the spring of 2024. The other approximately 500,000 million will be passed through a flume, and then into saltwater rearing pens in late September 2023.

Chinook Salmon: Approximately 44,000 BY21 king salmon smolt released in Chenega Cove in 2023.

For a complete listing of PWSAC's estimated 2023 releases see Table 5. 1.7 Fry Transport Methods.

Coho Salmon Transports:
All coho salmon smolt will be transported by barge in eight 600-gallon stainless steel tanks with supplemental oxygen at 100–200% saturation. The water source used during transport will be Esther Lake, with the addition of NaCl and potassium chloride (KCl) to achieve a five ppt saline solution. The saline solution helps to reduce stress to the fish during transport. Maximum transfer densities will be 120kg/m^3.

1.8 Permitted Capacity

WNH was issued PNP Hatchery Permit #20 in 1983. It is permitted to incubate 148 million pink salmon eggs, 131 million chum salmon eggs, 4 million coho salmon eggs, and 4 million king salmon eggs. An additional 34 million chum salmon eggs permitted for AFK may be taken and incubated at WNH annually.

Fish Transport Permit Summary

FTP Number	**Expiration Date**	**Ancestral Stock**	**Purpose**
PINK SALMON			
96A-0048	6/30/31	Larsen, Ewan, and Galena Creeks	Allows 148 million egg take, incubation, and release of resultant fish at WNH.
16A-0059	4/30/26	Larsen, Ewan, and Galena Creeks	Allows backup egg take of 148 million green eggs at AFK, transport to WNH for incubation and release of resultant fish.
CHUM SALMON			
94A-0006	6/30/25	Wells River/ Bear Trap	Allows transport of 41 million fry for release at Port Chalmers.
16A-0056	4/30/26	Wells River/ Bear Trap	Allows 131 million egg take, incubation, and release of 111 resultant fish at WNH.

COHO SALMON

22A-0005	1/1/27	Corbin Creek	Allows 4.0 million egg take, incubation, rearing and release of resultant fish at WNH.
22A-0007	10/1/27	Power Creek	Allows 135,000 remote egg take, rearing at WNH, and release at Fleming Spit (Cordova)
22A-0008	10/1/27	Ibeck Creek	Allows 135,000 remote egg take, rearing at WNH, and release at Fleming Spit (Cordova)
21A-0011	4/30/26	Mile 18 Copper River Delta	Allows transport and release of 100,000 smolt at Fleming Spit, Cordova.
20A-0022	4/30/25	Corbin Creek	Allows transfer and release of 50,000 smolts at Chenega Cove, Chenega Island.
19A-0017	6/30/23	Corbin Creek	Allows transfer and release of 100,000 smolts from WNH at Whittier, near a freshwater outlet.
19A-0018	6/30/23	Corbin Creek	Allows transport and release of 50,000 smolts at Chenega Bay, Evans Island.
19A-0028	6/30/23	Mile 18 Copper River	Allows transport and release of 50,000 smolts at Chenega Cove, Chenega Island.
18A-0038	8/30/28	Mile 18 Copper River Delta	Allows 4.0 million egg take, incubation, rearing and release of resultant fish at WNH.
17A-0050	04/30/27	Mile 18 Copper River Delta	Allows transport and release of 100,000 smolts at Fleming Spit, Cordova.
16A-0061	4/30/26	Corbin Creek	Allows 4.0 million backup egg take at Solomon Gulch Hatchery and transport of eggs to WNH.
16A-0062	4/30/26	Mile 18 Copper River	Allows backup 2.0 million remote egg take and transport of eggs to WNH.
98A-0053	6/30/29	Mile 18 Copper River Delta	Allows transport and release of 100,000 smolts at Whittier near a freshwater outlet.

KING SALMON

19A-0038	12/31/23	Ninilchik River/ Ninilchik River	Allows transport of up to 50,000 eyed eggs from WJHSFH to WNH for incubation and freshwater rearing and smolt release at Chenega Cove, Chenega Island.
21A-0004	12/31/25	Crooked Creek/ Crooked Creek	Allows transport of up to 50,000 eyed eggs from WJHSFH to WNH for incubation and freshwater rearing and smolt release at Chenega Cove, Chenega Island.
19A-0027	6/30/23	Ship Cr/ Ship Creek	Allows transport of up to 50,000 eyed eggs from WJHSFH to WNH for incubation and freshwater rearing and smolt release at Chenega Cove, Chenega Island.

II. DONOR STOCK MANAGEMENT

If the required broodstock for the coho salmon egg-take goal is not available from returning fish to the hatchery, PWSAC will confer with VFDA on the feasibility of obtaining eggs or confer with ADF&G about conducting an egg-take at the Mile-18 location (broodstock source) in Cordova or at the remote release location in Cordova (Fleming Spit Pond) to make up the balance of the goal. Coho stocks will not be mixed at WNH.

No Power Creek or Ibeck Creek specific fisheries management actions are anticipated to ensure coho salmon returns to these systems to meet broodstock purposes because Copper River Delta coho salmon are typically managed in aggregate to achieve the delta-wide escapement goal.

III. HATCHERY RETURN MANAGEMENT

PWSAC operates five facilities: AFK, Cannery Creek Hatchery (CCH), Gulkana Hatchery (GH), Main Bay Hatchery (MBH), and WNH. The corporation generates revenues for annual operations from a 2% enhancement tax and from the sale of hatchery-produced salmon returning to the facilities.

In 1997, the PWSAC Board of Directors (BOD) elected to have corporate cost recovery based upon revenue goals specific to the seine and gillnet salmon fisheries rather than a goal of harvesting a fixed percentage of the returning adults. This results in each gear group paying for the enhanced production from which they benefit. PWSAC calculates these revenue goals by allocating production costs between the seine-caught and gillnet-caught salmon fisheries.

On March 9, 2023, the PWSAC BOD approved the annual corporate budget for Fiscal Year 2024 detailing potential sources of revenue and expenditures. The pink salmon cost-recovery revenue goal is $9,290,767. The WNH chum and MBH sockeye salmon cost-recovery revenue goals are $5,381,694 and $1,500,000 respectively. Additional revenue may be generated through PWSAC's raceway fish sales during its egg-take full utilization program.

PWSAC uses preseason assumptions for the number of returning fish, price per pound, and average adult weight to calculate the total projected value of returning hatchery-produced salmon. Based on these assumptions, PWSAC estimates that approximately 21% of the run will be required to meet the revenue goal in the Fiscal Year 2024 financial plan.

Hatchery escapement means all fish that escape the common property fishery and includes two categories of escapement: (a) the number of brood to meet production objectives; and (b) the number of hatchery produced fish taken for the hatchery harvest requirement, to be used to pay for the hatchery's reasonable operating and capital costs (5 AAC 40.990(6)).

Pink Salmon Returns: The AFK, CCH, and WNH pink salmon runs will be managed collectively through openings and closures of respective hatchery subdistricts. Managing the enhanced pink salmon runs in aggregate may result in site-specific common property fisheries (CPF) contribution rates being above or below the approximate target of 84% CPF pink salmon harvest.

WNH Chum and MBH Sockeye Salmon Runs: The WNH chum salmon and the MBH sockeye salmon runs will be managed collectively through openings and closures of respective hatchery subdistricts. The collective management will occur concurrently for the WNH chum salmon and MBH salmon revenue goal. Managing the runs in aggregate may result in site-specific CPF contribution rates being above or below the approximate targets of 56% and 86% for the WNH chum and MBH sockeye salmon harvest, respectively.

AFK Hatchery and Port Chalmers remote-release chum salmon runs are expected to have a 100% CPF harvest.

Reduction of CPF opportunity in respective hatchery subdistricts may be necessary to ensure hatchery escapement objectives are met. PWSAC will work closely with local ADF&G management biologists to achieve the seine and gillnet fisheries revenue goals as rapidly as possible to allow for orderly and consistent CCPF.

3.1 Hatchery Fish Migration Routes and Timing

Chum Salmon: WNH chum salmon donor stocks were originally selected to contribute primarily to the early drift gillnet fishery in the Coghill District, and to the mixed seine and drift gillnet fishery later in the season.

In 2005, the Alaska Board of Fisheries revised regulation 5 ACC 24.370 to utilize WNH and Port Chalmers chum salmon fisheries as a means of correcting exvessel value allocation disparities between the purse seine and drift gillnet fleets. The 2017-2021 five-year average value percentages calculated by ADF&G for each gear type are 44.4% drift gillnet, 55.6% purse seine, and 4.0% set gillnet. As a result, the drift gillnet gear group will have exclusive access to the Port Chalmers Subdistrict from June 1 through July 30 in 2023. WNH chum salmon released off-station at AFK will be harvested by the purse seine fleet in the AFK terminal harvest area (THA) and SHA between June 1 and July 20.

Pink Salmon: WNH pink salmon stock originated from the AFK Hatchery pink salmon stock. The timing and distribution of the two hatchery returns appear to be very similar. A percentage of WNH pink salmon are expected to be harvested by seiners in the Southwestern District, as well as in Perry Passage, Culross Passage, and other areas in the Northern District. Pink salmon are also expected to be harvested by both purse seiners and drift gillnetters in the Esther Subdistrict and by drift gillnetters and set gillnetters in the Eshamy District.

