2025 ANNUAL MANAGEMENT PLAN
CRYSTAL LAKE HATCHERY
Southern Southeast Regional Aquaculture Association

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 modified by emergency order. Inseason assessments and project alterations by Southern Southeast Regional Aquaculture Association (SSRAA) or Alaska Department of Fish and Game (ADF&G or department) may result in changes to this AMP in order to reach or maintain program objectives. SSRAA 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 SSRAA. This policy applies to all hatchery operations covered under the AMP.

1.0 Executive Summary

1.1 *Introduction*

Crystal Lake Hatchery (CLH) is operated by Southern Southeast Regional Aquaculture Association (SSRAA) under contract with ADF&G, Division of Sport Fish. The CLH is located 17.5 miles south of Petersburg, just off Mitkof Highway near the City of Petersburg's hydroelectric power plant. Crystal Lake, at an altitude of 1,300 feet, supplies water to the power plant. The water then passes to the hatchery before flowing into lower Crystal Creek. The City of Petersburg is responsible for reliably supplying the hatchery with water flows as described in their FERC license to operate.

The CLH has two Chinook salmon projects:

Crystal Creek Chinook salmon: This program provides adult Chinook salmon returns to local sport and commercial fisheries in the Petersburg area, as well as providing Andrew Creek broodstock for the Crystal Creek and Anita Bay Chinook salmon programs. The production goal for this program is the release of 700,000 Andrew Creek stock Chinook salmon smolt at Crystal Creek.

Anita Bay Chinook salmon: This program provides adult Chinook salmon returns to local sport and commercial fisheries in the Wrangell area. The production goal of this program is the release of a minimum of 500,000 Andrew Creek stock Chinook salmon smolt at Anita Bay.

The Chinook salmon egg-take goal is 1.75 million green eggs with a release goal of a total of 1.2 million using a 10-year average of 84% green egg to eyed egg survival. Anticipated broodstock requirements to achieve the egg-take goal of 1.75 million green eggs are to spawn approximately 395 females and 395 males, and 650 additional un-spawned fish for a total of 1,440 fish, assuming:

(a) Average fecundity of 4,430 eggs/female

(b) 33% historical 10-year average female %
(c) 17% broodstock holding mortality
(d) 2% green/over-mature female spawners

The CLH also has a coho salmon program. The hatchery releases up to 200,000 coho salmon smolt annually into Crystal Creek.

1.2 *New this year (production, harvest management, culture techniques, etc.)*

In July of 2025, SSRAA is planning again to capture and transport returning adults in Blind Slough. This effort is directed at securing broodstock for the Andrew Creek stock Chinook that are reared at CLH. This includes both the release at CLH and the release at Anita Bay.

In February 2025, the Board of Fisheries amended 5 AAC 33.381. District 6: Wrangell Narrows-Blind Slough Terminal Harvest Area Salmon Management Plan.[1] More information on sport fishery management can be found in Section 4.3, below.

SSRAA may suspend the adipose clipping of 100% of Chinook at CLH for brood year 2024 (BY24).

A set of 20 concrete raceways will be demolished and replaced with pre-fabricated aluminum raceways in the spring of 2025. This will require the BY23 coho to be released earlier than normal to ensure that the project is complete in time to move all BY25 fish to larger rearing units.

1.3 *New permits or permit amendments*

None.

1.4 *Expected Returns*

Species, Run	Release Location	Total Return	Common Property Harvest	Return to Hatchery	Broodstock Needed	Excess Hatchery Return
Coho salmon	Crystal Creek	2,600	1,300	1,300	150	1,150[a]
Chinook salmon	Crystal Creek	2,900	1,400	1,500	1,440	60[a]
Chinook salmon	Anita Bay	8,900	8,900	0	0	0

[a] Donations, discards, and/or ground for fishmeal and oil.