Coho Salmon: WNH coho salmon are present in the fishery from early August through September. Although some fish are undoubtedly intercepted in the southern areas of Prince William Sound, substantial portions of the coho salmon run are expected to be harvested by purse seine and drift gillnet fishermen in the Esther Subdistrict. There is no direct cost recovery from coho salmon; however, incidental catch of coho salmon during later pink salmon cost recovery and brood collection can amount up to 20% of the run.

The Esther and Perry Island subdistricts are shown in Figures 1–2.

3.2 Terminal and Special Harvest Areas

The boundaries of the hatchery SHA and the THA are illustrated in Figure 3. The SHA is used by the hatchery operator to harvest hatchery fish for cost recovery. The THA is normally closed to commercial and subsistence fishing and provides a buffer between the hatchery SHA and open waters of the Esther Subdistrict.

The SHA is defined as the waters of Lake Bay north of 60°47.56′N lat. (5 AAC 24.368(d)). The THA includes all waters inside of a line from Hodgkin Point at 60° 46.93' N. lat., 148° 02.10' W. long. to Esther Light at 60° 47.14' N. lat., 148° 06.02' W. long., excluding the waters of the Wally Noerenberg Hatchery SHA (5 AAC 24.368(c)). All latitude and longitude coordinates are based on the North American Datum of 1983.

During periods when the Esther Subdistrict closure is in effect to provide protection to cost recovery fish, the department is willing to permit cost-recovery operations in waters outside of the regulatory SHA/THA boundaries to maintain fish quality. While the department views PWSAC achieving its revenue goals using existing hatchery subdistricts in a timely and efficient manner as beneficial for maintaining fish quality and providing for increased common property fishing opportunity outside of those districts, there is concern over the harvest of wild stock salmon outside of the SHA. When the Esther Subdistrict is open to the CPF, the SHA will not be expanded.

The SHA shall be opened and closed to commercial fishing by emergency order (EO). 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.

The following requirements must be adhered to for permitted cost-recovery operations to be conducted outside the regulatory SHA/THA boundaries:

- PWSAC will agree to pay all costs associated with sampling, otolith preparation, and reading of otoliths from permitted cost-recovery harvest(s).

- PWSAC will notify the department with reasonable time prior to any cost-recovery operations to request an emergency order (EO) permitting the activity and to provide notice for scheduling of sampling personnel.

- All EOs issued to permit cost-recovery operations will be for discrete dates.

- Cost-recovery harvest(s) from these areas will not be mixed with any other harvest at any time until after sampling. No sorting of cost-recovery harvest(s) is permitted until after sampling.

- No further EOs permitting cost-recovery operations outside the SHA will be issued until the previous harvest has been evaluated for wild stock interception.

- The department may discontinue permitted cost-recovery operations outside the SHA at any time.

3.3 Hatchery Returns

3.3.1 On-Station Returns

Chum Salmon: PWSAC's anticipated 2023 run of chum salmon to WNH is 2,210,000 assuming a 3.01% marine survival (Table 1). Assuming a broodstock goal of 228,000 fish, and approximately 741,000 chum salmon sold for cost recovery, the total hatchery escapement will be approximately 44% of the run.

WNH - Chum Salmon Projected Run Summary

	Hatchery Escapement			
Total Return	**Broodstock**	**Cost Recovery**	**Total**	**CPF Harvest[1]**
2,210,000	228,000	741,000	969,000	1,241,000
% of Total	**10%**	**34%**	**44%**	**56%**

[1]Terminal and non-terminal.

WNH - Chum Salmon Projected Run and Age Composition Summary

BY	**Fry Released**	**Anticipated Marine Survival**	**Anticipated Total BY Return**	**Return Age**	**2023 Projected Run**	**% of Total**
2017	73,200,000	3.56%	2,607,462	Age-6	43,000	1.6 %
2018	82,400,000	2.06%	1,695,819	Age-5	439,000	25.9 %
2019	70,790,000	3.34%	2,365,715	Age-4	1,577,000	66.7 %
2020	77,306,000	3.34%	2,583,472	Age-3	149,000	5.8%
				Total	**2,210,000**	**100.0%**

Historical average return age composition: 2% age-6, 26% age-5, 67% age-4, and 5% age-3.

Pink Salmon: PWSAC's anticipated 2023 adult return of pink salmon to WNH is 6,100,000 fish, assuming 4.6% marine survival (5 -odd average) from the BY21 fry release of 131.9 million (Table 1). Assuming a broodstock goal of 457,000 fish and approximately 626,000 pink salmon sold for cost recovery, the hatchery escapement will be approximately 18% of the return.

Pink Salmon Projected Return Summary

	Hatchery Escapement			
Total Return	**Broodstock**	**Cost Recovery**	**Total**	**CPF Harvest[1]**
6,100,000	457,000	626,000	1,083,000	5,017,000
% of Total	**8%**	**10%**	**18%**	**82%**

[1]Terminal and non-terminal.

Coho Salmon: PWSAC's expected 2023 return of coho salmon to WNH is 122,000 fish, assuming a marine survival of 4.54% (VFDA historic Corbin Creek average) from the BY20 smolt release of 2.69 million (Table 1). Assuming the harvest rate will be insignificant (interception during pink salmon cost recovery) and a broodstock goal of 2,700 fish, approximately 98% of the coho salmon will be available for the CPF.

Coho Salmon Projected Return Summary

	Hatchery Escapement			
Total Return	**Broodstock**	**Cost Recovery**	**Total**	**CPF Harvest**
122,000	2,700	-0-	2,700	119,300
% of Total	**2%**	**0%**	**2%**	**98%**

3.3.2 Off-Station Returns

Chum Salmon: PWSAC's expected 2023 run of chum salmon to Port Chalmers is 650,000, assuming a 2.50% marine survival (Table 1). All fish will be harvested by the CPF. The expected 2023 run of chum salmon to Sawmill Bay is covered under a separate plan (AFK Hatchery Annual Management Plan).

Port Chalmers - Chum Salmon Projected Run Summary

	Hatchery Escapement			
Total Return	**Broodstock**	**Cost Recovery**	**Total**	**CPF Harvest**
650,000	-0-	-0-	-0-	650,000
% of Total	**0%**	**0%**	**0%**	**100%**

Port Chalmers - Chum Salmon Projected Run and Age Composition Summary

BY	**Fry Released**	**Anticipated Marine Survival**	**Anticipated Total BY Return**	**Return Age**	**2023 Projected Run**	**% of Total**
2017	40,420,000	0.45%	183,828	Age-6	3,000	1.5 %
2018	20,500,000	4.33 %	888,307	Age-5	287,000	32.4%
2019	32,500,000	1.65 %	534,704	Age-4	330,000	61.8%
2020	41,000,000	1.65 %	676,195	Age-3	30,000	4.3 %
				Total	**650,000**	**100.0%**

Historical average return age composition: 2% age-6, 32% age-5, 62% age-4, and 4% age-3.

Coho Salmon: PWSAC's total expected 2023 return of coho salmon to Chenega Cove is 2,900 5.88% (Mile 18 historic average) from the BY20 smolt releases of 50,000 (Table 1). The total expected 2023 return of coho salmon to Cordova is 5,900 assuming a marine survival of 5.88% from the BY20 Mile 18 smolt release of 100,000. The total expected 2023 return of coho salmon to Whittier is 4,600 assuming a marine survival of 4.55% (VFDA historic Corbin Creek average) from the BY20 smolt release of 100,000. All Chenega Bay, Cordova, and Whittier-released fish are designated to be harvested in all common property fisheries. If the required broodstock for

the coho salmon egg-take goal is not available from fish returning to the hatchery, PWSAC will confer with VFDA on the feasibility of obtaining eggs or confer with ADF&G about conducting an egg take at the remote Mile-18 location (broodstock source) in Cordova or conduct an egg take at the remote release location in Cordova (Fleming Spit Pond) to make up the balance of the goal. Mile-18 and Corbin Creek stocks will not be mixed at WNH.

Chenega Cove - Coho Salmon Projected Return Summary

	Hatchery Escapement			
Total Return	**Broodstock**	**Cost Recovery**	**Total**	**CPF Harvest**
2,900	-0-	-0-	-0-	2,900
% of Total	**0%**	**0%**	**0%**	**100%**

Cordova - Coho Salmon Projected Return Summary

	Hatchery Escapement			
Total Return	**Broodstock**	**Cost Recovery**	**Total**	**CPF Harvest**
5,900	-0-	-0-	-0-	5,900
% of Total	**0%**	**0%**	**0%**	**100%**

Whittier - Coho Salmon Projected Return Summary

	Hatchery Escapement			
Total Return	**Broodstock**	**Cost Recovery**	**Total**	**CPF Harvest**
4,600	-0-	-0-	-0-	4,600
% of Total	**0%**	**0%**	**0%**	**100%**

3.4 Separation of Hatchery Escapement

The hatchery escapement goals summarized in the table below are the midpoints of the special harvest area (SHA) escapement goal ranges, to provide for the broodstock and cost-recovery requirements based on these variables: sex ratio of fish available for broodstock, fecundity, holding mortality percentage, immature and over-mature spawner percentage, average fish size, and price per pound.

SHA Escapement Goal Summary

Species	**Hatchery Escapement Goal**	**SHA Escapement Goal Range**
Chum Salmon	969,000	834,000 – 1,134,000
Pink Salmon	1,083,000	930,000 – 1,274,000

In 2013, PWSAC designated a Hatchery Escapement Exclusion Zone (HEEZ) within the WNH SHA. The HEEZ consists of the waters of the SHA north of a latitude line at 60º47.78′N.

3.5 Special Management Strategies

Effective management of mixed-stock fisheries is difficult. It is the intent of ADF&G to provide stated PWSAC hatchery escapement goals by species. Achieving the target revenue goal will depend upon the timing and magnitude of PWSAC salmon runs, average fish size, and price per pound PWSAC receives. It will also depend upon precise in-season assessments of both wild and hatchery run strength. Depending upon the precision of in-season run assessments, the actual percentages of PWSAC total runs by species, which are provided for hatchery escapement, may fall above or below the stated goals. If precise and timely stock identification data are available, ADF&G will use them to manage the fisheries in season for an allocation of PWSAC-produced pink, chum, and sockeye salmon between the CPF and PWSAC. Pink salmon will be managed for PWSAC hatchery escapement after July 20. Sockeye and chum salmon will be managed for PWSAC hatchery escapement by stock.

Performance of the hatchery run is evaluated by comparison of daily harvest rates to a predicted run entry table. In addition, daily sex ratios in the hatchery harvest predict, by a regression equation, the fraction of the run that has returned to date. PWSAC will provide these two types of data from the cost-recovery harvest to ADF&G management staff on a daily basis during the season so the area management biologist can make estimates of the number of salmon remaining in the run. Once egg-take operations commence at the hatchery, progress towards the hatchery's final goal could determine future SHA openings dependent upon SHA fish abundance estimates. PWSAC will provide daily estimates of fish abundance inside the barrier seine (if applicable), within the HEEZ, and in the SHA outside of the HEEZ, along with egg-take progress updates to ADF&G management staff.

If hatchery escapement problems occur at the hatchery, commercial CPF restrictions will be made in the Esther and/or Perry Island subdistricts based upon the magnitude of the shortfall and stage of the run.

PWSAC will submit written management recommendations to the department with clear justifications as to how the recommendations support achieving cost recovery and/or broodstock collection goals. Each recommendation, in the form of a brief email, will include, but not be limited to, current cost-recovery harvest data, HEEZ and outer SHA estimates, actual and anticipated run entry, and actual and anticipated cost-recovery progress. Each recommendation will also include a summary of actual and anticipated hatchery escapement and broodstock collection progress as it relates to the weekly goals established in this AMP. For this reporting, hatchery escapement will be defined as fish in the HEEZ and outer SHA, both upstream and downstream of the barrier net, as appropriate. Fish in the raceways or brood holding ponds will be defined as broodstock.

To ensure accurate and clear reporting, the AMP Adult Run Summary table from the AMP for each hatchery and species will be submitted to the department when requested, as well as with written management recommendations.

It will be the responsibility of the PWSAC staff, with written consent of the PWSAC Executive Committee, to advise ADF&G of any desired in-season adjustments to the preseason hatchery escapement goals, and/or significant changes to the preseason management strategy. Recognizing the imprecision of preseason forecasts and inseason assessment of wild stock and hatchery contribution estimates, ADF&G will assess PWSAC's requested changes based upon the best available information. If, based on the assessment of ADF&G, the total hatchery run will be less than or greater than the original PWSAC forecasted return, then ADF&G will adjust openings, as necessary, to best provide for wild stock, hatchery escapement, and CPF harvests. Total hatchery and wild stock runs will be estimated after a thorough postseason analysis of all available data. Postseason estimates may not coincide with ADF&G's or PWSAC's in-season estimates.

Chum Salmon: During the chum salmon run, the Esther and Granite Bay subdistricts are managed to attain chum salmon broodstock, cost-recovery objectives, and wild salmon escapement into Coghill District. If these objectives are on track, time and/or areas open to fishing may be expanded. If sockeye salmon escapement into Coghill Lake is weak and/or cost recovery and broodstock objectives are behind projections, restrictions in the Esther and/or Granite Bay subdistricts will be necessary. Given a shortfall in either wild or hatchery escapement, fishing time and/or area in the Esther Subdistrict may be reduced. If management of the Esther Subdistrict is not achieving either wild or hatchery escapement, fishing time and/or area in the Granite Bay Subdistrict may be reduced.

Pink Salmon: Because there is no way of isolating hatchery fish from wild stocks in waters of the general purse seine districts, these districts can only be opened and closed as the wild stock run strength will allow. When the hatchery return can withstand a higher exploitation rate than the returning wild stocks, hatchery fish that are not intercepted in the mixed stock areas of the general districts continue into the Esther Subdistrict and waters of Lake and Quillian bays. Wild stock pink salmon escapement shortfalls have occurred several times in the Coghill District since 1988. Beginning in 1994, CPF openings in the Esther Subdistrict have been restricted to within one and a half miles of Esther Island to minimize harvest of weak pink salmon stocks destined for Port Wells. Recommendations discussed by the Salmon Harvest Task Force have included closing those waters west of Lake Bay to seine harvests during weak wild stock returns to provide a greater corridor for wild fish transiting the Esther Subdistrict.

The principal tool available to manage the hatchery pink salmon return is EO manipulation of the Esther and Perry Island subdistricts (figures 1–2). Closure of the subdistricts during the regular season can be used to decrease interception of hatchery fish to assure that the corporation can achieve its cost recovery and broodstock objectives. When it is apparent that a large hatchery surplus exists in the Esther or Perry Island subdistricts, efforts will be made to provide fishing time in such a manner to prevent a large buildup of fish from occurring and to allow for a timely harvest of the highest quality fish possible.

Coho Salmon: No special management action is anticipated for coho salmon, although fish entering the SHA will be available for PWSAC harvest. It is likely that a weekly fishing schedule in the Esther Subdistrict will be established for the coho salmon return. This schedule will be continued into mid-September to provide for harvest of coho salmon returning to the hatchery. Duration of openings may be modified dependent upon run performance.

3.6 Sport Fish Harvest

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.

WNH coho salmon returning to Chenega Bay, Cordova, and Whittier release locations are expected to contribute to local sport fisheries. These locations have been designated by the BOF as THAs, which allow for the sport harvest of up to six coho salmon instead of three, as is the case in the remaining portions of Prince William Sound.

Chum, pink, and coho salmon are expected to contribute to sport fisheries in the WNH THA and SHA. The area within 100 feet of the WNH broodstock holding pen is closed to sport fishing (5 AAC 55.023(3)).

3.7 Subsistence Harvest

The WNH facility is within the Prince William Sound general subsistence area. Alaska residents may harvest fish for subsistence use using the legal gear type for the Coghill District.

3.8 Avoidance of Nontarget Species

Numerical abundance of stocks of fish other than WNH stocks of salmon is insignificant in the WNH THA and SHA. No particular problems are expected to occur.

IV. EVALUATION STUDIES

4.1 Otolith Marking

During the fall incubation period (September–December 2023), 100% of the pink, chum, and coho will be marked at the eyed-egg stage. The table below summarizes the 2023 thermal otolith mark–assignment by the ADF&G Mark, Tag, and Age Lab (MTAL). Voucher samples are collected and submitted along with data per the ADF&G MTAL sampling protocol. Planned otolith marks may change with confirmation from the North Pacific Anadromous Fish Commission Mark Coordinator for Alaska.

Species	Anticipated Number of Eyed Eggs	Thermal Otolith Mark	Intended Release Location
Chum Salmon	77,000,000	3,6H	WNH (Lake Bay)
Chum Salmon	42,900,000	3,2n,1H	WNH or Port Chalmers
Chum Salmon	0	3,4H3	WNH or Port Chalmers
Pink Salmon	69,500,000	8H	WNH (Lake Bay)
Pink Salmon	69,500,000	8H3	WNH (Lake Bay)
Coho Salmon	1,875,000	3H	WNH (Lake Bay), Whittier, Chenega Cove
Coho Salmon	1,875,000	3H3	WHN (Lake Bay)
Coho Salmon	135,000	5H3	Cordova (Fleming Spit)
King Salmon	49,500	8H	Chenega Cove

4.2 Otolith Recovery in Returning Adults

The recovery of otoliths from returning adult salmon will occur this year. Recovery efforts will be directed at the CPF and cost recovery and will be performed by field personnel at processing locations.

Otolith mark data will be used by ADF&G and PWSAC to measure fishery contribution and marine survival of salmon. ADF&G will provide PWSAC with preliminary otolith mark–recovery data from fishery samples by December 1, and any additional otolith data from straying studies and other projects by April 1. Similarly, PWSAC will provide ADF&G with independently-collected otolith mark–recovery data by April 1 each year. These data are to be the individual specimen otolith mark results.