[1] Not adopted as of May 2025. A summary of changes and intent for the Wrangell Narrows-Blind Slough Terminal Harvest Area Salmon Management Plan can be found here (accessed May 20, 2025): https://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2024-2025/se/rcs/rc162_Member_Carpenter_Substitute_Language_Proposal_159__.pdf

1.5 *Production Summary*

Program Name	Brood Year	Planned Release Date	Number to Release	Life Stage	Type of Mark, % Marked
Crystal Creek coho salmon	2023	5/2025	130,000	Smolt	CWT, 15%
Crystal Creek Chinook salmon	2023	5/2025	480,000	Smolt	CWT, 20% AC, 100%
Anita Bay Chinook salmon	2023	5/2025	0	Smolt	

In 2025 CLH plans to take 140,000 coho salmon eggs and 1.75 million Chinook salmon eggs. CLH is a backup egg source of Andrew Creek stock Chinook salmon eggs for both Northern Southeast Regional Aquaculture Association (NSRAA) and Douglas Island Pink and Chum, Inc. (DIPAC).

1.6 *Current Permitting*

CLH is operated by SSRAA under contract with ADF&G and not subject to a private non-profit hatchery permit. The *Statewide Stocking Plan for Recreational Fisheries* outlines the CLH program objectives and release numbers and locations. The current CLH operating plan capacity is 250,000 coho salmon eggs and four million Chinook salmon eggs.

2.0 Fall Coho Salmon Production

2.1 *Program details*

The program was established to mitigate losses to Crystal Creek spawning habitat associated with operations of the Blind Slough Hydroelectric project, run by the City of Petersburg. In addition, this program provides adult coho salmon returns to local sport, personal use, and commercial fisheries in the Petersburg area. The releases also ensure a sustainable broodstock for future hatchery releases.

Eggs are collected from coho salmon adults returning to CLH each fall. Up to 200,000 yearling coho salmon smolt produced from the collected eggs are released each May into Crystal Creek.

At least 20,000 smolt are marked with a coded wire tag (CWT) and a clipped adipose fin. Tagged fish are recovered at the rack and through port sampling performed by ADF&G.

2.2 *Egg Takes*

Program Name	Ancestral Stock	Egg Take Site	Primary or Alternate Source?	Current Year Egg Goal	Permitted Maximum
Crystal Creek coho salmon	Crystal Creek	CLH	Primary	140,000	250,000
Totals				**140,000**	**250,000**

2.3 *Broodstock capture method*

Coho salmon returning to CLH are hatchery-produced fish from Crystal Creek stock. Adult returns to CLH enter adult holding ponds through a fish ladder.

2.4 *Spawning*

Adult fish are dispatched with a blow to the head. Females are incision spawned into a bucket. Milt from two males is added to each bucket of eggs. An activator/extender solution is added to aid in fertilization. The buckets are then transported to the hatchery building and placed in incubator trays.

2.5 *Egg-take Schedule*

Egg takes occur in mid-October through early-December.

2.6 *Carcasses*

The number of carcasses generated from egg takes can be limited by the number of fish allowed into the holding pond. Carcasses will be given away to commercial fishermen for bait or transported to a local processor for disposal.

2.7 *Planned releases this calendar year of previous brood year's production*

Program Name	Brood Year	Release Date	Number to Release	Life Stage	Type of Mark, % Marked
Crystal Lake coho salmon	2023	4/25[1]	130,000	smolt	15%, CWT

[1] Coho will be released in April of 2025 to accommodate a replacement of rearing raceways that will require demolition of the existing rearing units.

2.8 *Previous brood years that will remain in culture during the entire calendar year*

Program Name	Brood Year	Number Live (Jan. 1)	Life Stage	Type of Mark, % to Mark	Number to Release, Date
Crystal Lake coho salmon	2024	140,000	Eyed eggs	CWT @ 20,000 fish	120,000, 5/2026

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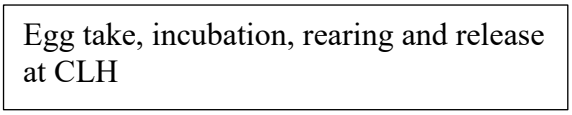
2.9 *Operational diagram*



2.10 *Fish transport permits*

FTP #	Egg take, transport, or release?	Transport From → To	Maximal #, Life Stage	Expires
08J-1013	Egg take & release	CLH to Crystal Creek	250,000 eggs 200,000 smolt	8/31/28

3.0 Chinook salmon

3.1 *Program details*

CLH has two Chinook salmon programs.