V. ATTACHMENTS

FIGURE 1. Coghill Fishery Management District
FIGURE 2. Esther and Granite Bay Subdistricts
FIGURE 3. WNH THA, SHA, and HEEZ

TABLE 1. 2023 PWSAC Hatchery Return Forecast Summary
TABLE 2. 2023 Planned Egg-Takes
TABLE 3. 2023 WNH Chum Salmon Adult Return Summary
2023 WNH Pink Salmon Adult Return Summary
TABLE 4. 2023 Hatchery Egg-Take Schedules
TABLE 5. 2023 PWSAC Estimated Salmon Releases
TABLE 6. 2024 PWSAC Estimated Salmon Releases
TABLE 7. Egg-take Data Template for Each Species at Each Hatchery

VI. APPROVAL

Recommendation for Approval: Wally Noerenberg Hatchery Annual Management Plan, 2023

Geoff Clark, PWSAC, General Manager 4/26/2023

Brittany Blain-Roth, Area Management Biologist, Division of Sport Fish 4/27/2023

Jeremy Botz, Area Management Biologist, Division of Commercial Fisheries 4/27/2023

Jason Dye, Regional Supervisor, Division of Sport Fish 4/27/2023

Bert Lewis, Regional Supervisor, Division of Commercial Fisheries 4/27/2023

Ethan Ford, Regional Resource Development Biologist, Div. of Commercial Fisheries 4/27/2023

Lorraine Vercessi, PNP Hatchery Program Coordinator, Div. of Commercial Fisheries 5/15/2023

The 2023 Wally Noerenberg Hatchery Annual Management Plan is hereby approved:

Tom Taube, Deputy Director, Division of Sport Fish 5/17/2023

Forrest Bowers, Operations Manager, Division of Commercial Fisheries 5/17/2023

Figure 1. Coghill Fishery Management District

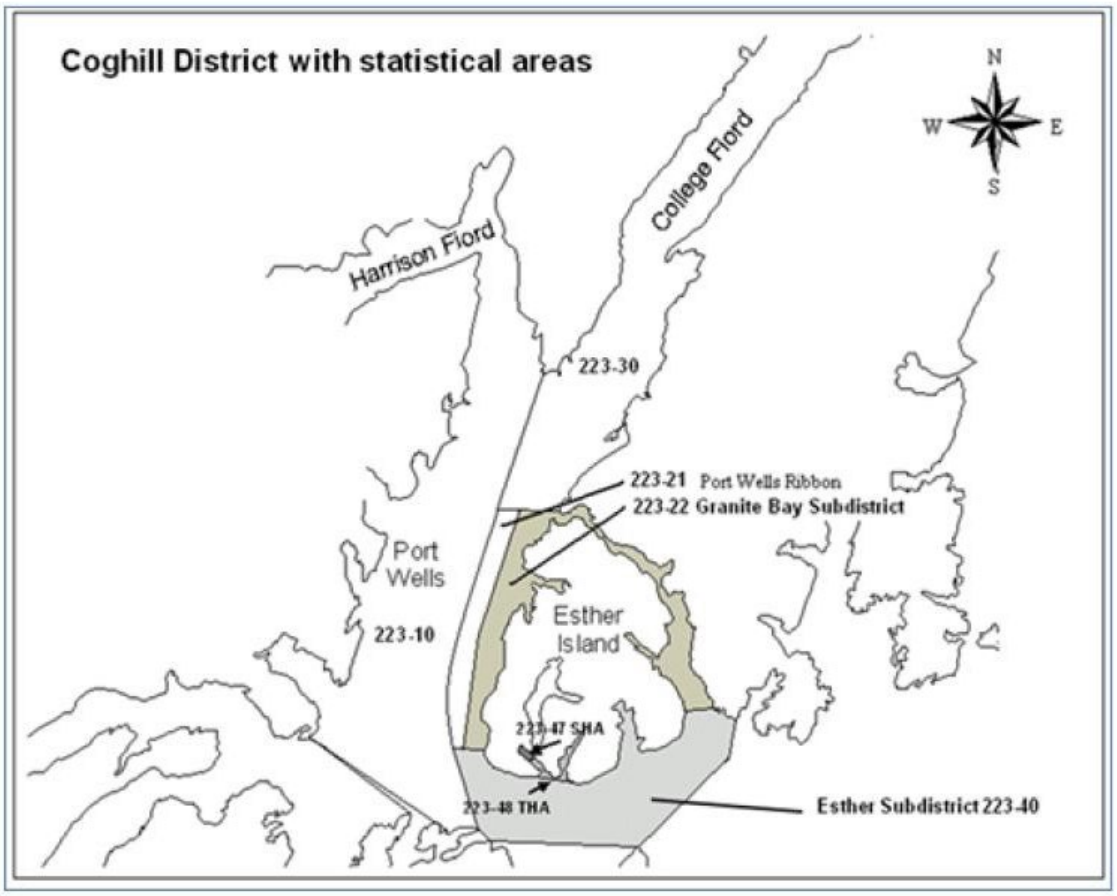

Figure 2. Esther and Granite Bay Subdistricts

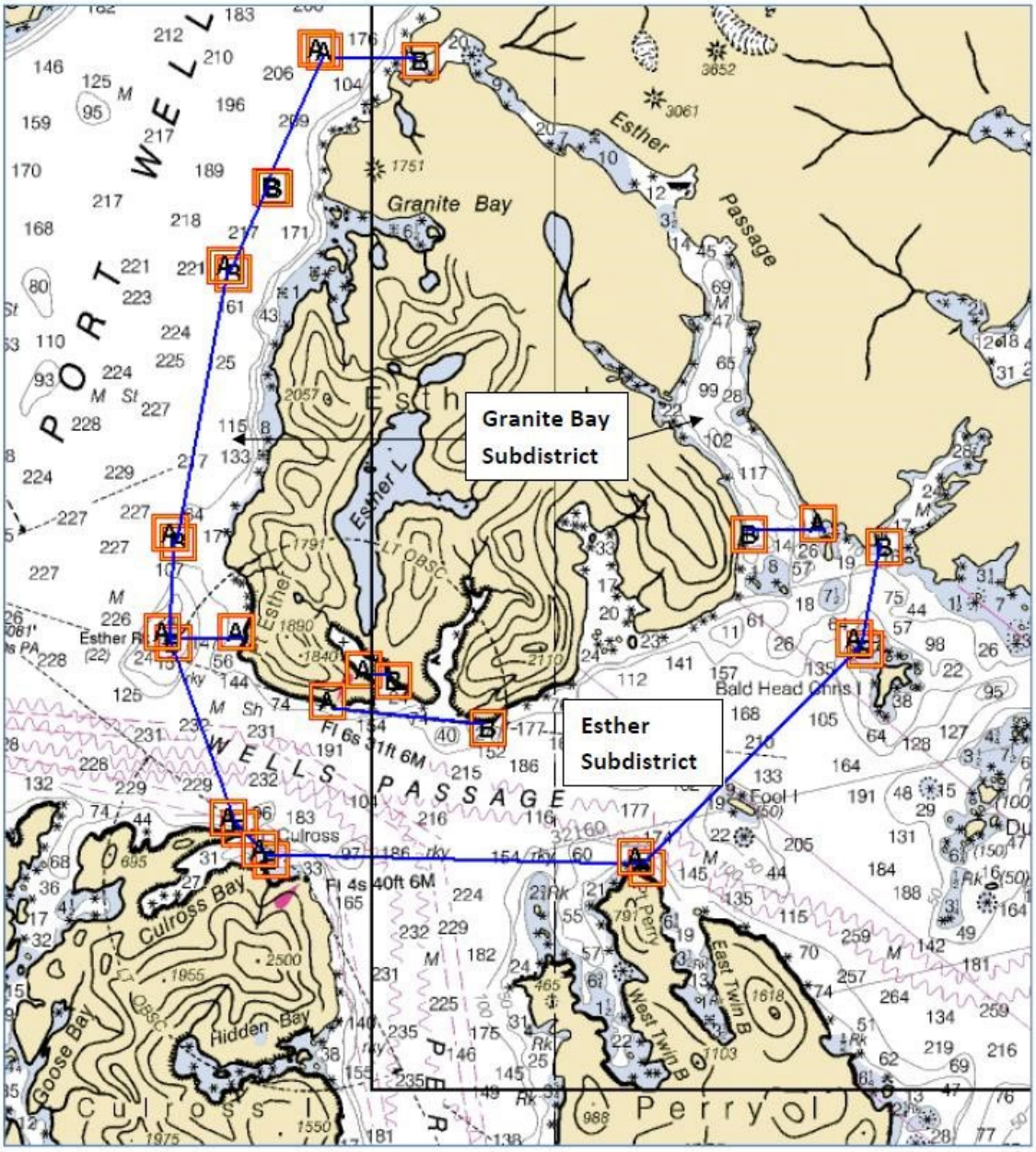

Figure 3. WNH Hatchery Escapement Exclusion Zone, Special Harvest Area, and Terminal Harvest Area

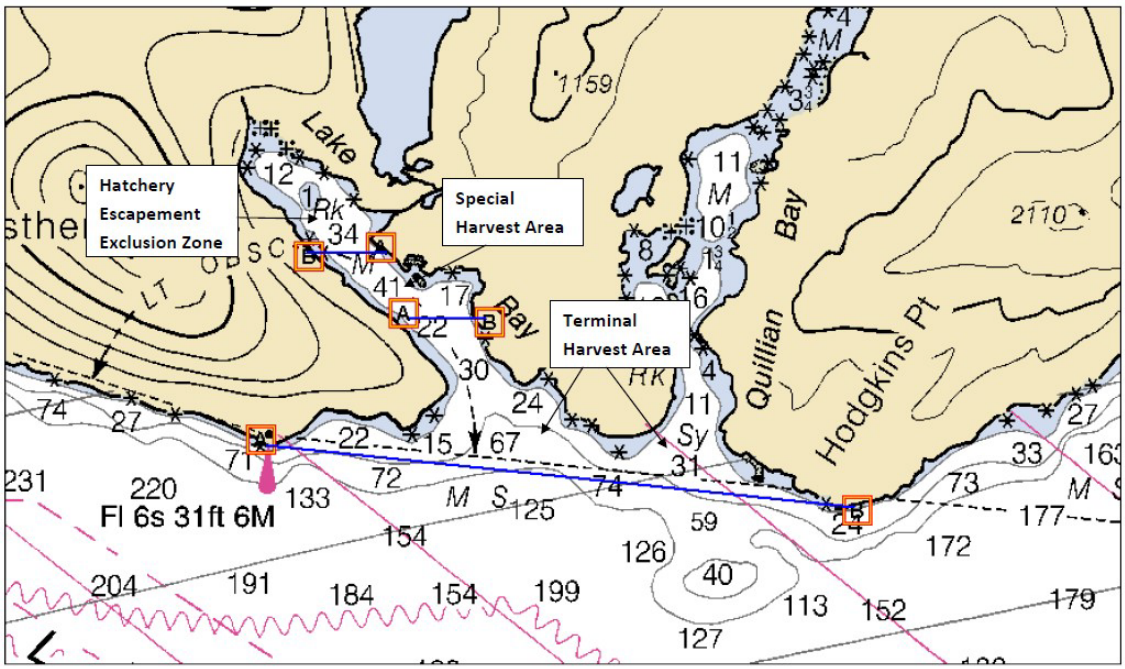

TABLE 1. 2023 PWSAC Hatchery Return Forecast

PRINCE WILLIAM SOUND AQUACULTURE CORPORATION
2023 HATCHERY RETURN FORECAST

SITE/ LOCATION	SPECIES	RUN TIME	ADULT RETURN ESTIMATE LOW	POINT	HIGH	EST. MARINE SURVIVAL
RETURNS TO THE HATCHERIES						
AFK	PINK	JUL 19 - SEP 05	4,100,000	6,800,000	9,500,000	3.97%
	CHUM	JUN 1 - JUL 27	150,000	190,000	240,000	1.06%
CCH	PINK	JUL 23 - SEP 07	8,100,000	11,300,000	14,500,000	7.01%
WNH	PINK	JUL 19 - SEP 05	1,900,000	6,100,000	10,200,000	4.60%
	CHUM	JUN 1 - JUL 27	1,950,000	2,210,000	2,460,000	3.01%
	COHO	AUG 01 - SEP 20	75,000	122,000	170,000	4.54%
MBH	COGHILL SOCKEYE	JUN 15 - AUG 01	826,000	934,000	1,043,000	9.09%
						GH - Fry to Adult Survival
GH	CROSSWIND LAKE SOCKEYE		22,000	27,000	32,000	0.31%
	PAXSON LAKE - GI SOCKEYE		22,300	26,100	30,100	0.45%
	PAXSON LAKE - GII SOCKEYE		1,900	2,200	2,400	0.80%
	SUMMIT LAKE SOCKEYE					

RETURNS TO REMOTE RELEASE LOCATIONS

PORT CHALMERS	CHUM	JUN 1 - JUL 27	560,000	650,000	740,000	2.50%
CORDOVA	COHO	AUG 01 - SEP 20	3,100	5,900	8,700	5.90%
WHITTIER	COHO	AUG 01 - SEP 20	2,800	4,600	6,300	4.60%
CHENEGA	COHO	AUG 01 - SEP 20	1,500	2,900	4,300	5.80%
CHENEGA	CHINOOK	MAY 25 - JULY 10	120	230	330	0.48%

TOTAL PWSAC RETURNS

PINK	14,100,000	24,200,000	34,200,000	5.19%
CHUM	2,660,000	3,050,000	3,440,000	2.19%
COHO	82,400	135,400	189,300	4.54%
CHINOOK	120	230	330	0.48%
SOCKEYE -SOUND, MBH	826,000	934,000	1,043,000	9.09%
SOCKEYE - GH,COPPER RIVER	46,200	55,300	64,500	0.52%

TABLE 2. 2023 Planned Egg-Takes.

PRINCE WILLIAM SOUND AQUACULTURE CORPORATION

2023 EGG-TAKE GOALS

SPECIES	HATCHERY	ORGINAL DONOR STOCK	EGG-TAKE LOCATION	EGG-TAKE GOAL
CHUM	WALLY NOERENBERG	WELLS RIVER	WNH	153,000,000
SOCKEYE	MAIN BAY	COGHILL LAKE	MBH	12,400,000
	GULKANA I	GULKANA RIVER	GHI	35,000,000
	GULKANA II	GULKANA RIVER	GHII	1,750,000
			TOTAL	49,150,000
PINK	ARMIN F. KOERNIG	LARSEN, EWAN, GALENA	AFK	190,000,000
	CANNERY CREEK	CANNERY CREEK	CCH	187,000,000
	WALLY NOERENBERG	LARSEN, EWAN, GALENA	WNH	148,000,000
			TOTAL	525,000,000
COHO	WALLY NOERENBERG	CORBIN CREEK	WNH	3,685,000
		POWER CREEK/FLEMING SPIT	CDV	135,000
			TOTAL	4,000,000
CHINOOK	WALLY NOERENBERG	WJHSFH	WNH	50,000
			TOTAL PWSAC	731,200,000

TABLE 3. 2023 WNH Stock Adult Return Summary.
Chum salmon.

	PROJECTED	ACTUAL		
RETURN:	2,210,000	0		
BROODSTK:	228,000	0		
FISH SALES:	741,000	0		
HAT. TOTAL:	969,000	0		
CPF TOTAL:	1,241,000	0		
% EXPLOIT.:	56.2%	#DIV/0!	CPF	
	43.8%	#DIV/0!	PWSAC	