Crystal Creek Chinook salmon: This program provides adult Chinook salmon returns to local sport and commercial fisheries in the Petersburg area. The Crystal Creek release of Andrew Creek stock Chinook salmon provides sustainable returns for production at CLH and Anita Bay. The annual production goal of 700,000 Chinook salmon smolt is released into Crystal Creek at a target weight of 20 grams. Smolt released in 2025 will be marked with CWTs at a rate of 20% with 100% of the fish having clipped adipose fins. In 2025, SSRAA intends to CWT and adipose clip at least 20% of the BY 2024 smolt and may discontinue the 100% adipose clip rate. Tags are recovered at the rack and through ADF&G port sampling efforts.

Anita Bay Chinook salmon: This program provides adult Chinook salmon returns to local sport and commercial fisheries in the Wrangell area. Each spring, 500,000 Andrew Creek stock Chinook salmon smolt are transported to saltwater net pens in Anita Bay for short-term rearing and release. When extremely cold water at CLH is anticipated to limit growth, Chinook salmon fry are transferred to NBH in October for interim freshwater rearing. NBH does not experience the same extreme cold-water conditions that CLH sometimes experiences, therefore warmer rearing water at NBH allows for better growth than would be possible at CLH in years of extremely cold water. The following spring, smolt are transported from NBH to net pens in Anita Bay for rearing and release. The saltwater net pens are positioned so the freshwater influence of several creeks at the upper end of the bay ensures proper imprinting. There will be no release at Anita Bay in 2025. Tags are recovered through ADF&G port sampling efforts.

3.2 *Egg Takes*

Program Name	Ancestral Stock	Egg Take Site	Primary or Alternate Source?	Current Year Egg Goal	Permitted Maximum[a]
Crystal Creek Chinook salmon	Andrew Creek	CLH	Primary	1,000,000	3,000,000
Anita Bay Chinook salmon	Andrew Creek	CLH	Primary	750,000	3,000,000
Crystal Creek and Anita Bay	Andrew Creek	Macaulay Salmon Hatchery	Alternate	0	1,400,000
Crystal Creek and Anita Bay	Andrew Creek	Medvejie Creek Hatchery	Alternate	0	1,000,000
Total/Capacity				**1,750,000**	**4,000,000[a]**

[a] Operating plan capacity.

3.3 *Broodstock capture method*

Broodstock for the Crystal Creek and Anita Bay Chinook salmon programs are collected at CLH. Chinook salmon returning to CLH are an enhanced run of Andrew Creek stock. Adult returns enter holding ponds through a fish ladder.

3.4 *Spawning*

Eggs for the Crystal Creek and Anita Bay Chinook salmon programs are collected at CLH. Adult fish are dispatched with a blow to the head. Females are incision spawned into a bucket. Milt from two males is added to each bucket of eggs. An activator/extender solution is added to aid in fertilization. The buckets of eggs are immediately transported to the hatchery building and placed in incubator trays. Eggs are disinfected with iodophor. Family tracking is used to control bacterial kidney disease.

3.5 *Egg-take schedule*

Chinook salmon egg takes at CLH occur from early August to early September.

3.6 *Carcass disposal*

The number of carcasses generated from egg takes can be limited by the number of fish allowed into the holding pond. Carcasses will be given away to commercial fishermen for bait or transported to a local processor for disposal.

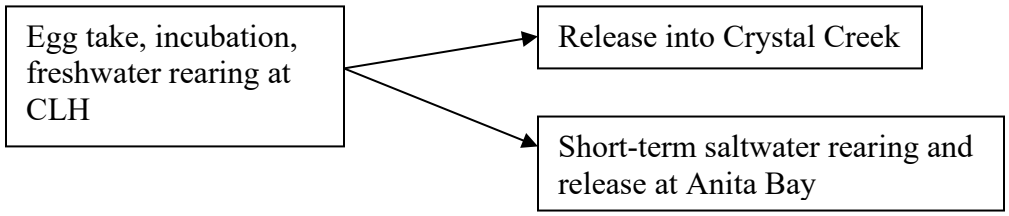
3.7 *Planned releases this calendar year of previous brood year's production*