ADULT RETURN SUMMARY

HATCHERY: **WNH**
SPECIES: **CHUM**
YEAR: **2023**

Preliminary

	RUN-TIMING PERCENTAGES				SHA HATCHERY ESCAPEMENT ESTIMATES				HATCHERY ESCAPEMENT SCHEDULE													
	Projected	Acutal	Projected	Actual	Fishway	INSIDE Barrier	HEEZ	OUTSIDE HEEZ	BROODSTOCK				FISH SALES				C.P.F. HARVEST				TOTAL RETURN			
Date	% Cum.	% Cum.	% Female	% Female	Estimate	Seine Estimate	Estimate	Estimate	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily
23-May	0.00%								0	0	0		0	0	0		0	0	0		0	0	0	0
24-May	0.00%								0	0	0		0	0	0		0	0	0		0	0	0	0
25-May	0.00%								0	0	0		0	0	0		0	0	0		0	0	0	0
26-May	0.00%								0	0	0		0	0	0		0	0	0		0	0	0	0
27-May	0.00%								0	0	0		0	0	0		0	0	0		0	0	0	0
28-May	0.00%								0	0	0		0	0	0		0	0	0		0	0	0	0
29-May	0.00%								0	0	0		0	0	0		0	0	0		0	0	0	0
30-May	0.00%								0	0	0		0	0	0		0	0	0		0	0	0	0
31-May	0.15%								341	341	0		2,963	2,963	0		0	0	0		3,304	3,304	0	0
1-Jun	0.28%								638	298	0		5,550	2,587	0		0	0	0		6,189	2,884	0	0
2-Jun	0.55%								1,260	621	0		10,949	5,399	0		0	0	0		12,209	6,020	0	0
3-Jun	0.74%								1,689	430	0		14,686	3,737	0		0	0	0		16,375	4,167	0	0
4-Jun	1.33%								3,026	1,337	0		26,307	11,621	0		0	0	0		29,333	12,958	0	0
5-Jun	1.62%								3,692	666	0		32,095	5,789	0		0	0	0		35,787	6,455	0	0
6-Jun	2.05%								4,672	980	0		40,612	8,516	0		0	0	0		45,283	9,496	0	0
7-Jun	2.97%		24.8%						6,782	2,110	0		58,955	18,343	0		0	0	0		65,736	20,453	0	0
8-Jun	3.30%		24.1%						7,526	744	0		65,424	6,470	0		0	0	0		72,950	7,214	0	0
9-Jun	3.45%		25.0%						7,868	342	0		68,395	2,971	0		0	0	0		76,263	3,312	0	0
10-Jun	3.90%		26.0%						8,888	1,020	0		77,261	8,866	0		0	0	0		86,149	9,886	0	0
11-Jun	5.24%		27.2%						11,937	3,049	0		103,768	26,507	0		0	0	0		115,705	29,556	0	0
12-Jun	6.36%		27.6%						14,490	2,553	0		125,960	22,192	0		0	0	0		140,450	24,745	0	0
13-Jun	7.22%		28.7%						16,464	1,974	0		143,121	17,161	0		0	0	0		159,585	19,135	0	0
14-Jun	8.61%		30.4%						19,630	3,166	0		170,644	27,523	0		0	0	0		190,274	30,689	0	0
15-Jun	10.47%		33.6%						23,870	4,240	0		207,498	36,854	0		0	0	0		231,368	41,094	0	0
16-Jun	12.05%		35.7%						27,468	3,599	0		238,782	31,284	0		0	0	0		266,251	34,883	0	0
17-Jun	14.00%		38.7%						31,916	4,447	0		277,442	38,660	0		0	0	0		309,358	43,107	0	0
18-Jun	17.05%		40.9%						38,880	6,964	0		337,981	60,539	0		0	0	0		376,860	67,503	0	0
19-Jun	19.39%		43.9%						44,199	5,319	0		384,221	46,240	0		0	0	0		428,420	51,559	0	0
20-Jun	21.25%		44.5%						48,442	4,243	0		421,103	36,883	0		0	0	0		469,545	41,125	0	0
21-Jun	23.85%		43.8%						54,367	5,925	0		472,612	51,508	0		0	0	0		526,979	57,434	0	0
22-Jun	25.96%		42.2%						59,195	4,828	0		514,578	41,967	0		0	0	0		573,773	46,794	0	0
23-Jun	27.76%		43.0%						63,296	4,101	0		550,228	35,650	0		0	0	0		613,524	39,751	0	0
24-Jun	29.33%		43.7%						66,862	3,566	0		581,229	31,001	0		0	0	0		648,091	34,567	0	0
25-Jun	36.09%		43.7%						82,274	15,413	0		715,211	133,982	0		(0)	(0)	0		797,485	149,394	0	0
26-Jun	38.57%		45.0%						87,936	5,662	0		741,000	25,789	0		23,430	23,430	0		852,366	54,881	0	0
27-Jun	40.36%		47.0%						92,026	4,089	0		741,000	0	0		500,894	477,464	0		892,003	39,637	0	0
28-Jun	43.41%		49.9%						98,974	6,948	0		741,000	0	0		538,713	37,819	0		959,352	67,349	0	0
29-Jun	46.06%		52.6%						105,010	6,036	0		741,000	0	0		571,566	32,853	0		1,017,858	58,506	0	0
30-Jun	47.61%		54.0%						108,559	3,549	0		741,000	0	0		590,882	19,316	0		1,052,256	34,398	0	0
1-Jul	48.11%		56.8%						109,696	1,138	0		741,000	0	0		597,075	6,193	0		1,063,284	11,028	0	0
2-Jul	53.67%		57.2%						122,364	12,667	0		741,000	0	0		666,023	68,948	0		1,186,068	122,785	0	0
3-Jul	58.71%		58.6%						133,855	11,491	0		741,000	0	0		728,569	62,546	0		1,297,452	111,383	0	0

TABLE 3. Page 2 of 4. 2023 WNH Stock Adult Return Summary.
Chum salmon (continued).

	PROJECTED	ACTUAL		
RETURN:	2,210,000	0		
BROODSTK:	228,000	0		
FISH SALES:	741,000	0		
HAT. TOTAL:	969,000	0		
CPF TOTAL:	1,241,000	0		
% EXPLOIT.:	56.2%	#DIV/0!	CPF	
	43.8%	#DIV/0!	PWSAC	

ADULT RETURN SUMMARY

HATCHERY: **WNH**
SPECIES: **CHUM**
YEAR: **2023**

Preliminary

	RUN-TIMING PERCENTAGES				SHA HATCHERY ESCAPEMENT ESTIMATES				HATCHERY ESCAPEMENT SCHEDULE											
	Projected	Acutal	Projected	Actual	Fishway	INSIDE Barrier	HEEZ	OUTSIDE HEEZ	BROODSTOCK				FISH SALES				C.P.F. HARVEST				TOTAL RETURN			
Date	% Cum.	% Cum.	% Female	% Female	Estimate	Seine Estimate	Estimate	Estimate	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily
4-Jul	59.60%		57.6%						135,894	2,039	0		741,000	0	0		739,666	11,097	0		1,317,214	19,762	0	0
5-Jul	61.88%		58.2%						141,096	5,202	0		741,000	0	0		767,982	28,315	0		1,367,639	50,425	0	0
6-Jul	63.85%		57.9%						145,583	4,487	0		741,000	0	0		792,407	24,425	0		1,411,135	43,496	0	0
7-Jul	69.26%		63.6%						157,916	12,333	0		741,000	0	0		859,533	67,126	0		1,530,675	119,540	0	0
8-Jul	70.83%		60.7%						161,504	3,588	0		741,000	0	0		879,062	19,529	0		1,565,453	34,779	0	0
9-Jul	74.27%		63.4%						169,330	7,827	0		741,000	0	0		921,662	42,600	0		1,641,316	75,862	0	0
10-Jul	77.30%								176,252	6,922	0		741,000	0	0		959,337	37,675	0		1,708,409	67,093	0	0
11-Jul	80.85%								184,346	8,094	0		741,000	0	0		1,003,390	44,053	0		1,786,860	78,451	0	0
12-Jul	82.80%								188,782	4,436	0		741,000	0	0		1,027,536	24,146	0		1,829,859	42,999	0	0
13-Jul	84.36%								192,333	3,551	0		741,000	0	0		1,046,865	19,329	0		1,864,281	34,422	0	0
14-Jul	86.83%								197,966	5,633	0		741,000	0	0		1,077,524	30,659	0		1,918,879	54,598	0	0
15-Jul	88.34%								201,417	3,451	0		741,000	0	0		1,096,307	18,783	0		1,952,328	33,449	0	0
16-Jul	90.01%								205,220	3,803	0		741,000	0	0		1,117,009	20,701	0		1,989,193	36,866	0	0
17-Jul	92.24%								210,309	5,089	0		741,000	0	0		1,144,706	27,697	0		2,038,517	49,324	0	0
18-Jul	93.61%								213,441	3,132	0		741,000	0	0		1,161,754	17,048	0		2,068,876	30,359	0	0
19-Jul	94.78%								216,097	2,656	0		741,000	0	0		1,176,212	14,459	0		2,094,624	25,748	0	0
20-Jul	95.58%								217,928	1,831	0		741,000	0	0		1,186,177	9,965	0		2,112,370	17,745	0	0
21-Jul	96.64%								220,332	2,404	0		741,000	0	0		1,199,261	13,084	0		2,135,670	23,301	0	0
22-Jul	97.47%								222,240	1,908	0		741,000	0	0		1,209,646	10,385	0		2,154,164	18,494	0	0
23-Jul	98.06%								223,583	1,343	0		741,000	0	0		1,216,956	7,310	0		2,167,183	13,018	0	0
24-Jul	98.80%								225,257	1,674	0		741,000	0	0		1,226,068	9,111	0		2,183,408	16,226	0	0
25-Jul	98.99%								225,688	432	0		741,000	0	0		1,228,417	2,349	0		2,187,591	4,183	0	0
26-Jul	99.26%								226,324	636	0		741,000	0	0		1,231,878	3,462	0		2,193,756	6,165	0	0
27-Jul	99.41%								226,663	339	0		741,000	0	0		1,233,722	1,843	0		2,197,038	3,282	0	0
28-Jul	99.58%								227,042	379	0		741,000	0	0		1,235,783	2,061	0		2,200,709	3,671	0	0
29-Jul	99.64%								227,186	145	0		741,000	0	0		1,236,570	787	0		2,202,111	1,401	0	0
30-Jul	99.74%								227,414	228	0		741,000	0	0		1,237,812	1,243	0		2,204,323	2,213	0	0
31-Jul	99.80%								227,539	125	0		741,000	0	0		1,238,492	680	0		2,205,534	1,210	0	0
1-Aug	99.84%								227,634	95	0		741,000	0	0		1,239,010	519	0		2,206,457	923	0	0
2-Aug	99.86%								227,670	36	0		741,000	0	0		1,239,206	196	0		2,206,806	349	0	0
3-Aug	99.86%								227,689	18	0		741,000	0	0		1,239,305	99	0		2,206,982	176	0	0
4-Aug	99.94%								227,856	167	0		741,000	0	0		1,240,214	909	0		2,208,600	1,619	0	0
5-Aug	99.97%								227,932	76	0		741,000	0	0		1,240,630	416	0		2,209,341	741	0	0
6-Aug	99.99%								227,977	45	0		741,000	0	0		1,240,874	244	0		2,209,775	434	0	0
7-Aug	100.00%								227,998	21	0		741,000	0	0		1,240,988	115	0		2,209,979	204	0	0
8-Aug	100.00%								228,000	2	0		741,000	0	0		1,241,000	12	0		2,210,000	21	0	0

TABLE 3. Page 3 of 4. 2023 WNH Stock Adult Return Summary.

Pink salmon.

	PROJECTED	ACTUAL		
RETURN:	6,100,000	0		
BROODSTK:	457,000	0		
FISH SALES:	626,000	0		
HAT. TOTAL:	1,083,000	0		
CPF TOTAL:	5,017,000	0		
% EXPLOIT.:	82.2%	#DIV/0!	CPF	
	17.8%	#DIV/0!	PWSAC	

ADULT RETURN SUMMARY

HATCHERY: **WNH**
SPECIES: **PINK**
YEAR: **2023**

Preliminary

	RUN-TIMING PERCENTAGES				SHA HATCHERY ESCAPEMENT ESTIMATES				HATCHERY ESCAPEMENT SCHEDULE													
	Projected	Projected	Actual	Actual	Fishway	INSIDE Barrier	HEEZ	OUTSIDE HEEZ	BROODSTOCK				FISH SALES				C.P.F. HARVEST				TOTAL RETURN			
Date	% Cum.	% Female	% Cum.	% Female	Estimate	Seine Estimate	Estimate	Estimate	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily
7-Jul	0.00%								0	0	0		0	0	0		0	0	0	0	0	0	0	0
8-Jul	0.0%								0	0	0		0	0	0		0	0	0	0	0	0	0	0
9-Jul	0.0%								0	0	0		0	0	0		0	0	0	0	0	0	0	0
10-Jul	0.0%								0	0	0		0	0	0		0	0	0	0	0	0	0	0
11-Jul	0.2%								914	914	0		11,286	11,286	0		10,034	0	0	0	12,200	12,200	0	0
12-Jul	0.4%								1,828	914	0		22,572	11,286	0		20,068	0	0	0	24,400	12,200	0	0
13-Jul	0.5%								2,285	457	0		28,215	5,643	0		25,085	0	0	0	30,500	6,100	0	0
14-Jul	0.6%								2,742	457	0		33,858	5,643	0		30,102	0	0	0	36,600	6,100	0	0
15-Jul	0.7%								3,199	457	0		39,501	5,643	0		35,119	0	0	0	42,700	6,100	0	0
16-Jul	0.9%	15.5%							4,113	914	0		50,787	11,286	0		45,153	0	0	0	54,900	12,200	0	0
17-Jul	1.0%	14.3%							4,570	457	0		56,430	5,643	0		50,170	0	0	0	61,000	6,100	0	0
18-Jul	1.3%	11.7%							5,941	1,371	0		73,359	16,929	0		65,221	0	0	0	79,300	18,300	0	0
19-Jul	1.6%	13.3%							7,312	1,371	0		90,288	16,929	0		80,272	0	0	0	97,600	18,300	0	0
20-Jul	1.8%	12.3%							8,226	914	0		101,574	11,286	0		90,306	0	0	0	109,800	12,200	0	0
21-Jul	2.2%	11.9%							10,054	1,828	0		124,146	22,572	0		110,374	0	0	0	134,200	24,400	0	0
22-Jul	2.7%	12.2%							12,339	2,285	0		152,361	28,215	0		135,459	0	0	0	164,700	30,500	0	0
23-Jul	3.8%	13.1%							17,366	5,027	0		191,748	39,387	0		190,646	0	0	0	231,800	44,414	0	0
24-Jul	4.8%	14.7%							21,936	4,570	0		248,178	56,430	0		240,816	0	0	0	292,800	61,000	0	0
25-Jul	6.0%	15.2%							27,420	5,484	0		315,894	67,716	0		301,020	0	0	0	366,000	73,200	0	0
26-Jul	7.1%	15.9%							32,447	5,027	0		377,967	62,073	0		356,207	0	0	0	433,100	67,100	0	0
27-Jul	8.2%	18.3%							37,474	5,027	0		440,040	62,073	0		411,394	0	0	0	500,200	67,100	0	0
28-Jul	10.3%	19.9%							47,071	9,597	0		558,543	118,503	0		516,751	0	0	0	628,300	128,100	0	0
29-Jul	12.5%	25.3%							57,125	10,054	0		626,000	67,457	0		627,125	56,689	0	0	762,500	134,200	0	0
30-Jul	14.4%	24.2%							65,808	8,683	0		626,000	0	0		722,448	107,217	0	0	878,400	115,900	0	0
31-Jul	16.3%	27.7%							74,491	8,683	0		626,000	0	0		817,771	107,217	0	0	994,300	115,900	0	0
1-Aug	17.8%	26.5%							81,346	6,855	0		626,000	0	0		893,026	84,645	0	0	1,085,800	91,500	0	0
2-Aug	20.2%	27.8%							92,314	10,968	0		626,000	0	0		1,013,434	135,432	0	0	1,232,200	146,400	0	0
3-Aug	22.1%	28.0%							100,997	8,683	0		626,000	0	0		1,108,757	107,217	0	0	1,348,100	115,900	0	0
4-Aug	24.5%	29.3%							111,965	10,968	0		626,000	0	0		1,229,165	135,432	0	0	1,494,500	146,400	0	0
5-Aug	27.0%	32.0%							123,390	11,425	0		626,000	0	0		1,354,590	141,075	0	0	1,647,000	152,500	0	0
6-Aug	30.6%	32.7%							139,842	16,452	0		626,000	0	0		1,535,202	203,148	0	0	1,866,600	219,600	0	0
7-Aug	32.6%	33.9%							148,982	9,140	0		626,000	0	0		1,635,542	112,860	0	0	1,988,600	122,000	0	0
8-Aug	35.5%	34.4%							162,235	13,253	0		626,000	0	0		1,781,035	163,647	0	0	2,165,500	176,900	0	0
9-Aug	37.0%	39.9%							169,090	6,855	0		626,000	0	0		1,856,290	84,645	0	0	2,257,000	91,500	0	0
10-Aug	40.0%	43.2%							182,800	13,710	0		626,000	0	0		2,006,800	169,290	0	0	2,440,000	183,000	0	0
11-Aug	43.4%	47.0%							198,338	15,538	0		626,000	0	0		2,177,378	191,862	0	0	2,647,400	207,400	0	0
12-Aug	46.6%	46.9%							212,962	14,624	0		626,000	0	0		2,337,922	180,576	0	0	2,842,600	195,200	0	0
13-Aug	51.9%	48.8%							237,183	24,221	0		626,000	0	0		2,603,823	299,079	0	0	3,165,900	323,300	0	0
14-Aug	54.3%	48.0%							248,151	10,968	0		626,000	0	0		2,724,231	135,432	0	0	3,312,300	146,400	0	0
15-Aug	61.0%	50.9%							278,770	30,619	0		626,000	0	0		3,060,370	378,081	0	0	3,721,000	408,700	0	0
16-Aug	64.0%	51.7%							292,480	13,710	0		626,000	0	0		3,210,880	169,290	0	0	3,904,000	183,000	0	0
17-Aug	69.9%	53.0%							319,443	26,963	0		626,000	0	0		3,506,883	332,937	0	0	4,263,900	359,900	0	0
18-Aug	72.3%	53.5%							330,411	10,968	0		626,000	0	0		3,627,291	135,432	0	0	4,410,300	146,400	0	0
19-Aug	75.7%	54.2%							345,949	15,538	0		626,000	0	0		3,797,869	191,862	0	0	4,617,700	207,400	0	0
20-Aug	77.7%	55.8%							355,089	9,140	0		626,000	0	0		3,898,209	112,860	0	0	4,739,700	122,000	0	0
21-Aug	80.7%	57.4%							368,799	13,710	0		626,000	0	0		4,048,719	169,290	0	0	4,922,700	183,000	0	0
22-Aug	82.8%	58.4%							378,396	9,597	0		626,000	0	0		4,154,076	118,503	0	0	5,050,800	128,100	0	0
23-Aug	85.6%	58.8%							391,192	12,796	0		626,000	0	0		4,294,552	158,004	0	0	5,221,600	170,800	0	0
24-Aug	87.2%	58.9%							398,504	7,312	0		626,000	0	0		4,374,824	90,288	0	0	5,319,200	97,600	0	0

TABLE 3. Page 4 of 4. 2023 WNH Stock Adult Return Summary.
Pink salmon (continued).