Program Name	Brood Year	Planned Release Date	Number to Release	Life Stage	Type of Mark, Percent Marked
Crystal Creek Chinook salmon	2023	5/2025	480,000	Smolt	CWT, 20%
Anita Bay Chinook salmon	2024		0		

3.8 *Previous brood years that will remain in culture during the entire calendar year*

Program Name	Brood Year	Number Live (January 1)	Life Stage	Number to Release, Date
Crystal Creek Chinook salmon	2024	540,000	Sac fry	475,000; 5/2026
Anita Bay Chinook salmon	2024	0	Sac fry	0

3.9 *Operational diagram*



3.10 *Fish transport permits*

Andrew Creek stock

FTP Number	Egg take, transport, or release?	Transfer From To	Maximal Number, Life Stage	Expires
03J-1006	Egg take, release	CLH to Crystal Creek	3,000,000 eggs	6/30/2027
08J-1021	Backup egg take, transport	Macaulay to CLH	1,400,000 eggs	12/31/2033
01J-1007	Backup egg take, transport	Medvejie to CLH	1,000,000 eggs	12/31/2031
01J-1002	Transport, release	CLH to Anita Bay	500,000 smolt	5/31/2028
08J-1018	Transport, release	CLH to NBH to Anita Bay	500,000 smolt	12/31/2032
13J-1003	Transport, release	CLH to City Creek	200,000 smolt	2/28/2028

4.0 Harvest Management

4.1 *Harvest Areas*

Terminal Harvest Areas

5 AAC 33.381. *District 6: Wrangell Narrows-Blind Slough Terminal Harvest Area Salmon Management Plan*.

5 AAC 33.383. *District 7: Anita Bay Terminal Harvest Area Salmon Management Plan.*

4.2 *Projected return this year*

Species, Run	Release Location	Total Return	Common Property Harvest	Return to Hatchery	Broodstock Needed	Excess Hatchery Return	Terminal/ Sport Harvest
Coho salmon	Crystal Creek	2,900	1,300	1,300	150	1,150[a]	0
Chinook salmon	Crystal Creek	2,900	1,400	1,500	1,440	60[a]	0
Chinook salmon	City Creek	100	0	0	0	0	100
Chinook salmon	Anita Bay	8,900	8,900	0	0	0	0

[a] Donations, discards, and/or ground for fishmeal and oil..

4.3 *Common property fisheries management*

Commercial Fisheries

Coho salmon

Coho salmon returning to CLH are harvested in the commercial troll fishery during the spring and summer seasons after June 1 as well as in the commercial drift gillnet fishery in Central Southeast Alaska waters. Terminal commercial drift gillnet fisheries have not occurred since 1996 and are not expected to occur unless the return is very large.

Chinook salmon

5 AAC 33.381. *District 6: Wrangell Narrows-Blind Slough Terminal Harvest Area Salmon Management Plan*. In 2025, under regulation 5 AAC 33.381, commercial fishing opportunity will not be available in the Wrangell Narrows-Blind Slough THA.

5 AAC 33.383. *District 7: The Anita Bay Terminal Harvest Area Salmon Management Plan* provides the framework for establishing common property purse seine, drift gillnet, and troll fisheries within the THA. The fishing ratio between purse seine and drift gillnet fleets and fishing

start dates are determined by the Alaska Board of Fisheries. SSRAA, in conjunction with ADF&G, produces a fishing schedule every spring. In 2025, the Anita Bay THA initial opening will be delayed until June 1. The Anita Bay THA will be open continuously to harvest salmon with troll gear from 12:01 a.m., Sunday, June 1, through 11:59 p.m., Monday, November 10. The Anita Bay THA will be open to harvest salmon with drift gillnet and purse seine gear concurrently from 5:00 a.m., Sunday, June 1, through 12:00 noon, Thursday, June 12, then on a rotational basis from 12:00 noon, Friday, June 13, through 12:00 noon, Sunday, August 31, then concurrently from 12:01 a.m., Monday, September 1, through 11:59 p.m., Monday, November 10. The Anita Bay THA will close for the season at 11:59 p.m., Sunday, November 10, 2024. For full 2025 information and schedule of fishing by gear group see the Anita Bay THA advisory announcement issued April 16, 2025.

https://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareasoutheast.salmon

Personal Use Fishery

A personal use coho salmon fishery occurs annually within the Wrangell Narrows-Blind Slough THA. The fishery generally starts mid-August, is restricted to fishing on Fridays, and is open for four to five consecutive Fridays. The possession and annual limit is 25 coho salmon per household. Personal use fishermen must obtain a permit and have a valid sport fishing license.