	PROJECTED	ACTUAL		
RETURN:	6,100,000	0		
BROODSTK:	457,000	0		
FISH SALES:	626,000	0		
HAT. TOTAL:	1,083,000	0		
CPF TOTAL:	5,017,000	0		
% EXPLOIT.:	82.2%	#DIV/0!	CPF	
	17.8%	#DIV/0!	PWSAC	

ADULT RETURN SUMMARY

HATCHERY: **WNH**
SPECIES: **PINK**
YEAR: **2023**

Preliminary

	RUN-TIMING PERCENTAGES				SHA HATCHERY ESCAPEMENT ESTIMATES				HATCHERY ESCAPEMENT SCHEDULE											
	Projected	Projected	Actual	Actual	Fishway	INSIDE Barrier	HEEZ	OUTSIDE HEEZ	BROODSTOCK				FISH SALES				C.P.F. HARVEST				TOTAL RETURN			
Date	% Cum.	% Female	% Cum.	% Female	Estimate	Seine Estimate	Estimate	Estimate	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily	Proj. Cum.	Proj. Daily	Act. Cum.	Act. Daily
25-Aug	89.1%	58.2%							407,187	8,683	0		626,000	0	0		4,470,147	107,217	0	0	5,435,100	115,900	0	0
26-Aug	90.7%	60.3%							414,499	7,312	0		626,000	0	0		4,550,419	90,288	0	0	5,532,700	97,600	0	0
27-Aug	92.0%	61.5%							420,440	5,941	0		626,000	0	0		4,615,640	73,359	0	0	5,612,000	79,300	0	0
28-Aug	93.1%	65.0%							425,467	5,027	0		626,000	0	0		4,670,827	62,073	0	0	5,679,100	67,100	0	0
29-Aug	94.1%	65.4%							430,037	4,570	0		626,000	0	0		4,720,997	56,430	0	0	5,740,100	61,000	0	0
30-Aug	95.0%								434,150	4,113	0		626,000	0	0		4,766,150	50,787	0	0	5,795,000	54,900	0	0
31-Aug	95.9%								438,263	4,113	0		626,000	0	0		4,811,303	50,787	0	0	5,849,900	54,900	0	0
1-Sep	96.9%								442,833	4,570	0		626,000	0	0		4,861,473	56,430	0	0	5,910,900	61,000	0	0
2-Sep	97.5%								445,575	2,742	0		626,000	0	0		4,891,575	33,858	0	0	5,947,500	36,600	0	0
3-Sep	98.0%								447,860	2,285	0		626,000	0	0		4,916,660	28,215	0	0	5,978,000	30,500	0	0
4-Sep	98.5%								450,145	2,285	0		626,000	0	0		4,941,745	28,215	0	0	6,008,500	30,500	0	0
5-Sep	98.9%								451,973	1,828	0		626,000	0	0		4,961,813	22,572	0	0	6,032,900	24,400	0	0
6-Sep	99.3%								453,801	1,828	0		626,000	0	0		4,981,881	22,572	0	0	6,057,300	24,400	0	0
7-Sep	99.6%								455,172	1,371	0		626,000	0	0		4,996,932	16,929	0	0	6,075,600	18,300	0	0
8-Sep	99.7%								455,629	457	0		626,000	0	0		5,001,949	5,643	0	0	6,081,700	6,100	0	0
9-Sep	99.8%								456,086	457	0		626,000	0	0		5,006,966	5,643	0	0	6,087,800	6,100	0	0
10-Sep	99.9%								456,543	457	0		626,000	0	0		5,011,983	5,643	0	0	6,093,900	6,100	0	0
11-Sep	100.0%								457,000	457	0		626,000	0	0		5,017,000	5,643	0	0	6,100,000	6,100	0	0
12-Sep	100.0%								457,000	0	0		626,000	0	0		5,017,000	0	0		6,100,000	0	0	0
13-Sep	100.0%								457,000	0	0		626,000	0	0		5,017,000	0	0		6,100,000	0	0	0
14-Sep	100.0%								457,000	0	0		626,000	0	0		5,017,000	0	0		6,100,000	0	0	0
15-Sep	100.0%								457,000	0	0		626,000	0	0		5,017,000	0	0		6,100,000	0	0	0
16-Sep	100.0%								457,000	0	0		626,000	0	0		5,017,000	0	0		6,100,000	0	0	0
17-Sep	100.0%								457,000	0	0		626,000	0	0		5,017,000	0	0		6,100,000	0	0	0

TABLE 4. 2023 PWSAC Hatchery Egg-Take Schedules

PRINCE WILLIAM SOUND AQUACULTURE CORPORATION

2023 EGG-TAKE SCHEDULE

SITE	SPECIES	DATE
AFK	PINK	24-Aug – 15-Sep
CCH	PINK	24-Aug – 17-Sep
GH I GH II	SOCKEYE	15-Aug – 15-Oct
	SOCKEYE	25-Jul – 10-Aug
MBH	SOCKEYE MBH-COGHILL	01-Aug – 20-Aug
WNH	CHUM	01-Jul – 01-Aug
	PINK	24-Aug – 15-Sep
	COHO	19-Oct – 11-Nov

TABLE 5. 2023 PWSAC Estimated Salmon Releases

PRINCE WILLIAM SOUND AQUACULTURE CORPORATION

2023 ANTICIPATED SALMON RELEASES

SPECIES	HATCHERY	ORGINAL DONOR STOCK	BROOD YEAR	RELEASE LOCATION	ESTIMATED FRY/ SMOLT RELEASE
CHUM	WALLY NOERENBERG	WELLS RIVER	2022	WNH	72,800,000
			2022	PORT CHALMERS	40,700,000
			2022	AFK	19,500,000
				TOTAL	133,000,000
SOCKEYE	MAIN BAY	COGHILL LAKE	2021	MBH	9,650,000
	GULKANA I	GULKANA RIVER	2022	PAXSON LAKE	4,100,000
		GULKANA RIVER	2022	SUMMIT LAKE	0
		GULKANA RIVER	2022	CROSSWIND LAKE	0
	GULKANA II	GULKANA RIVER	2022	PAXSON LAKE	1,300,000
				TOTAL	15,050,000
PINK	ARMIN F. KOERNIG	LARSEN, EWAN, GALENA	2022	AFK	174,900,000
	CANNERY CREEK	CANNERY CREEK	2022	CCH	171,300,000
	WALLY NOERENBERG	LARSEN, EWAN, GALENA	2022	WNH	134,800,000
				TOTAL	481,000,000
COHO	WALLY NOERENBERG	CORBIN CREEK	2021	WNH	2,800,000
		MILE 18	2021	CORDOVA	100,000
		CORBIN CREEK	2021	WHITTIER	100,000
		MILE 18	2021	CHENEGA	50,000
				TOTAL	3,050,000
CHINOOK	WALLY NOERENBERG	SHIP CREEK	2021	CHENEGA	44,000
				GRAND TOTAL	632,144,000

TABLE 6. 2024 PWSAC Estimated Salmon Releases

PRINCE WILLIAM SOUND AQUACULTURE CORPORATION

2024 ANTICIPATED SALMON RELEASES

SPECIES	HATCHERY	ORGINAL DONOR STOCK	BROOD YEAR	RELEASE LOCATION	ESTIMATED FRY/ SMOLT RELEASE
CHUM	WALLY NOERENBERG	WELLS RIVER	2023	WNH	73,200,000
			2023	PORT CHALMERS	40,800,000
			2023	AFK	19,400,000
				TOTAL	133,400,000
SOCKEYE	MAIN BAY	COGHILL LAKE	2022	MBH	11,080,000
	GULKANA I	GULKANA RIVER	2023	PAXSON LAKE	6,000,000
		GULKANA RIVER	2023	SUMMIT LAKE	4,700,000
		GULKANA RIVER	2023	CROSSWIND LAKE	10,000,000
	GULKANA II	GULKANA RIVER	2023	PAXSON LAKE	1,300,000
				TOTAL	33,090,000
PINK	ARMIN F. KOERNIG	LARSEN, EWAN, GALENA	2023	AFK	171,600,000
	CANNERY CREEK	CANNERY CREEK	2023	CCH	168,800,000
	WALLY NOERENBERG	LARSEN, EWAN, GALENA	2023	WNH	133,600,000
				TOTAL	474,000,000
COHO	WALLY NOERENBERG	CORBIN CREEK	2022	WNH	1,000,000
		POWER CREEK	2022	CORDOVA	100,000
		CORBIN CREEK	2022	WHITTIER	100,000
		CORBIN CREEK	2022	CHENEGA	50,000
				TOTAL	1,250,000
CHINOOK	WALLY NOERENBERG	SHIP CREEK	2022	CHENEGA	45,900
				GRAND TOTAL	641,485,900

TABLE 7. Egg-take Data Template for Each Species at Each Hatchery

Table 7.

Egg Take Data for each species at each hatchery

Brood Year	MthDay	Date	Hatchery	Species	Stock	Lot #	Egg Grams	Eggs/gram	Green Eggs	Act Fecundity	Sample Fecundity	Fertility	Good Female	Grn Female	Bad Female	Mort Female	Good Male	Mort Male	Excess Male	% Green	% Bad	aily Female	Daily Males	Daily Total
									0	#DIV/0!											#DIV/0!	#DIV/0!	0	0
									0	#DIV/0!											#DIV/0!	#DIV/0!	0	0
									0	#DIV/0!											#DIV/0!	#DIV/0!	0	0
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