Sport fisheries

Coho salmon

The sport bag and possession limits for coho salmon will be the same as the Southeast Alaska regional limits: 6 coho salmon per day and 12 in possession. Snagging coho salmon is not permitted during the summer in Blind Slough.

Chinook salmon

During 2025, the retention of Chinook salmon is prohibited in the majority of marine waters within the Petersburg/Wrangell area from April 1 through May 14. On May 15, 2025 the sport bag and possession limits for Chinook salmon in the Wrangell Narrows-Blind Slough THA will be established by emergency order (EO) effective through August 15, 2025 in accordance with the Wrangell Narrows-Blind Slough THA Management Plan. After this period, Chinook salmon regulations for the marine waters of Wrangell Narrows will reflect the most current Southeast Alaska regional Chinook salmon regulations. The fresh waters of Blind Slough upstream of the Blind River Rapids to Crystal Creek will be closed to all sport fishing from May 15 through August 15, 2025, unless opened by EO, to help achieve broodstock collection goals.

On June 1, 2025 opportunity to harvest Chinook salmon will open in Anita Bay with bag, possession and annual limits identical to the most current Southeast Alaska regional Chinook salmon regulations.

On June 15, 2025 the opportunity to harvest Chinook salmon will open in the City Creek terminal area. Chinook salmon regulations will be established by EO effective from June 15 through July

14. During this time, the bag and possession limit will be one Chinook salmon of any size and nonresident annual limits will continue to apply. After this period, Chinook salmon regulations will revert to the most current Southeast regional Chinook salmon regulations. The boundaries of the City Creek terminal area are described as the marine waters adjacent to City Creek between a marker on the Mitkof Island shore, at 56° 47.83' N. lat., 132° 51.57' W. long. to 56° 48.30' N. lat., 132° 51.50' W. long. to 56° 49.77' N. lat., 132° 55.78' W. long. (navigation buoy) and back to the Mitkof Island shore at Hungry Point (56° 49.36' N. lat., 132° 56.38' W. long.) and includes the freshwaters of City Creek.

4.4 *Cost-recovery harvest management*

SSRAA's long-term goal is to have 75% of all fish produced harvested in common property fisheries, with the remaining 25% harvested by SSRAA for broodstock and to cover operating expenses. SSRAA has exceeded this goal many times, in large part because of better than average survival to adult of SSRAA chum releases and perhaps even more importantly the increased value of salmon in the marketplace. Though this remains SSRAA’s goal, SSRAA annually adjusts the cost-recovery goal related to operational and capital expenses even if it exceeds this goal, or if it falls short.

5.0 APPROVAL

Recommendation for Approval: Crystal Lake Hatchery Annual Management Plan, 2025.

Susan Doherty, General Manager, SSRAA 7/29/2025

Katie Taylor, Area Management Biologist, Div. of Commercial Fisheries 7/17/2025

Jeff Rice, Area Management Biologist, Div. of Sport Fish 7/17/2025

Judy Lum, Regional Supervisor, Division of Sport Fish 7/17/2025

Anne Reynolds-Manney, Regional Supervisor, Div. of Commercial Fisheries 7/17/2025

Lorna Wilson, PNP Assistant Coordinator, Div. of Commercial Fisheries 7/29/2025

Approval:

The 2025 Annual Management Plan for Crystal Lake Hatchery is hereby approved.

Jason Dye, Deputy Director, Division of Sport Fish 7/30/2025

Forrest Bowers, Operations Manager, Division of Commercial Fisheries 7/30/2025